

community garden hackathon

organization:



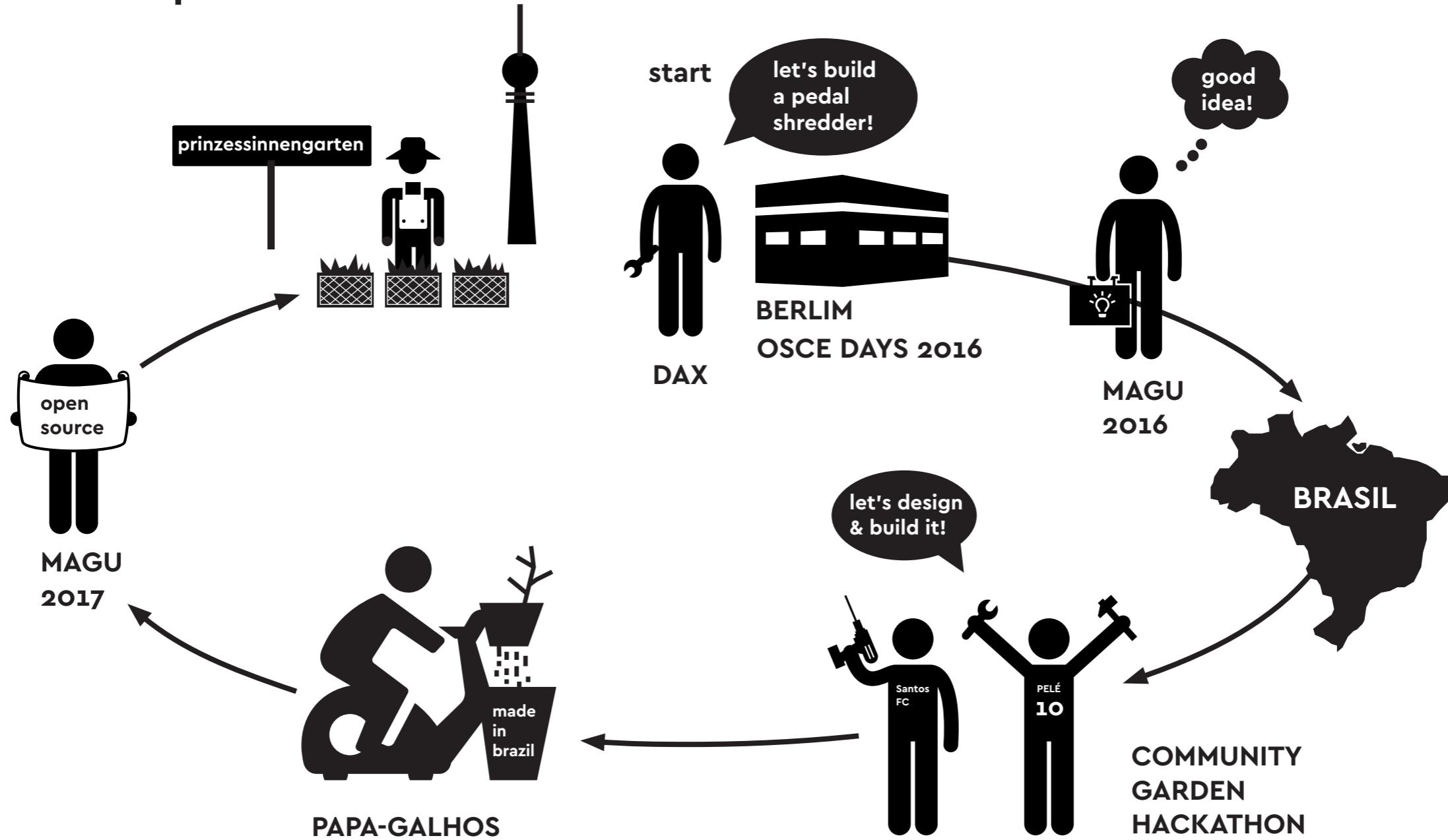
são paulo
lab

In april 2017 são paulo lab has organized a collective marathon to design and prototype a pedal powered shredder machine. The idea to do it was inspired by a challenge proposed during open source for circular economy days berlin in 2016, but not accomplished during the event.

For organizing the hackathon we had the support from two grants in brazil and we did it on a community garden on the periphery of Santos.

