



**IURC LATIN AMERICA –
WEBINAR N°6
INCLUSIVE RECYCLING
Sonia Dias
WIEGO's global waste specialist**



WIEGO and the Informal Economy

WIEGO is a global action-research policy network. We seek to improve the status of the working poor, especially women, in the informal economy.

We are a network of networks, connecting membership-based organizations (MBOs) of informal workers locally, regionally and internationally.

Informal workers are workers who lack legal and social protection, multiple occupational groups include: home-based workers, domestic workers, street vendors and waste pickers.

New global estimates state that **61% of the global workforce is informal**. In developing countries, 79% of the urban workforce is informal (ILO 2018).

Informal workers are the majority of workers in the world today.



EMPOWERMENT

- For the WIEGO network, empowerment refers to the process of change that gives the working poor and especially women – as individual workers and as members of worker organizations – the ability to gain access to and exercise influence or control over the:
 - **resources** they need for their work;
 - **markets or value chains** they operate in;
 - **wider policy, regulatory, and institutional environments** that shape their livelihoods and lives;
 - **representative organizations**, including the promotion of gender equality within unions, cooperative movements, etc.
- Strengthening women’s leadership within MBOs is key to a broader view of empowerment: economic, symbolic, political

Waste pickers as environmental agents: contributions

- **Reduction of greenhouse gases:** Diversion of materials from the waste stream, sustaining recycling industry
- **Creation of green jobs:** Waste picking provides crucial income for people and households for populations that often lack other alternatives.
- **Promotion of public health and sanitation:** Through their work, they make cities more clean, healthy and beautiful (often at the risk of their own health).
- **Subsidy to municipalities without recognition:** In many countries, waste pickers supply the only form of solid waste collection at little or no cost to municipalities.



URBANIZATION, CITIES & INFORMAL LIVELIHOODS

- The world is already *predominantly urban* and is *further urbanizing* at a rapid pace.
- The global commitment to reduce poverty and inequality - to deliver on the Agenda 2030 objectives - *will succeed or fail in the cities* of the world.
- In order for them to succeed, cities must strengthen their economies, create jobs and also *enhance existing livelihoods*.
- But as they modernize and seek World Class status, cities around the world are *destroying – not enhancing – existing livelihoods*.
- **Formalization:** discourses most often not grounded on reality (formal jobs has shrunk). Lack of understanding that formalization needs to go beyond legalizing the business of the poor – it should go towards protected work.

Belo Horizonte, Brazil

Main Features:

- Partnership since 1993: 24 years;
- Co-governance: Waste & Citizenship city government + Coops + civil Society actors
- Formal agreements between the City and coops (MoUs, contracts): trucks, recycling warehouses, equipment, capacity building, environmental education;
- Payment for environmental service: Recycling bonus.

Forum:



Belo Horizonte, Brazil

- Curbside collection of recyclables in part of the Central and Southern Regions of the city.
- Recyclables collected by municipal trucks are taken to coops warehouses for sorting and further processes.
- Designated areas where cooperatives are the door to door collectors by contracts.
- Recycling containers in public areas. Collection by municipal trucks; recyclables taken to coops warehouses.



Gender and Waste Project – Belo Horizonte and Beyond

Aims:

- To provide women with the tools to work towards equality in the workplace and their personal lives in order to strengthen their capacities and voices;
- To increase women's leadership roles in waste picker representative organizations; and within the National Waste Pickers Movement.
- To contribute to the economic, political and symbolic empowerment of women waste pickers.

How

- Learning gender workshops, popular and academic gender toolkits, coaching program on leadership, mapping of health risks, ergonomic workshops, gender strategic work plans



Digital interfaces & Waste Pickers

- Waste-pickers and other informal waste collectors are counted on as the beneficiaries of the process, but not always.
 - Such apps do provide work and regularized income to a limited group of people while displacing many out there.
 - Some of them completely avoid the informal workers and displace the existing supply chains.
 - In these app-based start-ups, the power to decide pricing and benefits to be given to the informal workers is with the entrepreneur or the leadership of the start-up and not the workers themselves.
 - There is near to no space for bargaining for better prices and better working conditions, rather it relies on the strength of the informal economy while doing very little to change the status of the workers.
 - There is seldom a governance structure of the Apps where workers are represented
-

An agenda for Inclusive Circular Cities: policy recommendations

- Acknowledge the rights of waste pickers to work and to access waste
- Design solid waste management systems to include waste pickers as service providers
- Any change to the way solid waste is managed—whether upgrading from dumps to controlled landfills, introducing recycling schemes or “modernizing” a system—must begin with a plan that considers the needs of the informal workers
- Address gender vulnerabilities
- Create an enabling environment and support for cooperative formation
- Provide adequate infrastructure, capacity-building, social protection, and ownership in technology based Apps
- For inclusive circular economies design inclusive EPR schemes.



