

# Co-production of Services in Informal Settlements:

Waste management in Kisumu, Kenya

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Cover photo: Clean-up exercise in Obunga.  
Photo: Jaan-Henrik Kain.

## Preface

The mandate of the Swedish International Centre for Local Democracy (ICLD) is to contribute to poverty reduction by promoting local democracy in low- and middle-income countries. In order to fulfil this mandate, we offer decentralized cooperation through our municipal partnership programme, capacity-building programmes through our international training programmes and knowledge exchange through our Knowledge Centre. ICLD documents and publishes key lessons learned from our ongoing activities, initiates and funds relevant research, engages in scholarly networks and organizes conferences and workshops. We also maintain a series of publications.

“Co-production of Services in Informal Settlements: Waste management in Kisumu, Kenya” is the eleventh report to be published in ICLD’s Research Reports series. This report illustrates the challenges and opportunities

faced by cities to improve waste management, in informal settlements, through community participation and the inclusion of waste pickers. Considering that waste pickers represent one of the most disempowered segments of society, this report argues about the need to reframe waste picking as a critical community service and as a decent profession. This represents an opportunity for local governments to create participatory and inclusive waste management while improving the working conditions of waste pickers.

Visby, Sweden, December 2017



**Olov Berggren**

Secretary General, ICLD

## Authors Biography

The following report is the product of a two-year research project funded by the Swedish International Centre for Local Democracy (ICLD) during 2014 and 2015. The transdisciplinary research group consists of several local waste entrepreneurs, the Director of Environment for the City of Kisumu, and a mix of researchers from engineering, sociology, public administration, geography, spatial planning, agriculture and architecture from the Jaramogi Oginga Odinga University of Science and Technology (JOOST), Maseno University, University of Gothenburg and Chalmers University of Technology.

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## Abstract

In many informal settlements, a large number of informal sectors waste pickers collect and separate household waste, providing an important service. However, waste pickers represent one of the most excluded, impoverished and disempowered segments of society. This study explores the challenges and potential solutions for the co-production of participatory waste management services in informal settlements, using the case of informal settlements in Kisumu, Kenya. Researchers conducted interviews, focus group discussions, participatory workshops and action on ground as part of extensive fieldwork between 2014 and 2015.

This report illustrates the challenges and opportunities to improve waste management in informal settlements through community participation and the inclusion of waste pickers. The results of the project are presented in three sections based on different academic articles where the result of the project first was published.

The first article "*Bridging Weak Links of Solid Waste Management in Informal Settlements*" presents a number of opportunities that can be used to improve waste management systems in informal settlements.

The second article "*Socio-environmental entrepreneurship and the provision of critical services in informal settlements*"

examines the role of waste entrepreneurs in informal settlements as environmental stewards. Although seeing the contribution of waste entrepreneurs as very positive, however this article still questions the privatization of important services, such as waste collection. There is a risk of developing clientelistic relationships, of eroding collective solutions for the servicing of neighbourhoods and cities, and of abandoning the least affluent but majority of residents and settlements.

The final article is titled "*Translating policies into informal settlements' critical services: reframing, anchoring and muddling through*". It discusses the Kisumu Integrated Sustainable Waste Management Plan (KISWAMP) that succeeded to dignify, or reframe, waste picking as a critical community service and as a decent profession. Waste management also gained internal status as a legitimate area of policy making within the municipality and was turned it into an important service worth paying for. Yet it did not sufficiently anchor some of the new practices in the informal settlements, such as the partnership arrangements with waste entrepreneurs or the maintenance of waste transfer points.

The report outlines challenges and opportunities at the same time, and ends with some policy recommendation for integrating waste pickers in the provision of services at the municipal level.

## Introduction

In an increasingly urbanized world, a third of the global urban population will soon live in informal settlements<sup>1</sup>. Many of these areas are poorly connected to basic services, such as management of household waste<sup>3,4</sup>. Instead, an extensive informal sector of waste pickers collects and separates household waste<sup>2</sup>. By doing so, they make a significant contribution to improving the health of residents and local environments, to recover resources, to create jobs and income among the urban poor, and even to reduce the carbon footprint of their cities.

Even so, waste pickers in the informal sector represent one of the most widely excluded, impoverished and disempowered segments of society. They are exposed to toxic materials, suffer from prejudice and stigmatization, experience difficulties to create formal cooperatives or associations, lack access to official micro-finance and funding opportunities, are susceptible to market price oscillations, and are subject to exploitative relations with intermediaries. All these difficulties lead to persistent poverty as well as to inconsistencies in the waste collection services provided by this sector<sup>5</sup>.

