



# Makoko-Iwaya Waterfront

## Economic Opportunities

**FABULOUS URBAN**

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Lagos****Makoko-Iwaya Waterfront Community**

Makoko on Water – it’s a fascinating boat ride through an autarkic and vibrant, still peaceful community on water within an ever busy, noisy and hectic Megacity. Although the lack of government support and infrastructure result in poor living conditions, the communal life offers exemplary potentials to adapt to rapid urbanisation and climate change in coastal cities. The “Makoko/Iwaya Waterfront Regeneration Plan” - a comprehensive people-centered development framework – was submitted to the Ministry of Physical Planning in October 2013. One of the major objectives is ensuring participation and community ownership in the formulation, implementation and sustainability of the plan. It looks at all facets of life and development in Makoko-Iwaya Waterfront including land use, housing, tourism opportunities, tenure security, funding strategies and an institutional framework for implementation and management.

The idea of the Regeneration Plan centers on the assumption that upgrading of infrastructure and the transformation of the communities can only succeed if its residents are empowered to contribute with their own

funds. This brochure gives you an idea of the identified potential for economic empowerment as an integral part of the Regeneration Plan. Supported by a working group with members of the communities, professionals, academicians and human rights organizations, Fabulous Urban developed the concept of “Decentralized Neighborhood Hotspots” powered by biogas facilities which offer a wide range of micro-entrepreneurial opportunities for a resource-based economy. The income will be sufficient to pay each worker an appropriate salary and still save money in a fund for the general maintenance of the facility so that it can be self-sustainable. “Opportunity Cards” describe and visualize these job potentials with a cost/benefit analysis for necessary financial investments which, if implemented within the framework of the Regeneration Plan through concerted efforts from society, government and the communities, could turn the Makoko/Iwaya Waterfront communities into a worldwide showcase of a sustainable and flood-resilient lifestyle.





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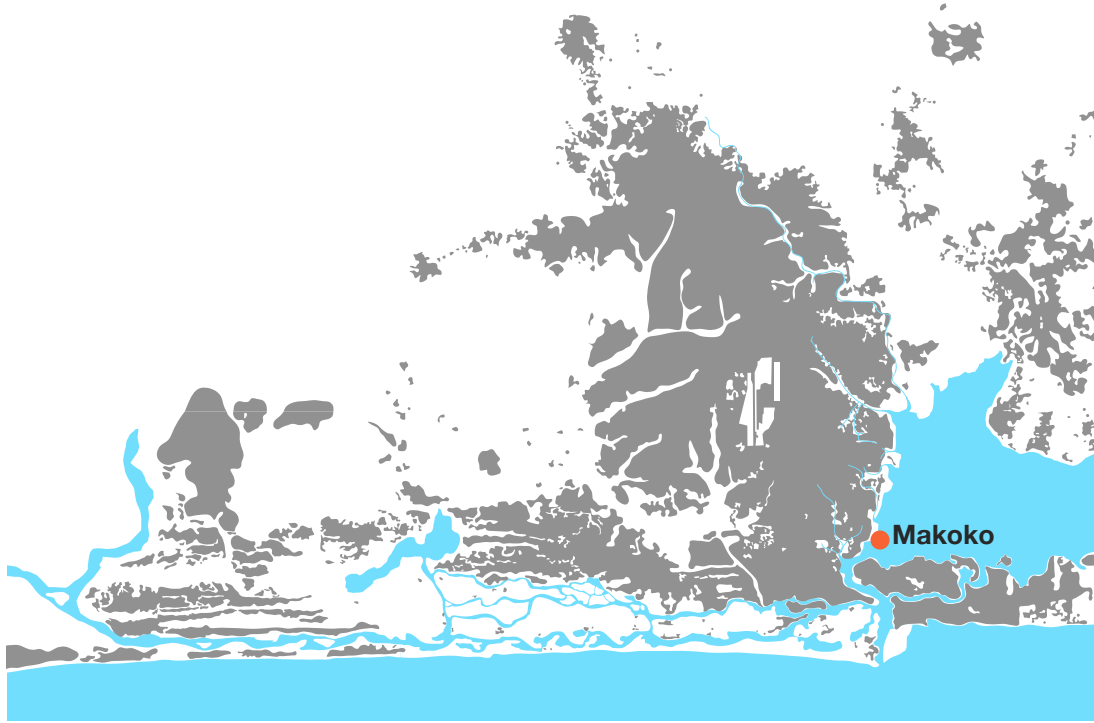
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Photograph: © FABULOUS URBAN

Lagos, Nigeria



## Green spaces

### Wetlands

We suggest an entirely new waterfront experience with wetlands, trees and plants, fish ponds and community gardens.