Involve waste pickers as equal partners in planning and implementation of solid waste management systems – Regular participatory platforms

Conclusions

- **Waste:** opportunity to meet the city's strategic priorities of building an inclusive economy that creates jobs, facilitates social mobility, improves governance, protects the environment, promotes sustainability, and social justice.
- **Inclusive SW system:**
 - makes more sense in labour abundant countries;
 - deliberate policies to favour employment hold the key to achieving human and economic development;
 - informal recycling saves the city money;
 - build recycling rates, contributes to climate change mitigation
 - if the city is aware of the SDGs and wants to implement them inclusive SWM can impact on its targets and goals...



Mujeres en Empleo Informal:
Globalizando y Organizando

... the millions of informal waste workers around the world demand:
respect and Comprehensive policies

For examples visit:

www.wiego.org



Thanks!

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re·ciclo

LABIFOR
LABORATÓRIO DE INOVAÇÃO DE FORTALEZA



CITINOVA
CIÊNCIA, TECNOLOGIA E INOVAÇÃO



Fortaleza
PREFEITURA



Population:

2.6 million - 5th in Brazil



Area:

315 km²



Density:

8.290 hab./km² [1st in Brazil]



GDP:

R\$ 67.02 billion - US\$ 17.3 billion (2018)



Inequality:

HDI disparity by neighborhood
Meireles 0.953 x Conjunto Palmeiras 0.119 (2016)



Solid Waste Production:

130,000 tons of waste per month (2021)



The waste pickers are essential actors of waste management system in Brazil, but they still live on the margins and need better living and working conditions.



Fonte: Prefeitura Municipal de Fortaleza

**Fortaleza is among the cities in Brazil
that
that recycle the most, but the current
rate
of 5% can still improve a lot.**

**90% of the
recyclables in
Brazil are collected
by the catadores.**



In the last 8 years, the City of Fortaleza has invested in the bicycle as a transportation alternative, expanding space and promoting its use. **The cycling network has grown more than 500% since 2013 and today the structure has 413 km of cycling network.**



RE-CICLO

Electric Tricycles for Waste Pickers



Fortaleza
PREFEITURA



RECICLO

Project that aims to encourage recycling in Fortaleza, by means of electric micromobility (electric tricycles), promoting the social inclusion of the catadores.



Reciclagem

- Increase the recyclable materials collected by the catadores;
- Engage the Fortaleza City Hall, companies, and condominiums to encourage recycling;
- Increase the recycling rates in the city.



Mobilidade Urbana Sustentável

- Promotion of Sustainable Mobility for the transportation of cargo through the use of the existing bicycle infrastructure.
- Start and test the use of cargo tricycles in Fortaleza as a solution for urban logistics (get data);



Inclusão Social

- Bring value, dignity, visibility, comfort, and better working conditions to the catadores;
- To recognize the catadores as professionals responsible for selective collection, separation, processing, and sale of recyclable materials.

RE-CICLO

Delivery of PPE

Uniform, boots, goggles, cap, gloves and masks.

Door-to-door campaign

Carried out on the Re-ciclo collectors' route to encourage the separation and correct forwarding of recyclables.

Adaptation to the tricycle

Workshops on mechanics, occupational health and safety, adaptation to the tricycle, and communication.

Generation of data

Generation of data on load volume, speed, and stopping points, in addition to the socioeconomic effect.



WASTE PICKERS

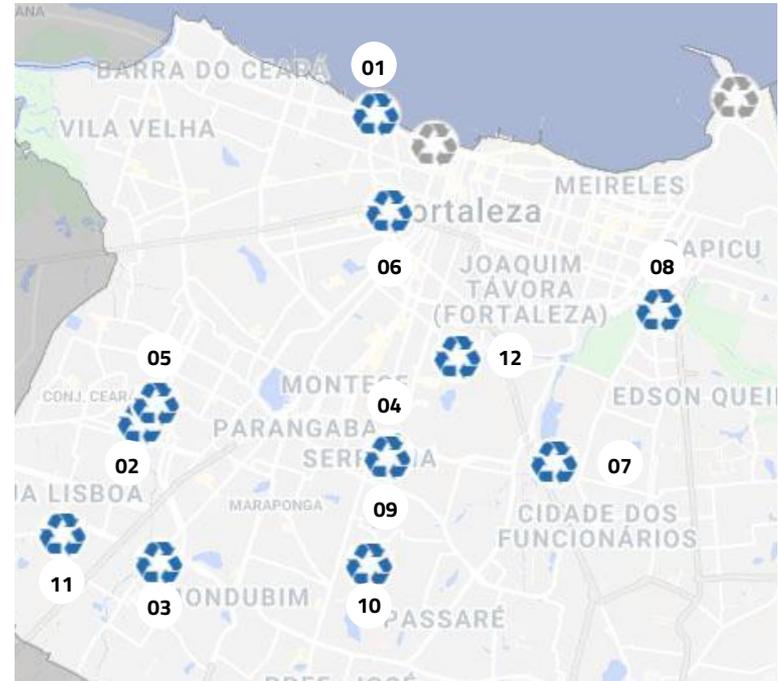
Like Dona Geresa, the majority of the waste pickers in the associations that are working with us are women, with two or more children, with low levels of education and a monthly family income of up to USD 120 on average, and they receive assistance from social programs.