We got a great team of makers together: between students, engineers, and technicians, who managed to build it by hacking an used electric shredder machine and combining it with a system of pulley and belt and an used bicycle.

a cycle of cooperation



workshop in brazil

bons frutos community garden

sustainable practices in place:

- rainwater harvesting
- aquaponics
- organic fertilizer
- composting
- kitchen oil recycling

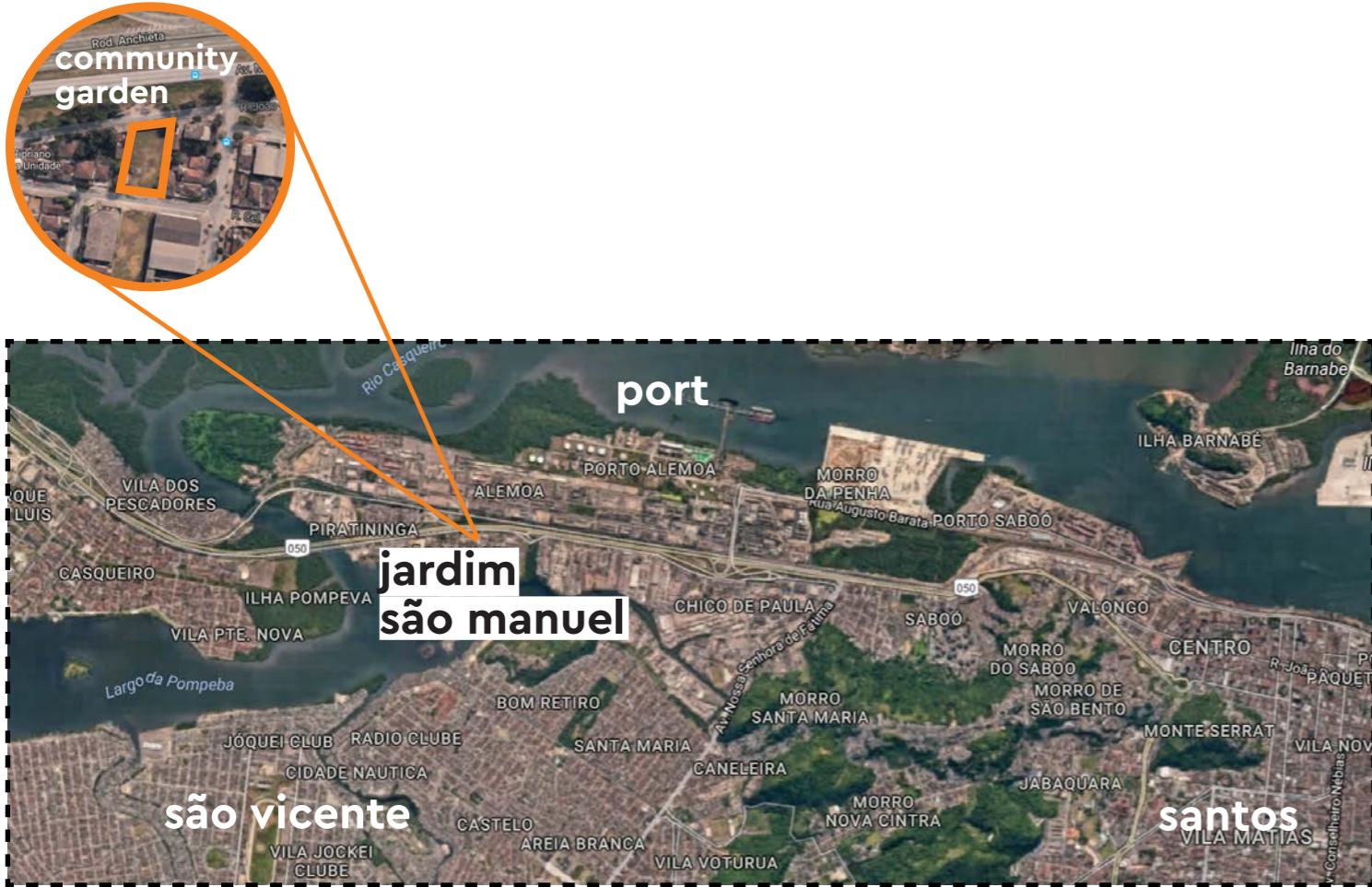
the problem:

- composting takes too long
- too much organic waste from trimming
- no electric power source



1000 m²
40 beds
3 farmers
4 volunteers
4000 beneficiaries

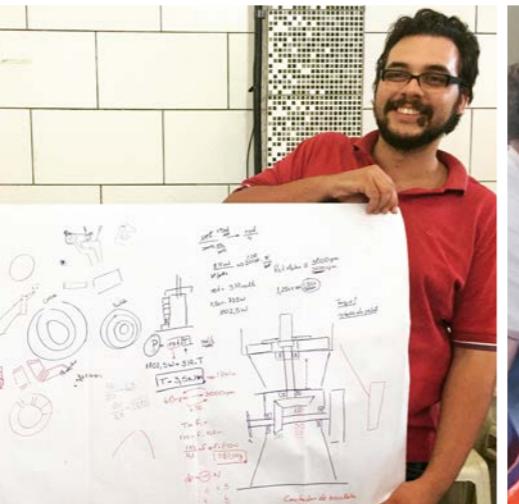
location



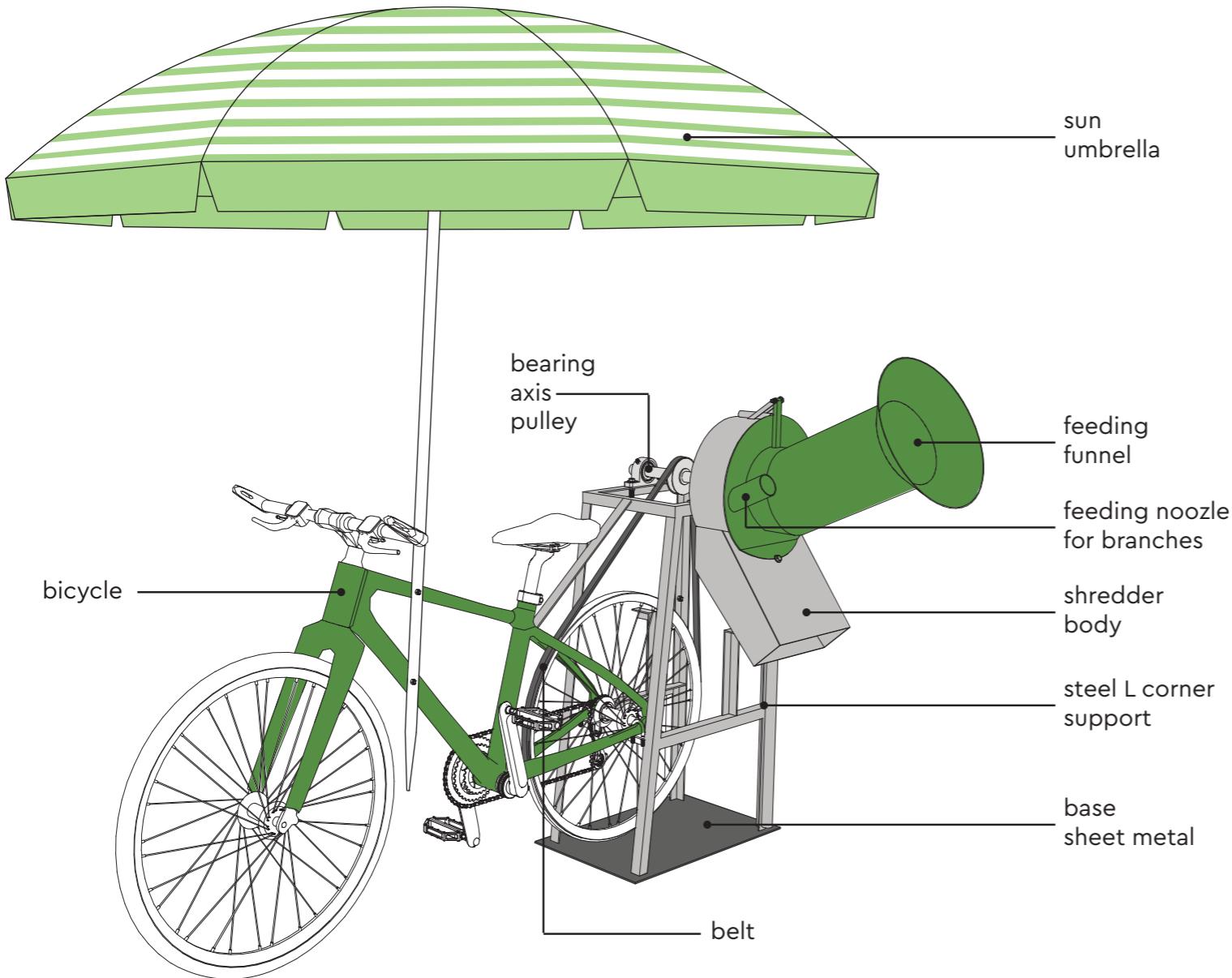
A close-up photograph showing several pairs of hands working together on a dark-colored, cylindrical metal component of a machine. One person's arm is visible with a tattooed forearm. Another person wears a black watch and a gold ring. A green and yellow wristband is also visible. In the bottom left corner, a portion of a green and orange painted metal drum is visible. The background shows other people and parts of the machine.