Many waste management programs have been launched to improve these solid waste predicaments. Still, in both policy and research there is an increasing concern with the gap that exists between knowing and doing, between policy goals and how they are achieved in practice.

Infrastructural programs have sometimes implied the substitution of effective local entrepreneurs by private corporations<sup>6</sup>. Other top-down programs have achieved insignificant local adoption. However, some programs have reached good results with a focus on residents and waste pickers as co-producers of basic services in partnerships with local governments.

Notwithstanding, even successful programs face many challenges. It can take decades for an innovative and alternative solution to be scaled up to other parts of the city or other cities. Achievements can fade when the funding dries up and “induced networks” and public-private partnerships can fail to achieve

self-management and viability. Governmental arrangements need to be created for the co-production of waste collection services, such as agreements for the remuneration of waste pickers, licenses to operate, and regular evacuation of transfer points. And such arrangements need to be integrated into the local municipal structures through sustained, regular and long-term relationships and commitments<sup>7,8</sup>.

### Kisumu

With 600,000 inhabitants, Kisumu shows rapid urbanization rates (2.7% yearly). It has a planned city center and a large peri-urban fringe of unplanned informal settlements. In these settlements, 60% of the population live with very poor housing conditions and are exposed to frail service delivery, unclear legalities, and poor policy design. Household waste is rarely collected except by a few public clean-up exercises organized by NGOs or CBOs. However, private waste pickers and collectors increasingly offer alternatives to the failing public sector.

From 2007 to 2009 the Kisumu Integrated Sustainable Waste Management Plan (KISWAMP) was implemented by UN-Habitat, Swedish International Development Agency, ILO, the City of Kisumu and other actors. The plan included development of a city waste management strategy, promoting public-private partnerships in municipal service delivery; strengthening micro-enterprises and community-based groups to provide waste management services; building the capacity of the municipal council to effectively implement the strategy as well as some start-up machinery. Today, waste collection efficiency is still at 20% in Kisumu and informal settlements are largely neglected<sup>9</sup>.

The new development program Kisumu Urban Project (KUP) is partially recovering KISWAMP through its Kisumu Integrated Solid Waste Management Strategy. Through this strategy KUP aims to develop a sanitary landfill, review the KISWAMP strategies and continue supporting Kisumu’s City and County waste management policies.



## Research questions

Informed by the case of Kisumu City and its informal settlements, this project explores the challenges and potential solutions for the co-production of participatory waste management services in informal settlements. The questions guiding the project have been:

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- How are municipal waste management programs such as KISWAMP translated into practice in informal settlements?
  - What are the difficulties encountered in the co-production of participatory waste management services?
  - How can such difficulties be overcome?

## Methodology

The project combines the study of the formal activities of the City of Kisumu where waste management policies have been implemented (KISWAMP) with parallel studies of informal and bottom-up activities by waste picker entrepreneurs. It involved more than forty interviews with local, national and international actors; field visits and observations in many different parts of the city; analysis of documents; three participatory workshops with public and private practitioners, researchers, civil society and resident associations; focus group discussions with residents and waste pickers in Obunga and Nyalenda (May 2014, August, 2014 and October 2015); five clean-ups in Obunga and two in Nyalenda; and scholarly seminars to discuss and contextualize the findings (Kisumu, August 2014 and October 2015; Managua, January 2015 and São Paolo, April 2016).

## Field work and findings

Field work was carried out across Kisumu through the many different activities listed above, and was started up by a visit at the Kachok dump site.



At the Dumpsite "Kachok". The Manager, Thomas Orinda and Belinda Nyakinya, Director of Environment, City of Kisumu and part of the research team, is in conversation, while waste workers listen in the background. Photo: Jaan-Henrik Kain.

## Participatory institutional workshops

Two participatory institutional workshops were held to initiate the project in May 2014. In August the same year, two workshops were held with inhabitants and associations in Nyalenda and Obunga informal settlements to identify and discuss challenges and opportunities for a more sustainable waste management in Kisumu's informal areas.