More than half of the associated collectors have already suffered a work accident.



RE-CICLO TODAY

- 18 tricycles delivered
- 12 accredited associations
- 31 registered waste pickers
- 2 door to door campaigns
- 16 tricycle adaptation workshops held
- 4 maintenance and basic mechanics workshops held (15 waste pickers trained + 5 repair kits delivered)
- 10 health and safety workshops held (25 PPE kits delivered)
- 2 communication workshops held + 2 door to door campaigns held (Waste pickers + Re-ciclo)

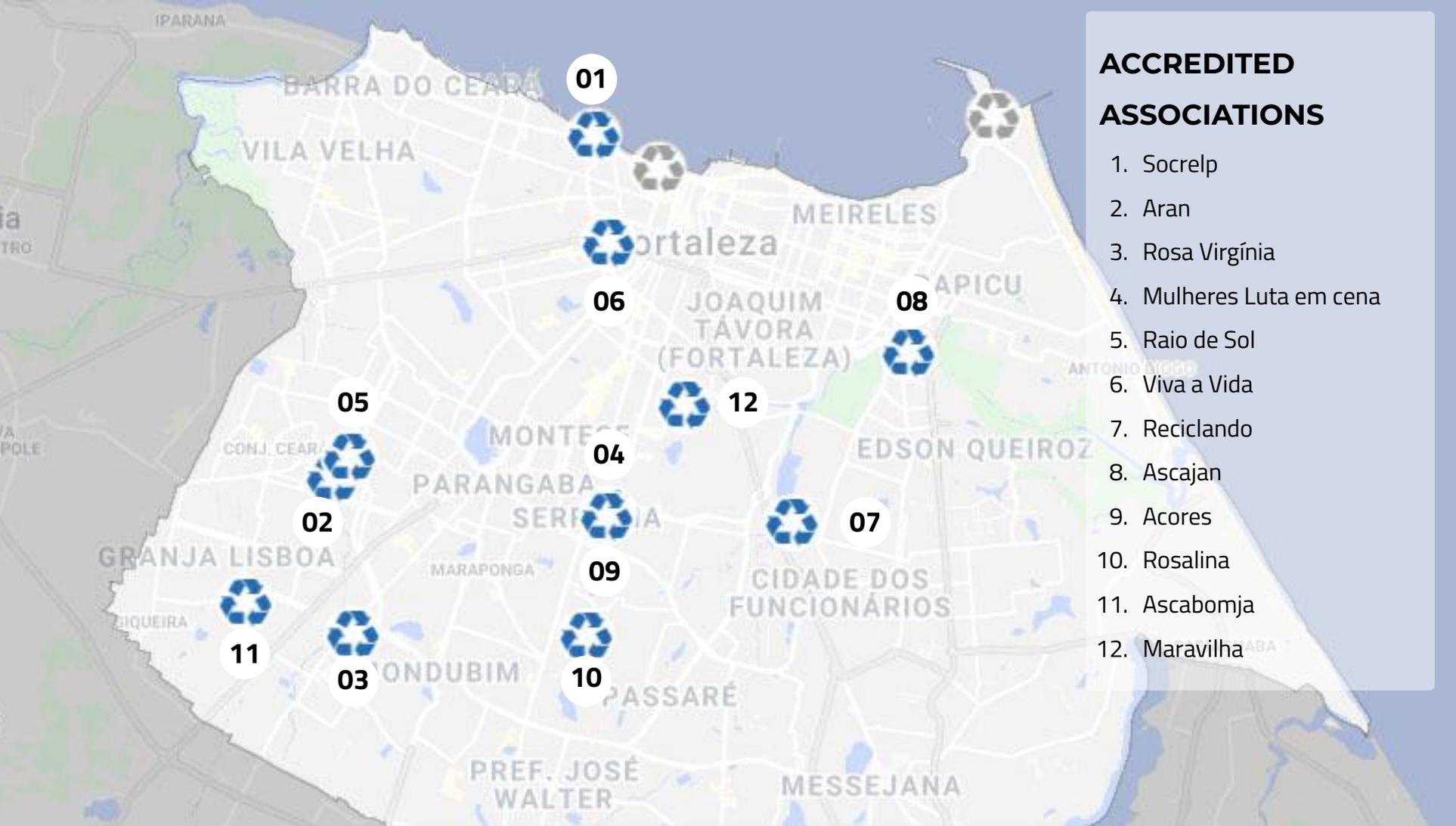


Accredited Associations

- | | | | |
|------------------|--------------------------|---------------|---------------|
| 1. Socrelp | 4. Mulheres Luta em cena | 8. Ascajan | 12. Maravilha |
| 2. Aran | 5. Raio de Sol | 9. Acores | |
| 3. Rosa Virgínia | 6. Viva a Vida | 10. Rosalina | |
| | 7. Reciclando | 11. Ascabomja | |

R E - C I C L O

IN THE ASSOCIATIONS



ACCREDITED ASSOCIATIONS

1. Socrelp
2. Aran
3. Rosa Virgínia
4. Mulheres Luta em cena
5. Raio de Sol
6. Viva a Vida
7. Reciclando
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9. Acores
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TRICYCLE DELIVERY



TRICYCLE DELIVERY



ASSOCIATION ACCREDITATION



ASSOCIATION ACCREDITATION



ASSOCIATION ACCREDITATION



ADAPTATION WORKSHOP



ADAPTATION WORKSHOP



ADAPTATION WORKSHOP



ADAPTATION WORKSHOP



DOOR-TO-DOOR CAMPAIGN



DOOR-TO-DOOR CAMPAIGN



DOOR-TO-DOOR CAMPAIGN



DOOR-TO-DOOR CAMPAIGN



MECHANICAL WORKSHOP



HEALTH AND SAFETY WORKSHOP - DELIVERY OF PPE



COMMUNICATION WORKSHOP