The retrofitted waterfront with wetlands can become a new green leisure and recreational space for entire Lagos.



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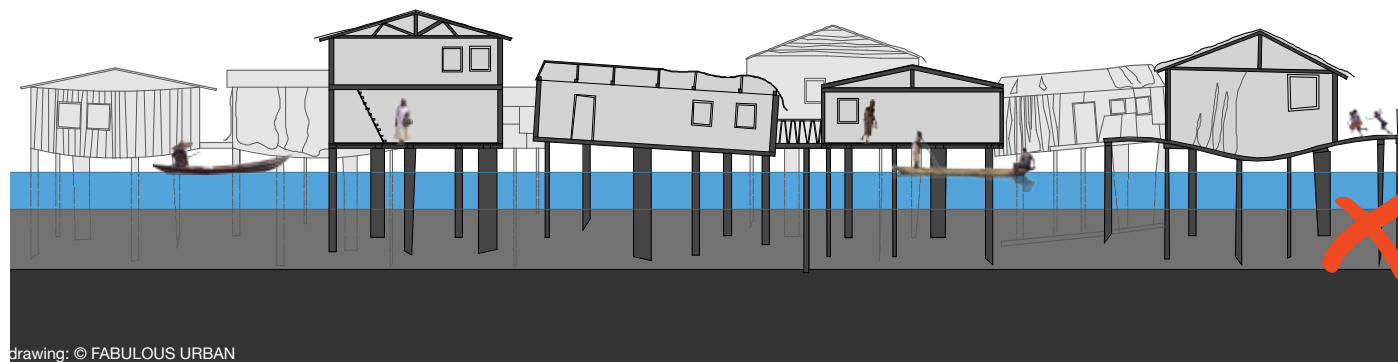
## New waterfront experience



Wetlands, fish ponds, and upgraded Makoko on water

## Makoko today

Average height of water level



drawing: © FABULOUS URBAN

## Conflicts in the Makoko area

The conflicts we find in the Makoko area may reinforce each other on different levels:

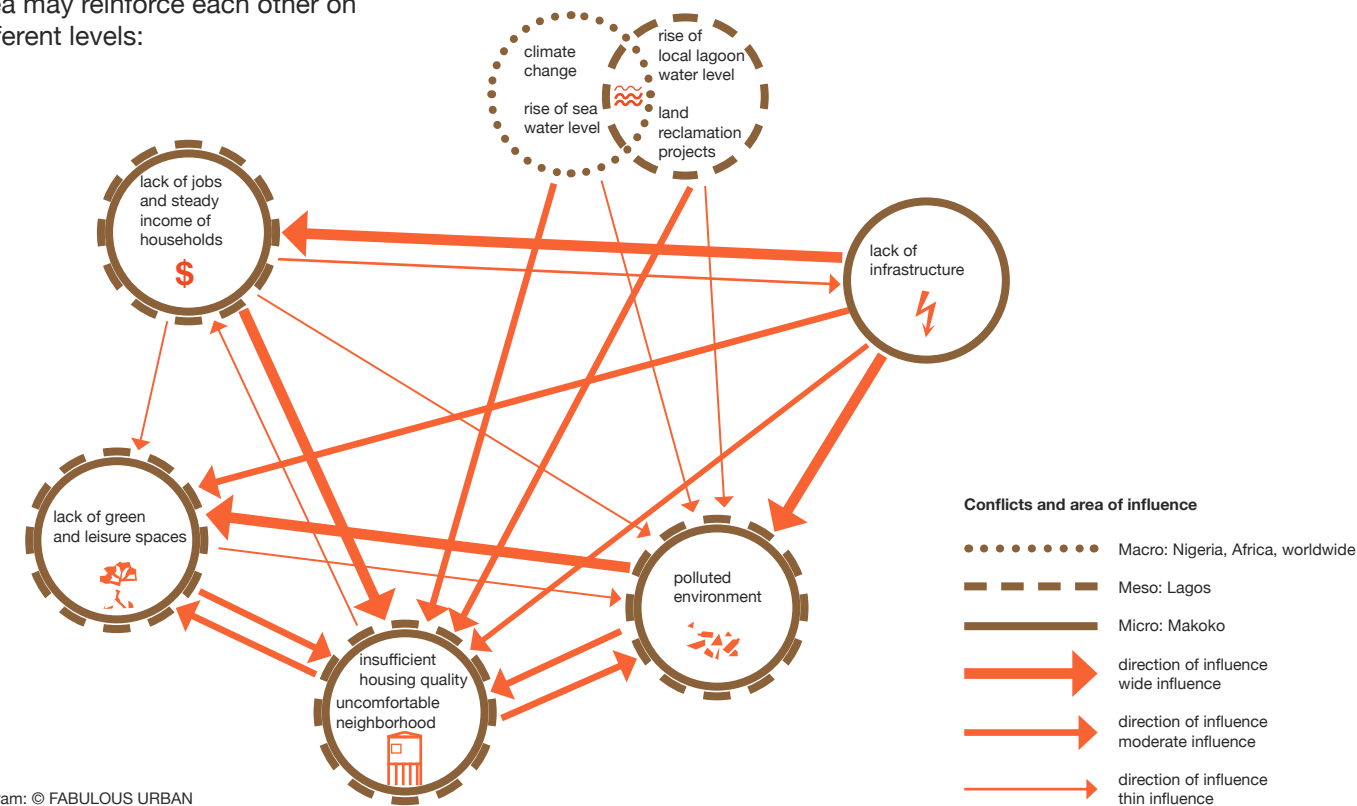
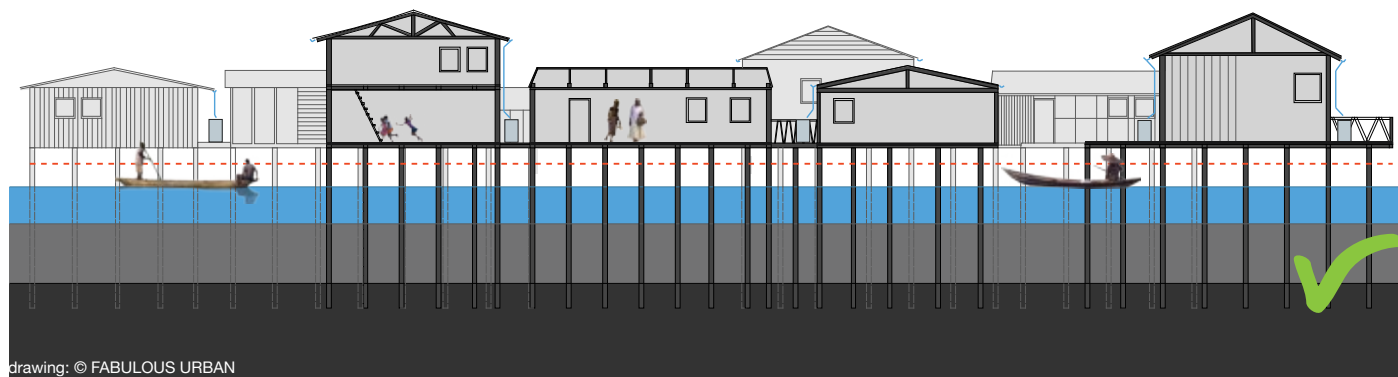