the challenge

**2 weekends
9 makers
18 hands
2 mentors =
1 pedal powered shredder machine**



outcomes: 1. papa-galhos > zweigfresser



**sustainable urban agriculture
tool for circular economy**

- built from scraps (upcycling)
- zero energy consumption
- carbon free emission
- composting boost
- stimulates exercising
- playful & fun

2. step by step DIY

► informações gerais

peso aprox. 53 kg

dimensões L170 x P90 x H126 cm

nível avançado

tempo estimado de construção 3 dias

custo estimado R\$ 803*

ferramentas

martelo, chave peugeot (alicate), chave inglesa, chaves allen, chave de boca, chave catraca, chave de fenda, chave phillips, nível manual, paquímetro, trena, esquadro, régua, riscador com ponta (ou lápis), caneta para marcador permanente, máquina de solda, máscara de solda, picadeira de solda, lixadeira elétrica, furadeira, morsa de bancada, lima, talhadeira, punção de bico, chapéu e óculos proteção

► peças e elementos

01 bicicleta usada



01 guarda-sol 180 cm diâmetro



materiais

01 bicicleta usada

01 triturador TR 200 Trapp usado (ferro velho)

01 guarda sol 1.80m diâmetro
6m cantoneiras 1" de abas iguais esp. 1/8" (ferro velho)

1,5m tubo galvanizado 3/4" (ferro velho)

1m² chapa xadrez aço carbono esp. 1/8" (ferro velho)

04 ponteiras de borracha para o tubo de 3/4"