TYPES OF TRICYCLE

The project has two types of tricycles.



Tricycle + Trailer

- Originally designed for the project, it has a higher capacity, but less mobility on public roads.



Tricycle with load compartment

- Adapted later, to give the tricycle more versatility. With this model, several types of boxes can be attached to the chassis.



Fonte: Prefeitura Municipal de Fortaleza



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RELATION WITH OTHER PROJECTS

After the implementation of Re-ciclo we are connecting associations to other projects in the municipality, such as the destination of parts of repaired electronics to collectors - valuable material.

GALILEU REVISTA DIGITAL NOTÍCIAS MEIO AMBIENTE CULTURA SAÚDE UM SÓ PLANETA

MEIO AMBIENTE

Quase todo lixo eletrônico do Brasil é descartado de maneira errada

Cada um de nós produz, em média, 8,3 quilogramas de e-lixo por ano; só 3% segue para centros de reciclagem

4 min de leitura

FELIPE FLORESTI
24 MAI 2018 - 08H48 | ATUALIZADO EM 24 MAI 2018 - 08H48

Números do lixo eletrônico no Brasil

O Brasil é o maior produtor de lixo eletrônico da América Latina, o segundo do continente e o quinto do mundo. Estima-se que cada brasileiro gere **10,2kg** de lixo eletrônico anualmente.



Maiores produtores de lixo eletrônico (em milhões de toneladas)

1º	China	10,1	2º	EUA	6,9	3º	Índia	3,2	4º	Japão	2,5	5º	Brasil	2,1
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FONTE: The Global E-Waste Monitor 2020

RESULTS



31 accredited
waste pickers



During the project the
income of the waste pickers
increased by 40%.