### Participants in the institutional workshops

- City of Kisumu
- Kisumu County
- Ward representatives
- Universities (JOOUST, Maseno University, Chalmers and University of Gothenburg)
- NGOs (Urban matters, Practical Action, Pamoja Trust, Umande Trust, Millennium City Initiatives)
- Waste Pickers and waste entrepreneurs
- Obunga Residents Association
- Nyalenda Residents Association
- CBO Networks
- National Environment Management Authority (NEMA)
- Kisumu Urban Project (KUP)

The results from these four workshops can be summarized as a number of challenges and opportunities:

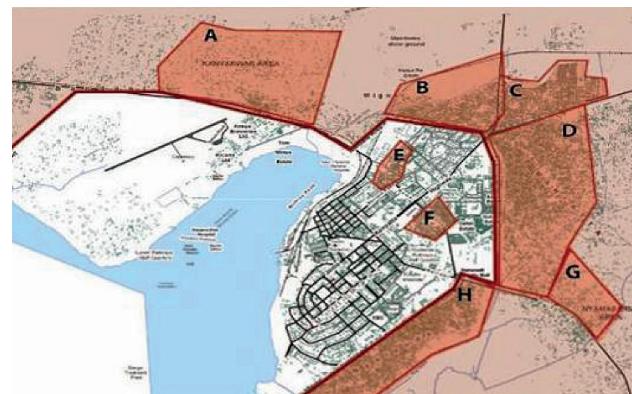
### Results from the institutional workshops:

#### Challenges

- Collection and transportation of waste
- Heavy focus on disposal
- Limited entrepreneurial skills
- Non-recognition by local council
- Poor attitudes towards waste
- Non enforcement of solid waste regulations
- Health of the waste pickers

#### Opportunities

- Promotion of Pro-Poor Partnership arrangements
- The City to transport waste from Transfer Stations
- Promote of the 3Rs (Reduce, Reuse, Recycle)
- Sensitization and awareness creation
- Training on entrepreneurial skills
- Law enforcement by the City
- Motivation and recognition of the waste pickers.



Kisumu is located at a bay of Lake Victoria. The City business district is close to the southern shore. Informal settlements in Kisumu. **B:** Obunga, **D:** Manyatta, **H:** Nyalenda. The Kachok dump site is located just above the letter H in the map. Source: Cities without slums – UN- Habitat (2002)<sup>10</sup>

## Waste picker organizations

We conducted more than forty interviews with community-based organizations, micro-enterprises of waste pickers, NGOs and other actors providing services of waste collection in Kisumu. Interviews were conducted in situ by the multidisciplinary research team during 2014.



Plastic waste turned into handbags, TemaTema, Bamato CBO. Photo: Jaan-Henrik Kain.

### List of key interviewees and field visits:

- Associated Grinders
- Bamato
- Clean Kisumu General Investment
- GasiaPoa
- Kachok Dumpsite
- Kibuye waste recyclers
- Migosi
- TemaTema Women Group
- TichK’Ouma
- Urbane Solutions

## Individual waste pickers

Individual waste pickers were approached through two focus group discussions. It became clear that waste picking often is the only possible livelihood for those who have lost their jobs, had an accident, lost

parents, or come from non-functional families. Most of them are introduced to waste picking by friends, relatives or fellow orphans. For them, waste is something that is used, and unwanted, but when looked upon more closely, consists of parts that can be useful or sold: clothes that can be used, left-overs that can be eaten, and plastics, metals and glass that can be sold.

Picking waste is not recognized as a job, or even something good, by the community at large even though they clean the city. Apart from the stigma linked to waste picking – they are named “scavengers” both among themselves and by the community – the major problem for the waste pickers is that they earn too little. This, in turn, creates other problems, such as difficulties to pay for proper housing, equipment and health care. With no access to storage space, it is difficult to get a good price for the waste as they are forced to sell when they cannot carry their waste any longer. The storage problem also brings a security problem, the waste can be stolen.

Recognition from the City and forming of organizations or cooperatives among the waste-pickers would help to solve many problems. With organization, they could store waste and form a middle hand towards the buyers, and thus create a more secure and just link between the waste pickers and the market. They could then jointly negotiate the prices and secure a better income. This could mean opportunities to get better equipment and transportation means.

## RESULTS FROM FOCUS GROUPS WITH INDIVIDUAL WASTE PICKERS:

### Challenges

- Not earning enough
- Health problems
- Price fluctuation
- Transportation
- Storage
- Stigma
- Equipment

### Opportunities/solutions

- Organisation, i.e. cooperative
  - sell together
  - find communal storage
- Transportation
- Better information to people
- Support from city
- Equipment

## The residents of Obunga and Nyalenda

Obunga and Nyalenda are somewhat different neighbourhoods. Nyalenda is more centrally located, while Obunga is more rural and has more flux of habitants with landlords living elsewhere. Still, the major problem for both places is a lack of sites where waste can be collected for transport to the dump. There used to be skips (containers) especially in Nyalenda, that the city emptied, but that does not work anymore. Many still throw their waste where the skips used to be, which creates illegal dumps in the residential area. In Obunga, lack of toilets and sewers, coupled with poor drainage, turn the ditches into hazardous sources of disease and stench. Solid waste often blocks the flow, which creates even more problems. Waste lying around, or flying around on windy days, is a constant annoyance.