02 rolos de grip para raquete de tênis

10 lixa de metal 100 e 150

04 tinta spray para metal

10 discos de corte p/ lixadeira

02 discos desbaste p/lixadeira

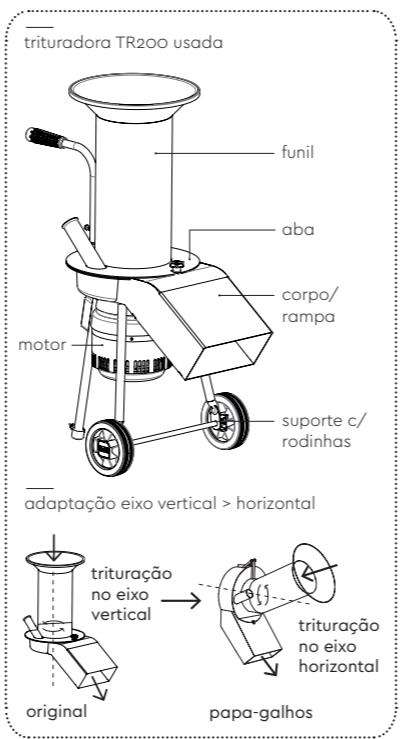
1,5kg de eletrodo 6013 x 2,5mm

01 lubrificante multiuso WD-40

01 fluido p/ usinagem machão

01 lata de primer automotivo

► adaptação trituradora trapp

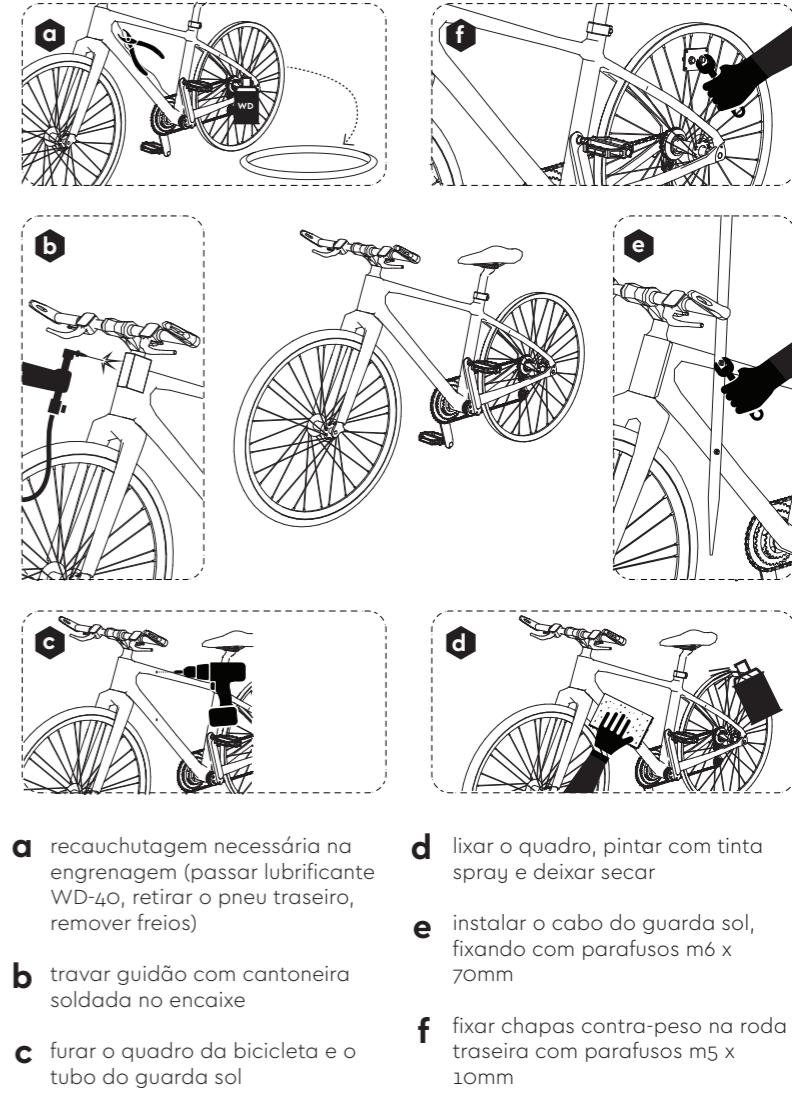


a desmontar a trituradora TR 200: desparafusar e guardar o funil de alimentação, o corpo do triturador e o eixo.

b fazer consertos e reparos necessários na carcaça com primer automotivo.

c cortar a rampa de dejetos do triturador e soldar no corpo novamente girando 180°. Refazer a tampa com chapa.

► adaptação da bicicleta



3. user's manual & sign

COMO USAR A TRITURADORA MOVIDA A PEDAL: PAPA-GALHOS

 **Leia todas as instruções antes de operar o equipamento, sempre observando as indicações de segurança e seguindo as instruções para prevenir acidentes ou ferimentos.**

 **Corte em pedaços os materiais volumosos e muito extensos como apas de talos e arbustos, formando maços a serem triturados.**

 **Depois de começar a pedalar, segure o maço firmemente e com as duas mãos e introduza dentro do alimentador empurrando até sentir que o material esteja sendo puxado e triturado.**

 **Mantenha-se alerta, fique atento com o que está acontecendo e use o bom senso quando estiver operando. Um momento de desatenção pode resultar em sério risco de ferimento.**

 **Sempre operá-lo em duas pessoas: uma alimentando o bocal com o material a ser triturado e a outra pedalando. Crianças não devem operá-la sem supervisão de um adulto.**

 **Antes de introduzir qualquer tipo de resíduo, comece a pedalar acionando o mecanismo e espere que o mesmo atinja a rotação máxima.**

 **Não triture pedras, vidros, metais, plásticos, reservatórios de produtos químicos (perfumaria, limpeza, tintas, etc.) ou outros produtos que danifiquem o triturador.**