18 tricycles
delivered



Waste pickers who use
tricycles feel less pain than
those who use manual cars



Waste pickers with a
tricycle make 30% less
effort than those who
use a cart



Waste pickers with
tricycles cover distances
days longer

90%

of the waste pickers who
receive the tricycle start
using it exclusively



The door-to-door campaigns
demonstrated an adhesion
of 50% of the visited sites



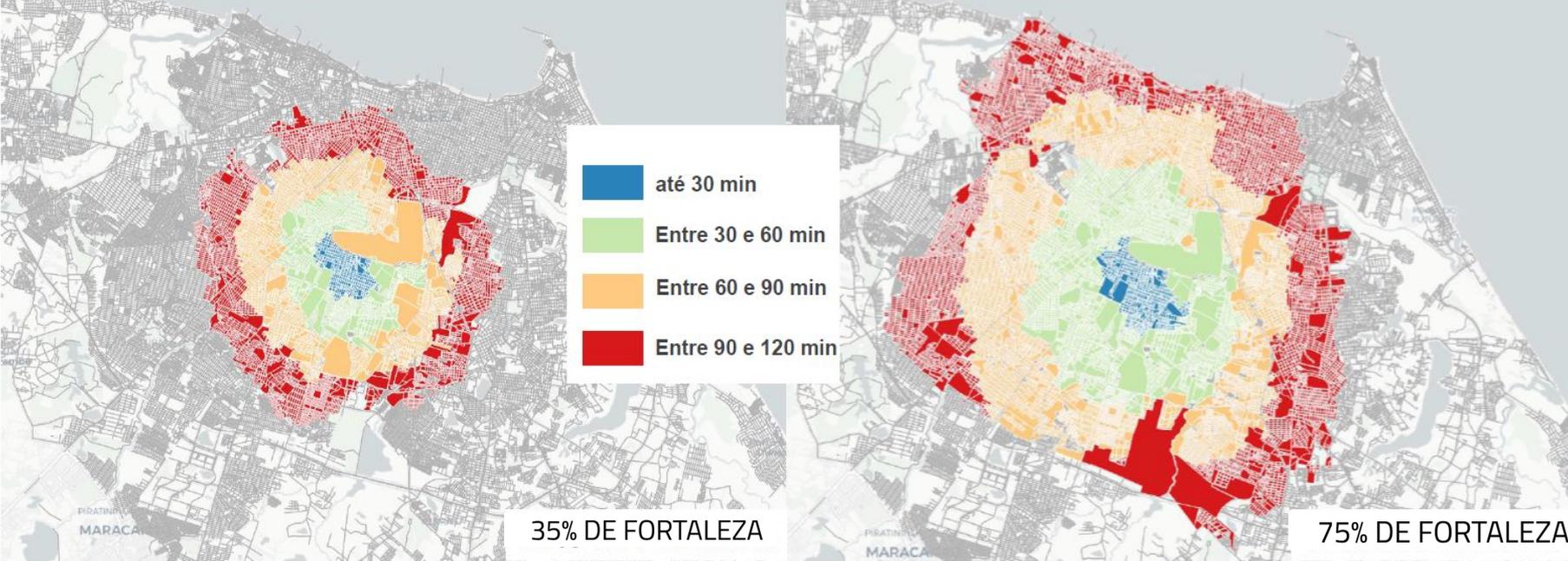
Twice the speed is
achieved using the
tricycle

* Os dados foram coletados de acordo com a metodologia utilizada no Questionário Nórdico de Sintomas Osteomusculares (QNSO). O QNSO classifica os níveis de dores de acordo com a intensidade (0 a 4) e frequência.

ACCESSIBILITY

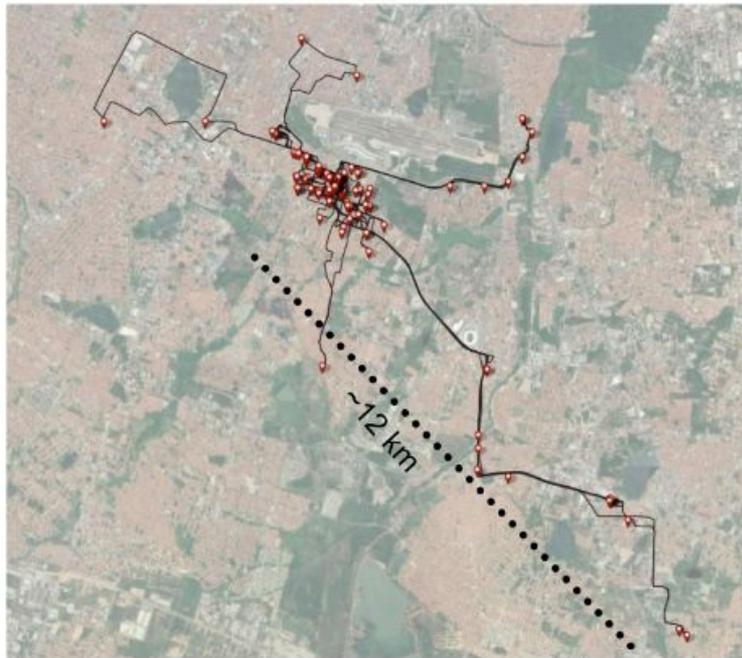
4KM/H CARROÇA

8KM/H TRICYCLE



DISTANCE REACHED

MULHERES (Cassiano)