diagram: © FABULOUS URBAN

## Makoko after suggested upgrading

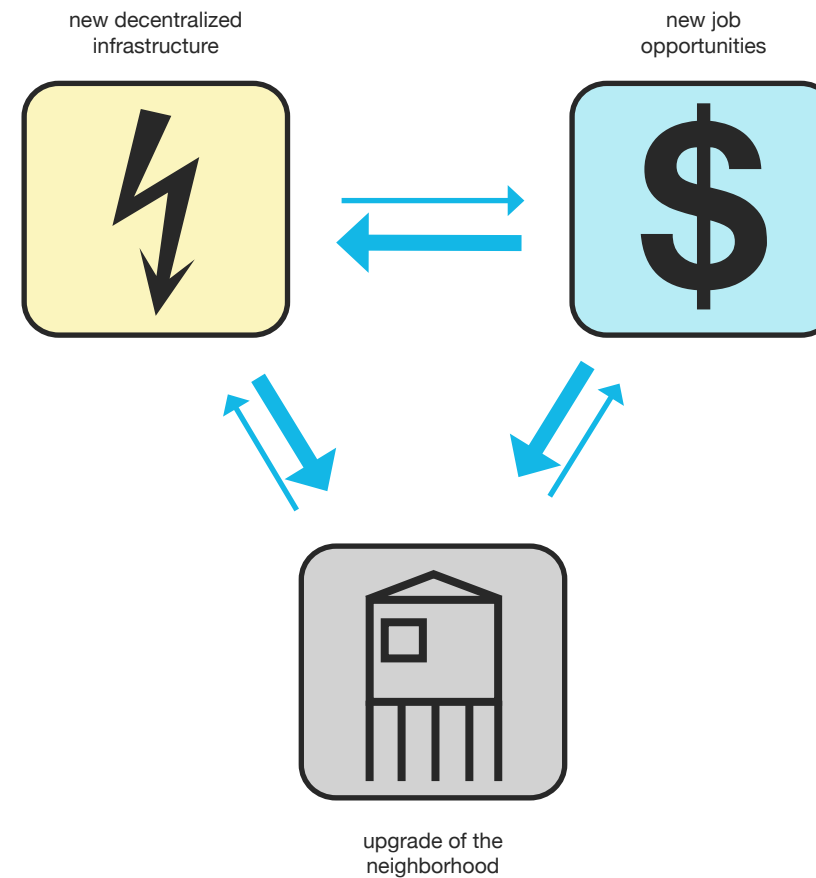
Average height of water level



drawing: © FABULOUS URBAN

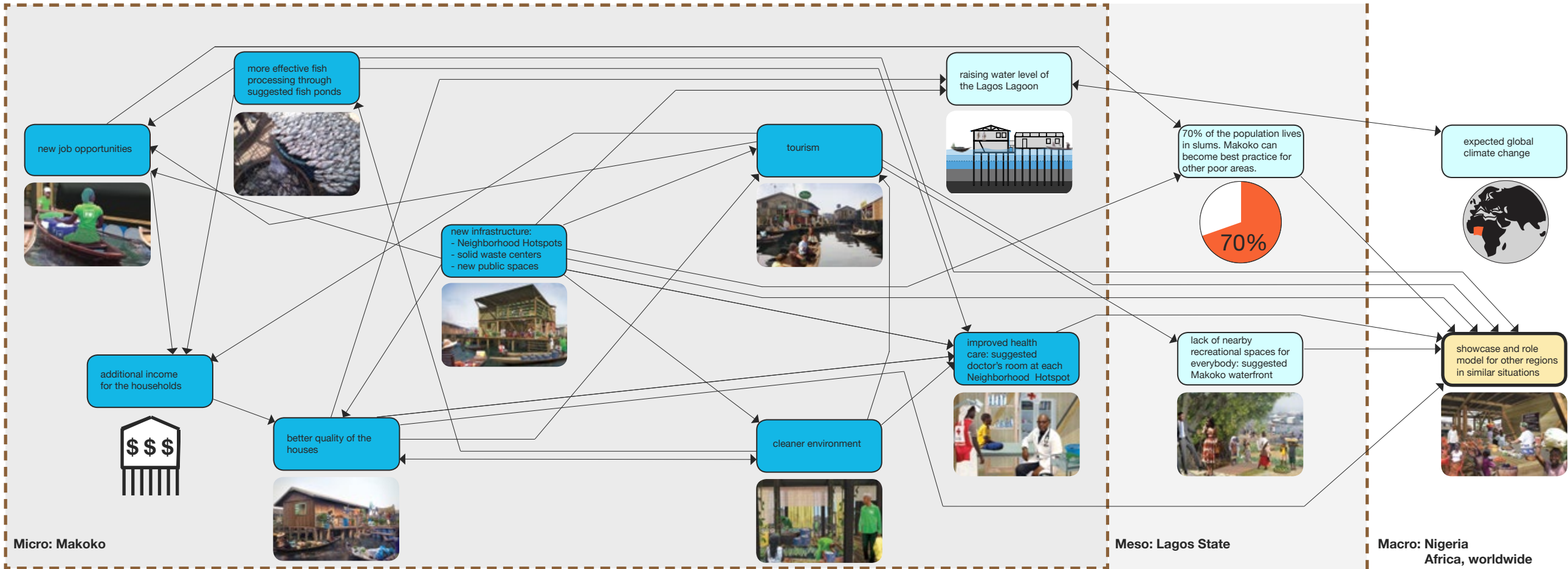
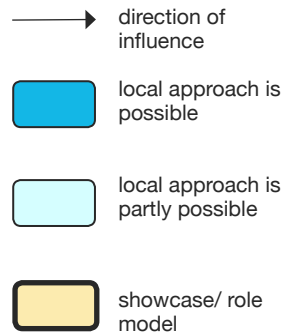
## Three basic upgrade tools