 **O que pode ser triturado: cascas de frutas e ovos, pequenos ossos, apas de talos da horta, gramas, cercas-vivas, arbustos, folhas, flores secas, restos de vegetais e frutas.**

 **Mantenha as facas afiadas e limpas. Para evitar o acúmulo de resíduos, ao final da Trituração limpe o equipamento abrindo o bocal e usando o jato do esguicho.**

 **Depois de triturar é só levar o material para a composteira ou para cobrir os canteiros.**

 **ATENÇÃO AO OPERAR!**

 **MADE IN SÃO MATEUS**

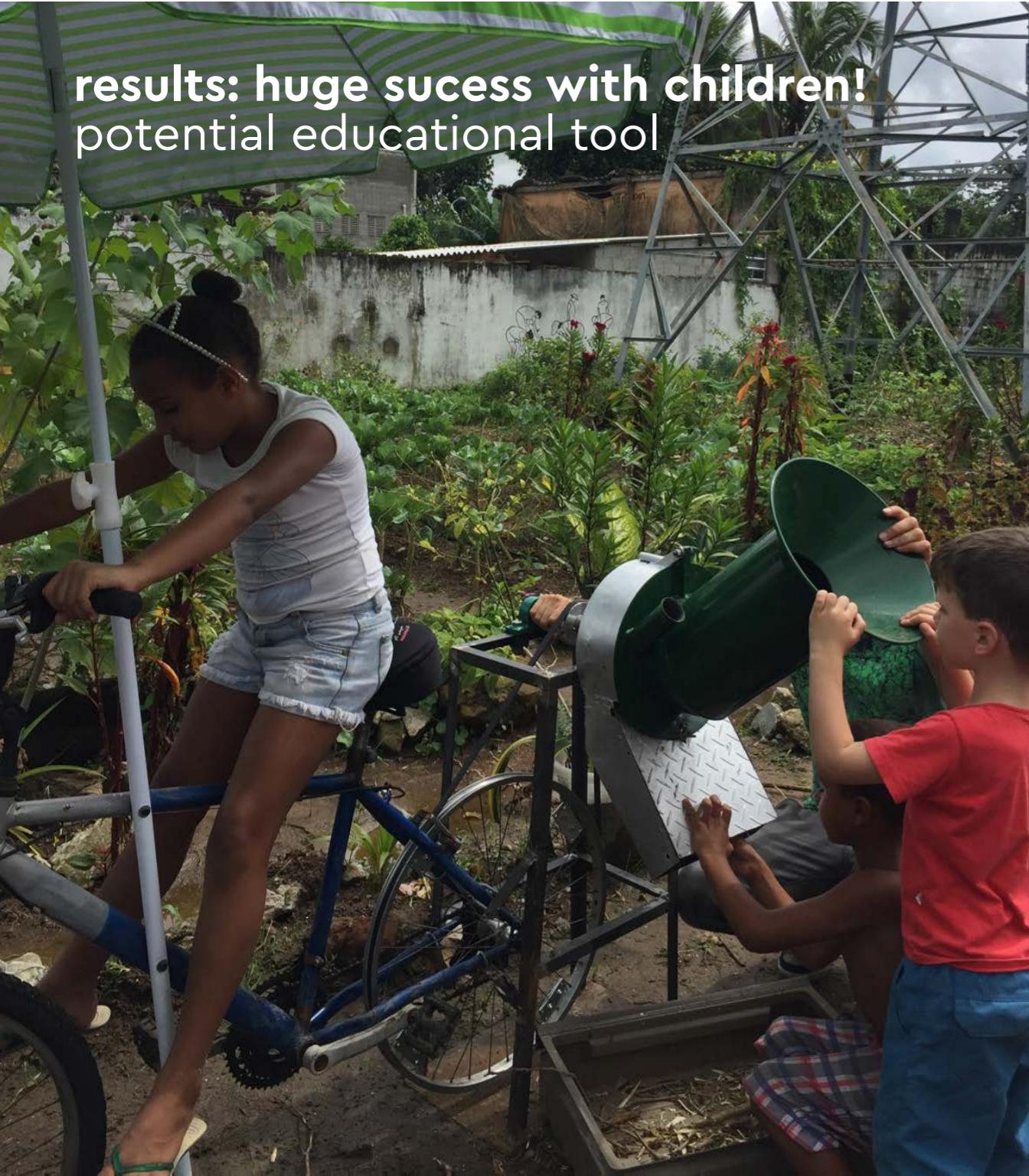
HORTA COMUNITÁRIA
BONS FRUTOS

PARTICIPE! SEJA VOLUNTÁRIO!
A HORTA TAMBÉM É SUA!