~10 dias coletados



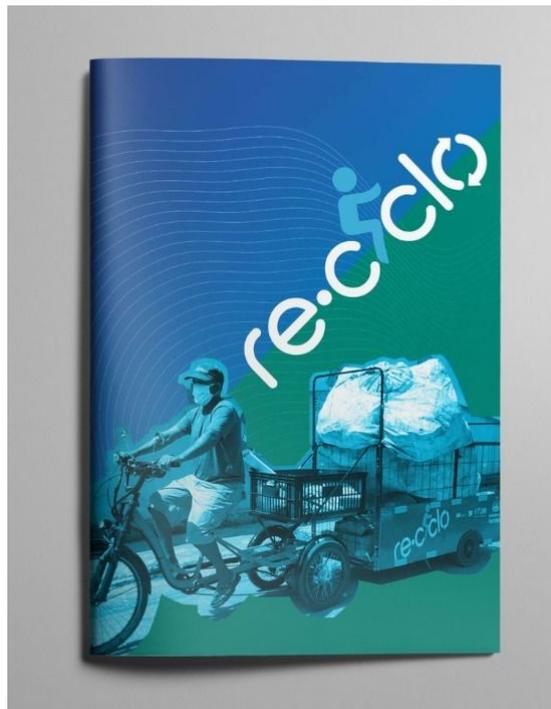
~200 viagens



~180 paradas

**In July we will release a document with the
history and learnings from the Re-cycle**
gathered in one publication in English, Spanish
and Portuguese versions.

CADERNO RE-CICLO





DEPOIMENTO - CATADOR





Thank you!





H. AYUNTAMIENTO DE
HERMOSILLO
IMPLAN



Funded by the
European Union

BICICCLANDO

IMPLAN Hermosillo
June 2021

M. Arq. José E. Carrillo Atondo
Lic. Antonio Colin Canizales



BICICLANDO 



H. AYUNTAMIENTO DE
HERMOSILLO
IMPLAN





Biciclando is a gender mainstreaming program with a focus on recycling and sustainable mobility

Biciclando's challenges

Working towards a paradigm shift

- Hermosillo recycles less than 2% of its waste
- Pandemic-related job losses have impacted two women for every man
- Motorized vehicles produce 35% of local GHG emissions
- Only 15% of cyclists in Hermosillo are women
- About 70% of women in Hermosillo perceive public space as unsafe





Biciclando features 3 initiatives: Circular Economy Centers (CECs), a recyclable waste collection service and cyclist infrastructure



Biciclando's components

Working towards circularity with gender perspective

- **CEC** social entrepreneurship centers that promote gender-sensitive, circular-economy-based entrepreneurship, they also serve as the operation centers of BICICLANDO.
- **Biciclando Service:** A waste-collection and recycling platform (app) that links communities with vulnerable women for free.
- **Cycling infrastructure** is developed to improve the connectivity of communities with the CECs and promote sustainable mobility, especially of women.