Basic relations



The suggested decentralized infrastructure will not only create a better neighborhood but create new job opportunities. The additional income allows people to upgrade their houses themselves. The two measures together will create in the mid and long term a better neighborhood for everybody.

# Challenges and approaches



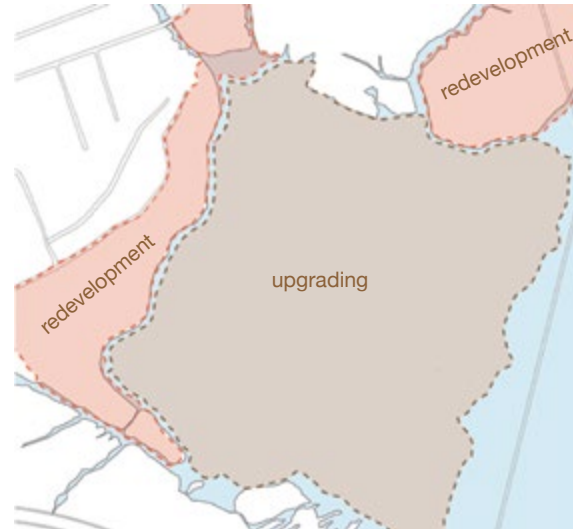


## Upgrading strategy

We believe that Makoko could become a worldwide showcase for a sustainable and flood-resilient lifestyle and way of construction. We further suggest completing it with flexible, low-cost, low-tech, and flood-resilient infrastructure, which in addition will create jobs and initiate a new resource based micro-economy, providing waste management and renewable energy.

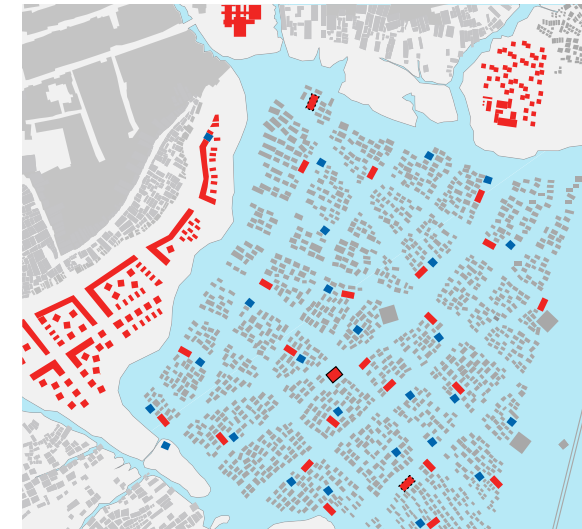
The suggested infrastructure will be:

- ✓ highly flexible according to the needs
- ✓ low-cost and ready to implement immediately
- ✓ resistant against floods and increasing water level: no vulnerable wired and pipe system
- ✓ provide new jobs and income and initiate a new local network economy
- ✓ provide electricity to the entire community
- ✓ support social activities and provide new basic medical services
- ✓ environment-friendly due to decentralized energy plants and closed-loop cycles



drawings: © FABULOUS URBAN

## Masterplan



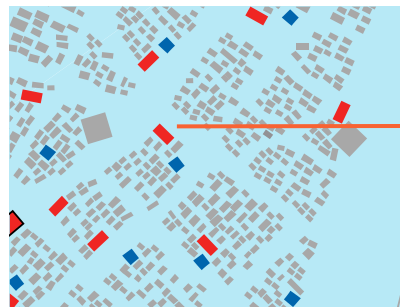
Masterplan of the Makoko / Iwaya Waterfront area with the highlighted suggested public facilities: Neighborhood Hotspots with the renewable energy production, floating markets, recycling stations, schools, and walk-in clinic.

We suggest widening strategically some of the canals for better accessibility.

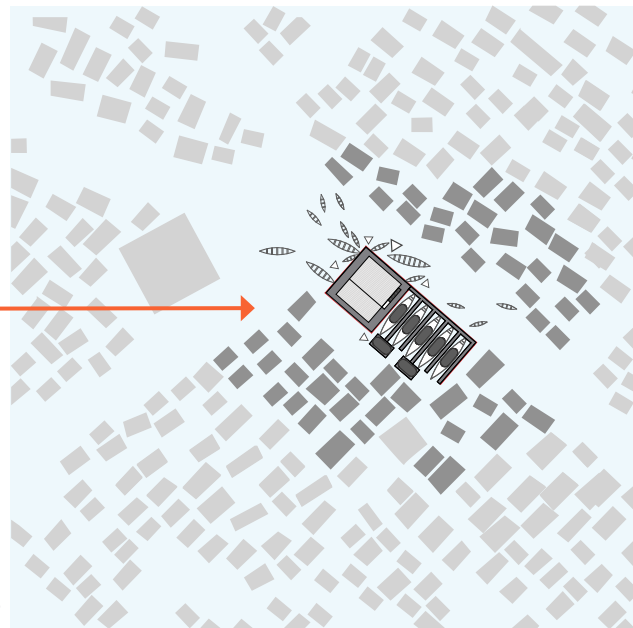
## Neighborhood Hotspot

### Pilot implementation

Flexible decentralized infrastructure can be provided by a network of shared facilities called “Neighborhood Hotspots”. These small community centers in different parts of Makoko contain decentralized biogas plants and serve as waste business incubator.



- Neighborhood Hotspot:  
Area of influence/ served households
- Makoko houses on stilts



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## Neighborhood Hotspot

### Key goals



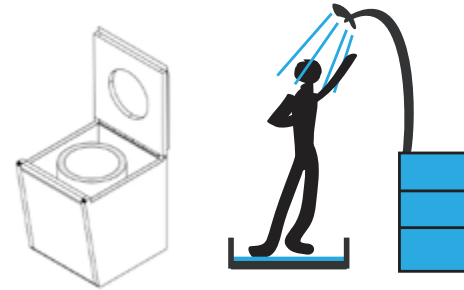
- ✓ **Biogas cooking** The biogas can be used for community cooking with a small restaurant.



- ✓ **Waste upcycling** Handmade products can be created from collected plastic and paper waste.



- ✓ **Rain water harvesting system** Rain water is collected, filtrated, and stored.



- ✓ **Sanitary facilities** Against a small fee toilets and showers are available; the waste is used for the biogas production.



- ✓ **Professional health care** A doctor's room provides basic medical service and trains community members (nurses).



- ✓ **Urban gardening** Fertilizer, the byproduct of the biogas plant will be used to grow tomatoes, peppers, and salad.



- ✓ **Empowering girls and women** Basic education on health care and contraception as well as a small library and a few shared computers in a multi-purpose room are provided.