Waste picker group collecting waste in Obunga. Photo: Patrik Zapata

From the focus group discussions with the residents it is clear that much needs to be done. In Nyalenda, clean-up activities, organized by the area Ward office, are carried out with some frequency, and in Obunga with less regularity. Many residents also appreciate that waste-pickers collect some of the waste. They are also open to private waste collectors, or that they coordinate the waste collection themselves.

Moreover, the residents themselves need to stop throwing waste anywhere. However, a major problem remains how to evacuate the waste out of the settlement area once it is collected. To make progress, everyone involved need to feel confident that the City will collect waste regularly at designated collection points.



Focus group with residents in Obunga. Photo: Patrik Zapata.

Another problem is where households are supposed to store the waste in their houses, especially if they would start to sort their waste. Plastic bags are expensive, and all houses do not have room for a waste bin or two, neither inside nor outside. Paired with poor information and knowledge about waste, the result often is that what is not needed is thrown in the nearest gutter.

### RESULTS FROM FOCUS GROUPS WITH RESIDENTS:

#### Challenges

- Poor sanitation
- Road network
- Transport to dump site
- Dumping site cost
- Poverty
- Waste collection bags
- Lack of effective bylaws

#### Opportunities/solutions

- Improvement of drainage
- Improve roads/Use carts
- Coordinate with the City
- City to take responsibility
- Train entrepreneurial skill
- Reuse of bags
- Enforce bylaws

To sum up, the problems with waste in Nyalenda and Obunga are many, but they are quite often related to lack of co-ordination, commitment and information.

## Obunga clean-ups

Three clean-up exercises were organized by the research team in Obunga area, where open and indiscriminate dumping and burning is mainly practiced. There is no organized waste collection by waste pickers or even the City. The aims with the clean-ups were to sensitize the residents on better waste management practices, to bring the City on board to collect and transport waste from temporary transfer points to the dumpsite and to create an opportunity for a private waste picker group to evolve and continue with waste management activities within the area.



Cleanup exercise in Obunga. Photo: María José Zapata Campos.

The residents later successfully organized two other clean-up exercises on their own with minimum external support to test their capacity and commitment to the process. So far two waste pickers' groups (Starlite as a CBO and Jakmis Taka Investment as a business enterprise) have evolved and are collecting waste from households at a fee and about 250 residents have subscribed. As in other areas within the City, the efforts need to be sustained to register as many residents as possible. Participants in the clean-up exercises included the Obunga residents, the local Ward office, successful private waste collectors/entrepreneurs from Migosi and Manyatta neighbourhoods, the City's Department of Environment, local NGOs and the researcher team.

## Scholarly findings

The scholarly output of this study is the publication of three articles:

**Article 1:** Bridging Weak Links of Solid Waste Management in Informal Settlements<sup>11</sup>.

**Article 2:** Socio-environmental entrepreneurship and the provision of critical services in informal settlements<sup>12</sup>.

**Article 3:** Translating Policies into Informal Settlements' Critical Services: Reframing, Anchoring and Muddling through<sup>13</sup>.

The articles are presented in the following section.

## Disentangling the complexity of solid waste management in informal settlements through a systems approach: The case of Kisumu.

### Aim and methodology

The article explains the waste management in an informal settlement in Kisumu, Kenya. It is based on material from field studies, interviews, focus groups, workshops and document studies. Solid waste management in Obunga settlement is shown as bundles of different actions<sup>14</sup> that are linked to each other in a larger waste management system. Many weak connections are identified and some suggestions for improvement presented.