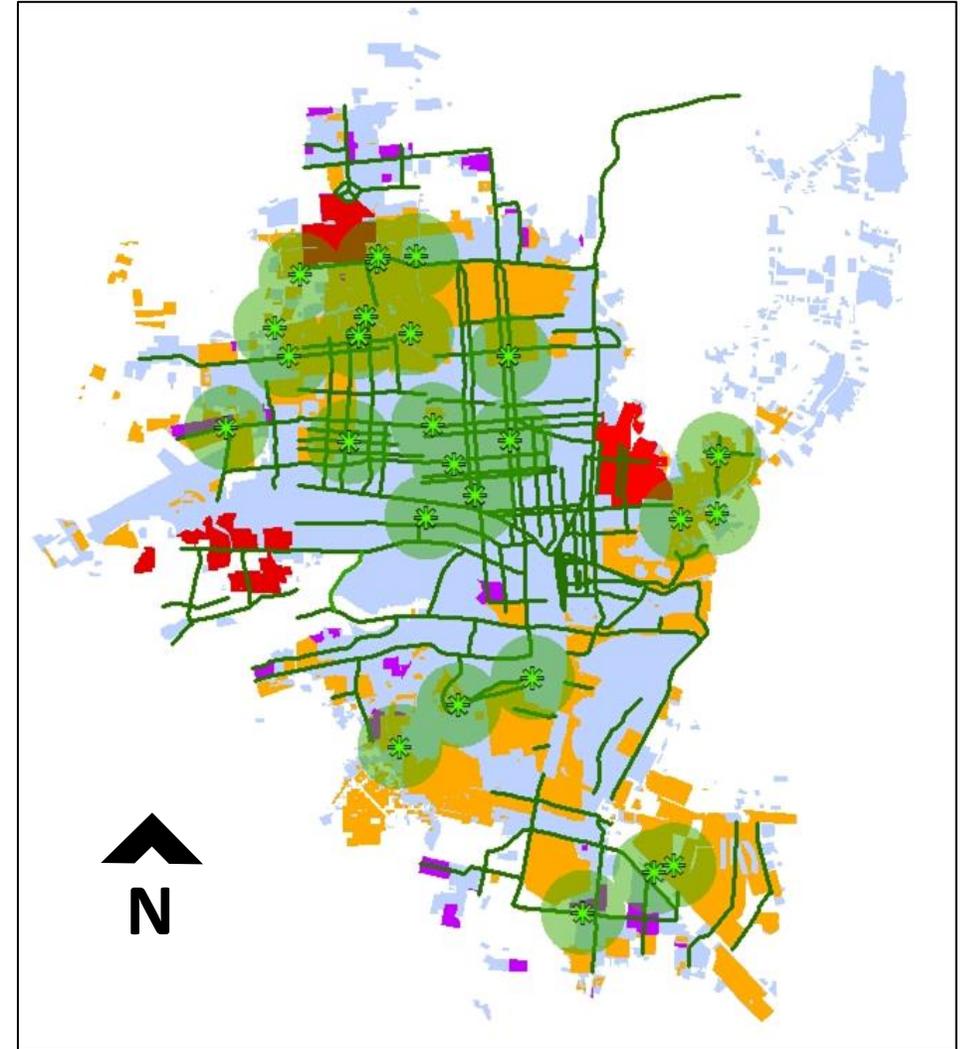


Areas of Interest: Initial phase

City of Hermosillo

SYMBOLOGY

- Zones for initial implementation.
- Areas with urban and social backwardness.
- Areas with a concentration of female-headed households.
- ★ Recycling companies.
- Radio influence.
- Cycling infrastructure.





Biciclando has been sponsored by local and national companies



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DECSSON *Welding* 

DISTRIBUCIÓN Y RENTA DE EQUIPOS DE SOLDADURA DE SONORA.



H. AYUNTAMIENTO DE
HERMOSILLO
IMPLAN



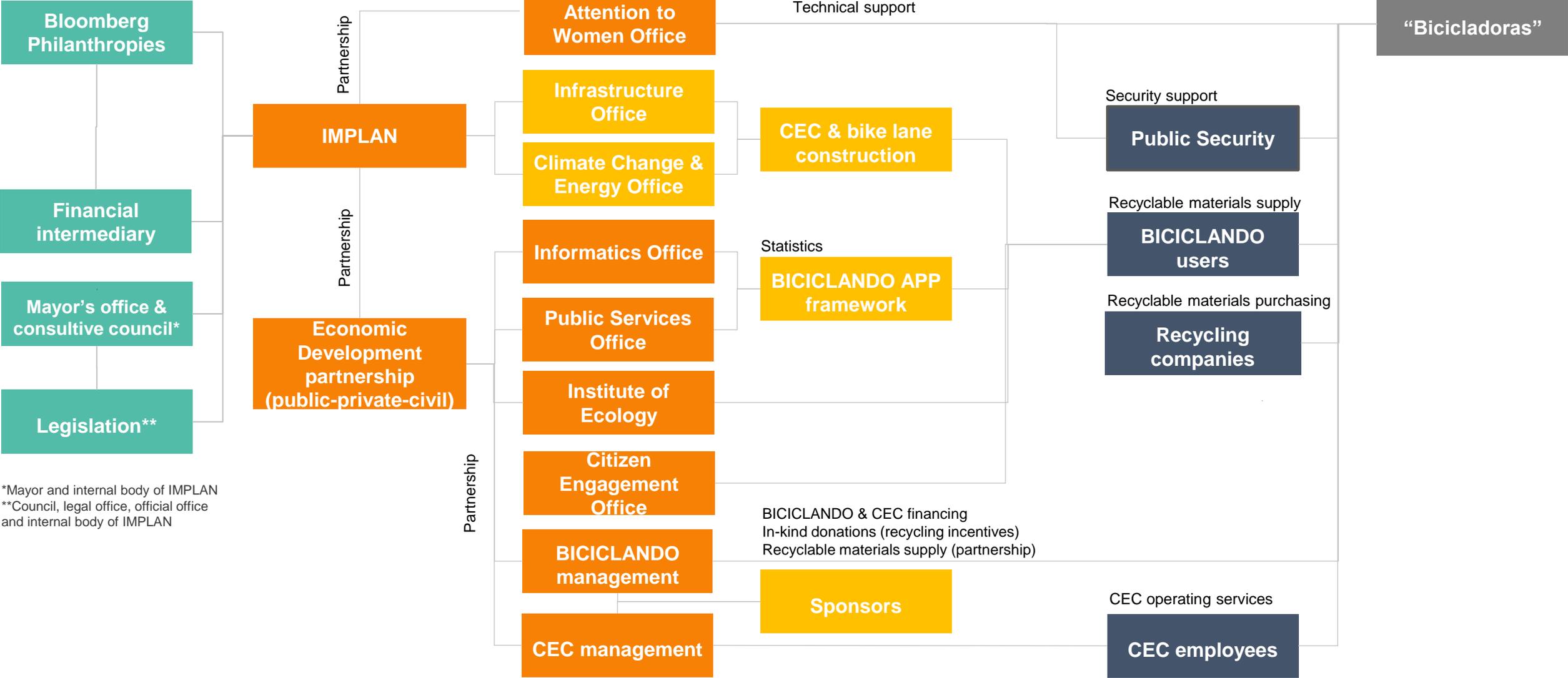
Biciclando's Implementation Chain & Stakeholders