4. logo designed by local children



results: huge sucess with children!
potential educational tool



results: 3 empowered urban farmers!



makers team



(standing from left to right): vilma barros, gabriela ortega, diego rizzo, ocelmo barros, maria augusta bueno, ilda silva, claudio jardim, cleusa machado , juliana braz, henrique silva. bellow: cesar branco and pretinha

to replicate it in berlin (in cooperation with prinzessinnengarten)

we need:



1 week pre-production
2-3 days construction workshop



a car/van/cargo bike to help collect the materials from junkyard/shops



a team of at least 5 people:
2 on pre-production
All 5 during construction
2 or 3 with metal construction experience (welding/sawing)



around \$200-380 euros
(depending on the materials we are able to find at the junkyard or get donated to us)



have necessary tools to build it
the main ones are: welding,
electric circular saw/sander &
electric drill



são paulo lab offers:

project and building instructions in english, user's manual safety/instruction signage, presence at workshop

who we are

- an incubator for civic innovation
- we bring together citizens, students and designers to co-create and build collective solutions to urban challenges
- we promote experimentation with high and low tech and a learn by doing educational process
- we share the results on an open source platform, so others can implement them in their own communities anywhere around the brazil and other parts of the world
- our projects are adaptable and beta, so people can improve it, build upon it and share it again
- we aim at creating a common repertoire of ideas and procedures for those who wish to become agents of change in their cities
- our moto is: do it yourself or do it with others, getting your hands dirty for the commom good is above all a lot of fun!



team

founding director



Maria Augusta Bueno is an architect and urban designer with a passion for bottom up and collaborative urbanism. She has founded São Paulo Lab in 2015 to foster a community of citizen-makers engaged in building together innovative solutions for urban challenges.

She holds a Master in Urban Design from GSAPP Columbia University and was the director of GSAPP's Studio-X Global Network in São Paulo from 2010 until 2014, when she curated various exhibitions, debates and workshops focused on the future of cities. She was a guest teacher at Escola da Cidade and also a partner at Urban Think Tank Brasil, when she coordinated the award winning project 'Grotão Park & Music School' at Paraisópolis in São Paulo.

Since 2014 she has joined the group called 'friends of Eder Sader Square' with whom she has been collaborating to impact this public space in her neighborhood through collective construction and community events.

Recently she was a lecturer at: Glocal Camp (Civic Wise-Paris), Open Source for Circular Economy (Agora Rollberg-Berlim), Festival Faz (Red Bull Station-SP), Colaboramerica (Ouishare-Rio), Participatory Urban Initiatives (Studio-X Rio) amongst others.

collaborators



Penelope Casal de Rey is an architect and set designer. She was production and communication coordinator of hackathon paulista.



Cesar Branco is a mechanical engineer and founder of the maker space Crie Aqui. He was the construction and mechanical mentor for the community garden marathon.



Gabriela Ortega is an architect, urban planner and an activist for responsible consumption. She was the production coordinator of community garden hackathon.



Diego Rizzo is an environmental manager and educator. He was the mentor in composting for the community garden marathon.

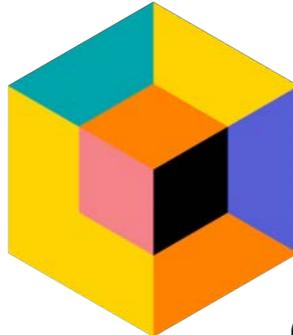


Fernanda Tosta is an industrial designer, maker and guru at garagem fablab. She was the design and construction mentor at hackathon paulista.



Gabriela Bernd is a photographer and video maker responsible for capturing the images and editing our making off and diy videos for both hackathons.

to learn more:



são paulo lab

www.saopaulolab.cc

open source collaborative design

f facebook.com/saopaulolab

ig @saopaulolab

yt [youtube.com \(são paulo lab channel\)](https://youtube.com/sao paulo lab channel)