### Findings

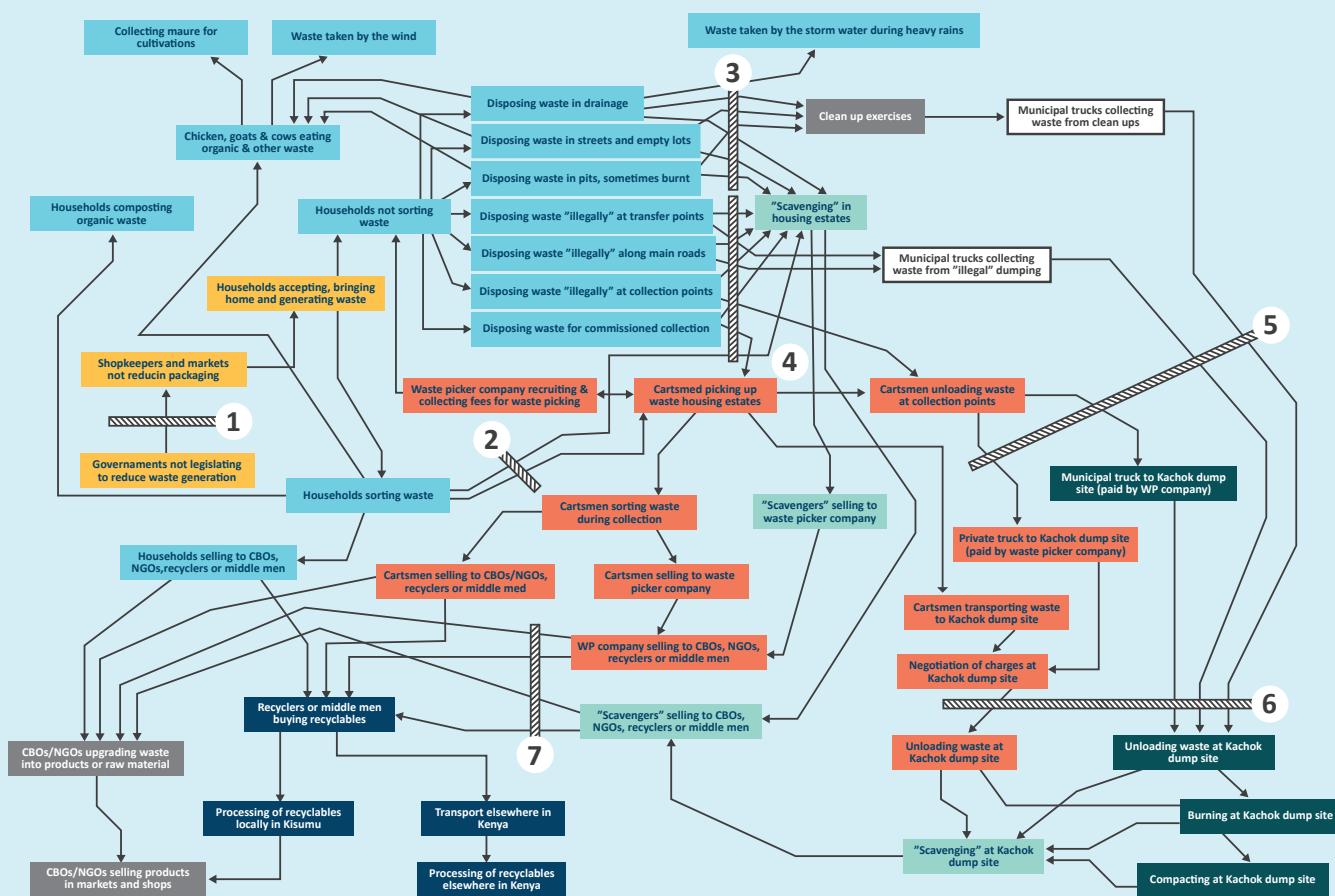
Many different types of actors are involved in the waste management of Obunga – people but also animals, things and natural forces – and their actions pull the waste in many different directions. Weak connections between these different actions are difficult challenges, but are also great opportunities for improving the system. In Obunga's waste management system, seven major weak connections were identified:

## 1. Reduction of waste

Packaging material – such as plastic bags – pose a serious environmental threat and as living conditions improve, the amount packaging waste will mushroom. Still, nothing is done by politicians and legislators to reduce the amount of waste that is created in the first place. Banning plastic bags and encouraging reusable bags and recyclable packing material could overcome this challenge.

## 2. Sorting at source

Collection and management of mixed waste is hazardous and inefficient. Waste sorted by households improves the working environment for waste pickers and increases the value and volume of recyclables, including organic matter comprising more than 60% of the waste. Sorting can be supported through suitable containers, reduced fees and improved collection for sorted waste, and sharing of the benefits between households, waste entrepreneurs and the City/County.



The whole household waste action system with seven weak major connections.

### 3. Improvement of local waste practices

Today, most of the waste is left along roads, pathways and empty lots, leaving the daily life of Obunga infested with all sorts of waste. Clean up activities have been used to improve the situation but the effects are meager. Clean ups are still appreciated and can be used to change people's attitudes and actions linked to waste but the goal should be to make clean ups redundant.



Waste blocking drainage. Photo: Jaan-Henrik Kain.

### 4. Recognition of the roles of waste entrepreneurs

Experiences from other countries show that waste entrepreneurs play important roles as local waste activists. They service households, educate residents, change their attitudes and habits, stop illegal dumping, and divert unsorted waste from landfills. These roles need to be acknowledged by both the community and the authorities.