Decision makers

Implementation Partnership

First line

Beneficiaries



*Mayor and internal body of IMPLAN
 **Council, legal office, official office and internal body of IMPLAN



Biciclando will be implemented in the span of 3 years, with the support of Bloomberg Philanthropies

Biciclando's benefits

Looking forward to 2024

- Construction of 3 Circular Economy Centers.
- Fleet of 18 Bicicladoras.
- Up to 70,000 direct beneficiaries (users).
- Up to 200,000 KG of collected recyclable waste per year, including cardboard, paper, and aluminum.

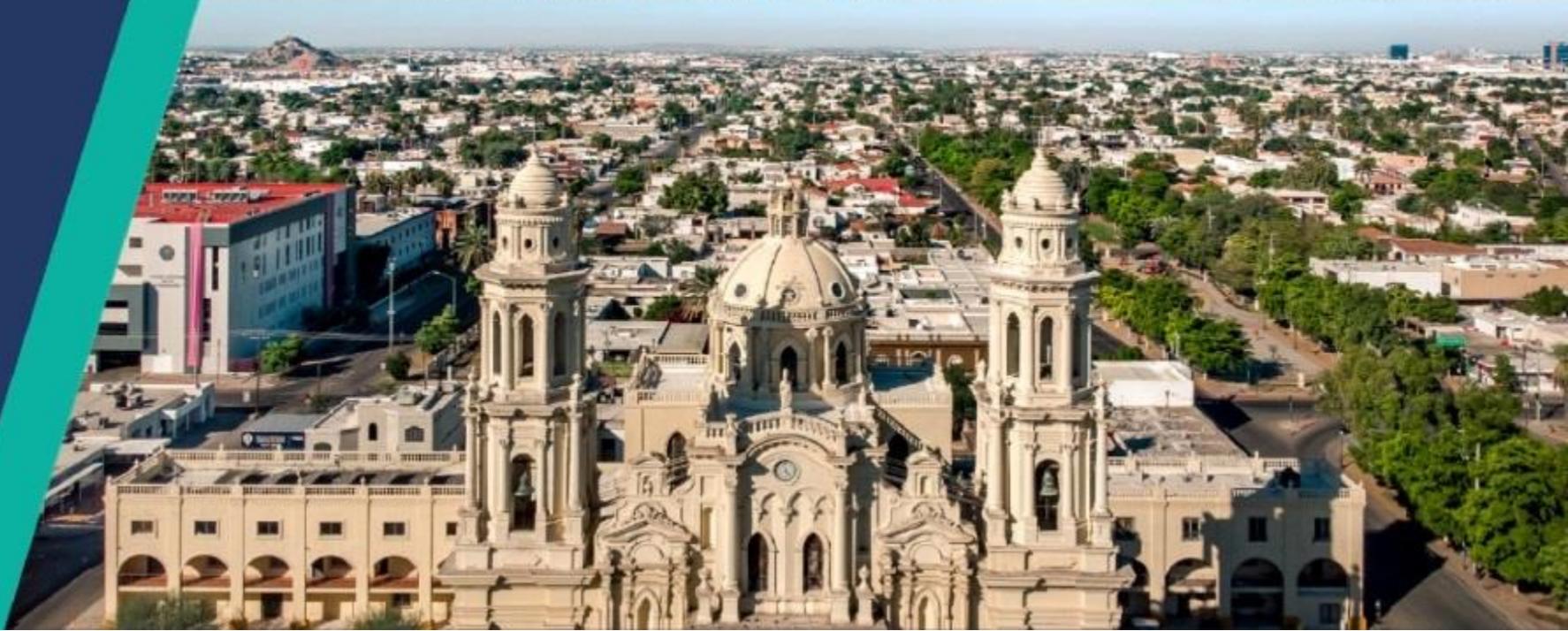


**HERMOSILLO
MEXICO**

GANADOR

**Bloomberg
Philanthropies**

**MAYORS
CHALLENGE**





Biciclando | Fleet equipment

Biciclando | Fleet equipment



UMESS

BICICLANDO

Circular Economy Center | Current State



Circular Economy Center | Concept Art



Biciclando Workshop | Co-design



Biciclando Workshop | Urban Cycling



Biciclando Workshop | Recycling



Biciclando | La Ruina Park



Thank you!



H. AYUNTAMIENTO DE
HERMOSILLO
IMPLAN



BICICLANDO