Elvis Omondi, Waste entrepreneur in Kisumu. Photo: Jaan-Henrik Kain.

### 5. Review the responsibilities of the City/County

50% of Kisumu City's population is poor with difficulties to take full responsibility for their waste. Most of them do not understand why their waste is not collected by the City. The authorities need to reconsider how waste management is communicated, financed and carried out. Well-defined transfer points at ward and neighborhood levels have to be established where the City/County takes on responsibility for managing household waste.



Uncollected waste along main road in Kisumu. Animals searching for organic waste amid faeces and toxics. Photo: Jaan-Henrik Kain.

### 6. Transparent tariffs and procedures

The unclear role of the City/County opens for non-transparent and confusing tariffs and rules for unloading waste at collection points and the waste dump. Establishing pro-poor partnerships with communities and waste pickers is a priority, supported through appropriate bylaws, permits and a transparent system of fees.

**60%**

Waste sorted by households improves the working environment for waste pickers and increases the value and volume of recyclables, including organic matter comprising more than 60% of the waste.

## 7. Improve the market for recyclables

Waste “scavengers” and waste pickers are exposed to fluctuating prices and dishonesty when selling collected recyclables. Existing informal networks between waste pickers should be turned into associations or cooperatives to secure their collective interests. This could be linked to new recycling centers in informal settlements.



Purchaser of recyclables. Photo: Jaan-Henrik Kain.

## Conclusions

Although waste management in informal settlements in Kisumu is challenging, there are many clear opportunities. Some of them are so called ‘low hanging fruits’ that quite easily can be used to initiate a significantly improved waste management system in neighborhoods, such as Obunga. The communities, waste pickers and City/County should take immediate action.

**“ Experiences from other countries show that waste entrepreneurs play important roles as local waste activists.**

## Socio-environmental entrepreneurship and the provision of critical services in informal settlements

### Aim

Environmental entrepreneurs play important roles for providing waste collection services in informal settlements. The article examines the process by which such entrepreneurs evolve and succeed to consolidate their operations through the institutionalization of a co-production of critical services. The entrepreneurs are part of emerging experiences in the waste management sector that benefit from being studied as social and solidarity economy<sup>15 16</sup> as well as through the evolving field of social and environmental entrepreneurship theories<sup>17</sup>.



Waste picker in Migosi area. Photo: Jaan-Henrik Kain.

## Methodology

The article is based on the stories of three waste picker entrepreneurs in Kisumu. Characterized as social micro-enterprises, they have not only consolidated and expanded their operations in informal settlements, but also extended social and environmental activities into formal settlements and business districts. In depth interviews, life-stories, observations and document analysis have been used to collect data. The three entrepreneurs also participate as co-authors of this paper since they not only have contributed to generate the data, but also to analysis and discussion.

## Findings

All three micro-enterprises were born and organized as community-based social initiatives. When facing decline in activities and engagement of participants they succeeded to consolidate and expand by bringing in a stronger entrepreneurial orientation and evolve towards more solid business models.

As local social entrepreneurs, they thrive in mobilizing local knowledge and existing resources to bridge the existing gap in the City's solid waste services. By providing households with waste collection and safe disposal of the waste, they ensure a healthy local environment while providing employment opportunities typically lacking in informal settlements<sup>18</sup>. They take advantage of a close and well-known market of neighbours and relatives, as well as of networks of trust. Once these entrepreneurs get established, they can make use of their local embeddedness<sup>19</sup> to gain strength to grow and expand into other settlements.

In this way, the entrepreneurs succeed in creating robust institutional structures that progressively become integrated into local governance arrangements (such as licenses or recognition documents to operate, agreements for regular evacuation of waste transfer points, or specific partnership arrangements).

In Kisumu, the establishment of waste picker networks, the growth of licensed waste pickers in the city, and the tightening of the relations with the City, are all signs of structural adjustments of a hybrid mode of waste management services, fitting into what Ostrom has called coproduction<sup>20 21</sup>.

By providing waste management services in informal settlements in Kisumu where the City is practically absent, this new hybrid and decentralized waste collection model has turned into being the “norm”. It is now referred to in policy documents and by policy actors as a “best practice” in the region.

**“ By providing households with waste collection and safe disposal of the waste, they ensure a healthy local environment while providing employment opportunities typically lacking in informal settlements**



Meetings with the new Obunga Waste Pickers group and Successful Waste Pickers group. Photo: Michael Oloko.

## Conclusions

Local waste entrepreneurs contribute significantly to socio-environmental change in informal settlements by acting as environmental stewards (educating households to use waste collection services, organising clean-ups and ensuring a healthy environment), strengthening social capital (participating in neighbourhood associations, NGOs and other community networks based on critical societal needs), serving as role models for young people, and providing employment to the most excluded residents.

Deeply intertwined economic, social, environmental and institutional rationales and goals drive these entrepreneurs, as there is a mutual dependence between the entrepreneurs, the state of the environment where they work, the everyday social life of the neighbourhoods where they live, and the social and commercial relationships with their neighbours, friends and the customers they service.

Even so, several critical aspects must be considered when further examining these findings, such as the institutionalization and normalization of the privatization of important services, the risk of clientelist relationships, the erosion of collective solutions for the servicing of neighbourhoods and cities, and the abandonment of the least affluent but majority of residents and settlements.

## Translating City plans into the informal settlements: reframing, anchoring and muddling through KISWAMP

### Aim and methodology

Numerous programs have been launched to deal with the serious solid waste predicaments in informal settlements. However, in both policy and research, there is an increasing concern with the disparities that exist between solid waste policies and what they achieve in practice. Informed by the case of the city of Kisumu and its Kisumu Integrated Sustainable Waste Management Plan (KISWAMP), this paper examines how waste management programs are translated into practice in informal settlements<sup>22 23</sup>, what aspects are translated, which ones fade away and which ones get stabilized and travel as best practices to other locations. City management literature and the concepts of reframing, anchoring and muddling through<sup>24</sup> are used to understand the KISWAMP and its implementation into the informal settlements' life.

### KISWAMP in translation

KISWAMP ran from August 2007 to June 2009, funded by the Swedish International Development Agency (SIDA), in collaboration with the International Labour Organization (ILO), UN-Habitat and the City of Kisumu. It was a top-down, participatory program aiming at strengthening the city's capacities, promote public-private partnerships, waste entrepreneurship, and waste transfer points. The program also had the ambition to be up-scaled to other city districts and cities around the Lake Victoria.

KIWSAMP	TRANSLATION INTO PRACTICE
Waste micro-entrepreneurs and CBOs	From 3 to 12, transformation of some CBO into micro-enterprises. Succeeded based on already existing practices. But no group in poorest slums as Obunga. A credit guarantee scheme is underutilized.
Citywide sustainable waste management strategy	A baseline survey, a consultation process and a strategy document were created but not implemented to the informal settlements. Waste management gained status in the City. Politicians and officials were trained but they dispersed. Institutional empowerment also stopped when the money dried up. Political and financial sustainability was not well considered.
Waste transfer points	Skips were placed in transfer points, but they rusted, were not enough, were stolen, wrong size and not replaced. No maintenance nor financial mechanisms were planned. Nowadays the places are illegally used as informal dumps by residents.
Pro-poor partnerships	Collaboration arrangements between City and waste pickers to evacuate waste transfer points remains loose and arbitrary.
Promoting KISWAMP model	KISWAMP is evaluated as a document with a good participatory design, well grounded in local practices. Which failed to be subsequently implemented. Yet it is described as successful story.

KISWAMP in translation into practice.

A new development program, the Kisumu Urban Project (KUP), was initiated in 2009 and is partially picking up where KISWAMP ended. KUP aims to build a sanitary landfill, review the KISWAMP strategy and continue supporting Kisumu's City and County waste management policies.

## Framing, anchoring and muddling through

KISWAMP succeeded to dignify, or *reframe*, waste picking as a critical community service and as a decent profession. Waste management also gained internal status as a legitimate area of policy making within the municipality and was turned it into an important service worth to pay for among residents of some informal settlements. Waste entrepreneurs supported by KISWAMP also reframed demands of cleanliness in these communities by initiating clean-ups and through their regular services. Even so, the stigma of informal waste picking persists, many residents are not enrolled yet in paying for waste collection services, and other

informal settlements with low-income residents were left out of the frame of KISWAMP due to the absence of sufficient economic, social and political conditions.

One of KISWAMP's strengths was its ability to anchor the strategy to existing waste entrepreneurship practices previously supported by other programs and NGOs, and through that both strengthen existing entrepreneurs and recruit new ones. Municipal officers and politicians were trained to connect the plan within the municipality, yet as many moved, KISWAMP remained weakly bounded to city budgets and decision-making processes. Trust also bloomed among residents being served by the new waste collection services. However, in lower-income settlements with insufficient assets to anchor the project, distrust and resentment grew instead. Skips placed at the waste transfer points soon disappeared (sold as scrap metal) or were misused and not replaced. Still, the skip idea did not totally vanish as it was recovered by the new KUP program. As new practices or solutions cannot catch on unless they resemble familiar or earlier ideas already in many people's minds as part of a master-idea or practice<sup>25</sup>.

	FRAMING	ANCHORING	MUDDLING THROUGH
Waste entrepreneurship	Waste as a resource and a source of employment.	Linked to extant waste entrepreneurship. Strengthen local, national and international networks. Waste entrepreneurship model travels away as best practice.	Informal work: low paid labour, based on fluctuant market prices buffered by low income salaries: waste pickers have to muddle through to gain their livelihood.
City management	Waste gains status of municipal strategy.	Municipal officers and politicians are trained (many fade away).	City strategies and practice are loosely coupled: e.g. no budget for fuel for waste truck nor maintenance of containers.
Pro-poor partnerships informal settlements	Waste management as a critical service.	Generating trust (or lack of) among residents. Lack of social capital in Obunga to anchor the project.	Arbitrary and loosely coupled arrangements.
Waste transfer points informal settlements	A new idea brought by international partners.	Not well anchored in local materials, design, community's practices.	"Where the skips used to be": residents continue disposing of waste where the skips used to be.

Framing, anchoring and muddling through KISWAMP.

A third key aspect in the implementation of KISWAMP was the ability of the local actors in *muddling through* the strategy and the practices that were finally implemented. Despite the efforts made by KISWAMP to formalize informal waste entrepreneurship, the provision of these services still relies on informal and poorly paid work. Residents also developed their (informal and illegal) ways to muddle through the persistent lack of infrastructure and service provision, with consequent negative implications for the natural environment and public health. Finally, the KISWAMP strategy and its implementation are also weakly connected due to an insufficient anchoring in human and material resources. Because of this, the initiated pro-poor partnerships remained arbitrary and loosely coupled arrangements.

## Project conclusions

While it is the responsibility of the City to provide waste management services to all residents, they have mainly concentrated their efforts within the CBD and market areas, leaving out most residential areas. This lack has prompted the emergence of private waste collectors seeing an opportunity for socio-environmental entrepreneurship.

Local waste entrepreneurs contribute significantly to socio-environmental change in informal settlements by cleaning up the environment, facilitating reuse and recycling, acting as environmental stewards, strengthening social capital, serving as role models for young people, and providing employment to the most excluded residents. Still, they get low economic returns, notwithstanding the exposure to health risks and social stigma.

The implementation of KISWAMP signified a considerable milestone in the improvement of the provision of these services in Kisumu's informal settlements. KISWAMP succeeded to reframe waste management as a critical service both within the City and in some informal settlements. It also thrived to acknowledge

and strengthen already existing waste entrepreneurship. Yet it did not anchor sufficiently some of the new practices in the informal settlements, such as the partnership arrangements with waste entrepreneurs or the maintenance of waste transfer points.

It also neglected lower-income settlements, such as Obunga, which have lagged behind with minimal or no household waste services. The life experiences and growth of three private waste entrepreneurs studied more closely in this project, define a likely path to be taken by any new emerging private waste collector. This has been successfully demonstrated in Obunga through the recent emergence of new local waste entrepreneurs, prompted by this research project, its team and the advice of these entrepreneurs.



Waste overflowing Obunga. Photo: Jaan-Henrik Kain.



New Waste picker's group in Obunga at work. Photo: Michael Oloko.



Temporary transfer point in Obunga used by the new waste pickers' groups, Photo: Michael Oloko.

## Recommendations to Kisumu

- To pass new regulations to promote waste reduction, for example banning plastic bags and other waste packages.
- To promote reuse and recycling; and establish stable markets for the waste materials via sorting at source.
- To develop transfer points into recycling centres to improve conditions for sorting of waste and storage of recyclables.
- Organic component being the greatest portion ending up in the dump site requires special considerations. Sorting out of this component as close to the households as possible would significantly reduce the cost of transport and improve the health of both the waste workers and the local environment.
- To continue with clean-up campaigns to introduce new waste management services in informal settlements.
- To strengthen waste entrepreneurs by facilitating the creation of cooperatives or associations, training programs and access to capital.
- To evacuate waste regularly from the transfer points.
- To develop transparent tariffs and procedures for waste disposal at municipal landfill and transfer points via partnership arrangements.
- To monitor, via partnership arrangements, to ensure equity in service provision in all areas within the City while maintaining good clientelist relations with deliberate programs to always include least affluent settlements and residents.
- To involve Wards and neighborhood associations in informal settlements in these partnerships for the management and control of the waste collection services.
- To better anchor waste management services within the City via human resources, financial and legal governmental instruments, competences and knowledge.

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