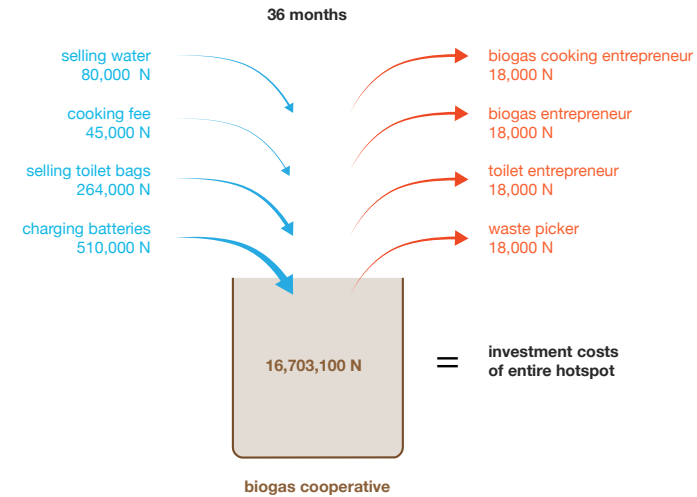
## Neighborhood Hotspot

### Return of investment

The operation of the Neighborhood Hotspots is provided by a biogas cooperative.

The cooperative pays each worker the same monthly salary of 18,000 Naira (minimum wage). The rest will be saved in a fund for reinvestment and maintenance.

- earnings
- savings of the cooperative
- income of the workers



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## Neighborhood Hotspot

Cash flow

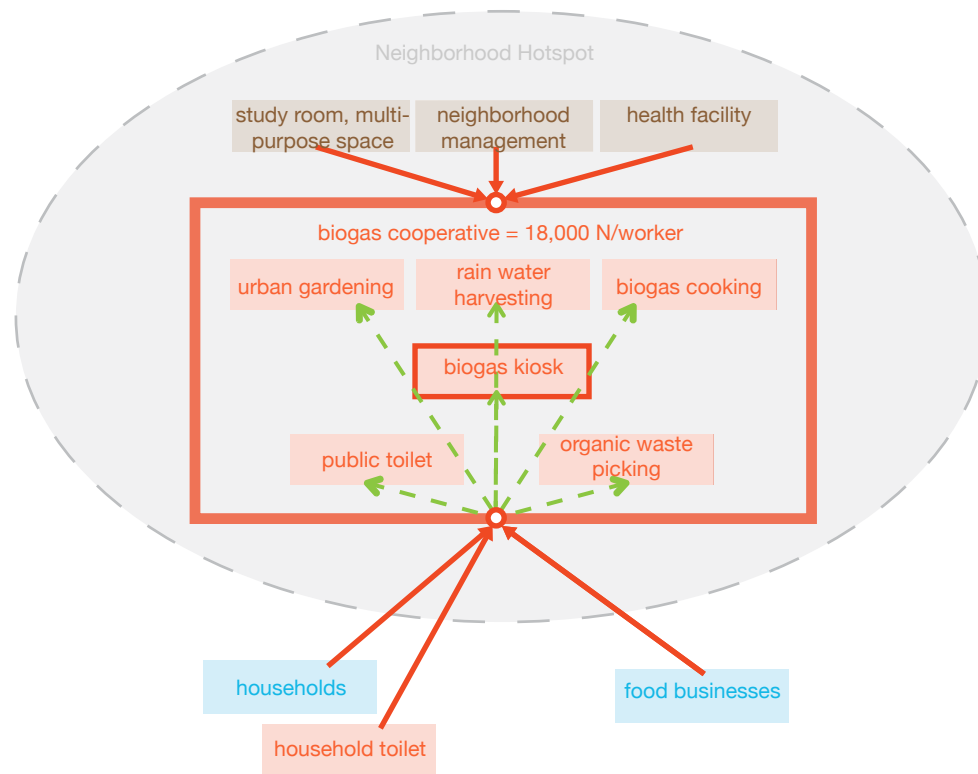


diagram: © FABULOUS URBAN

- infrastructure technology
- capacity building education
- individuals and businesses within the community
- Neighborhood Hotspot
- cash flow outside of the biogas cooperative
- cash flow within the biogas cooperative





## Neighborhood Hotspot

### Product flow

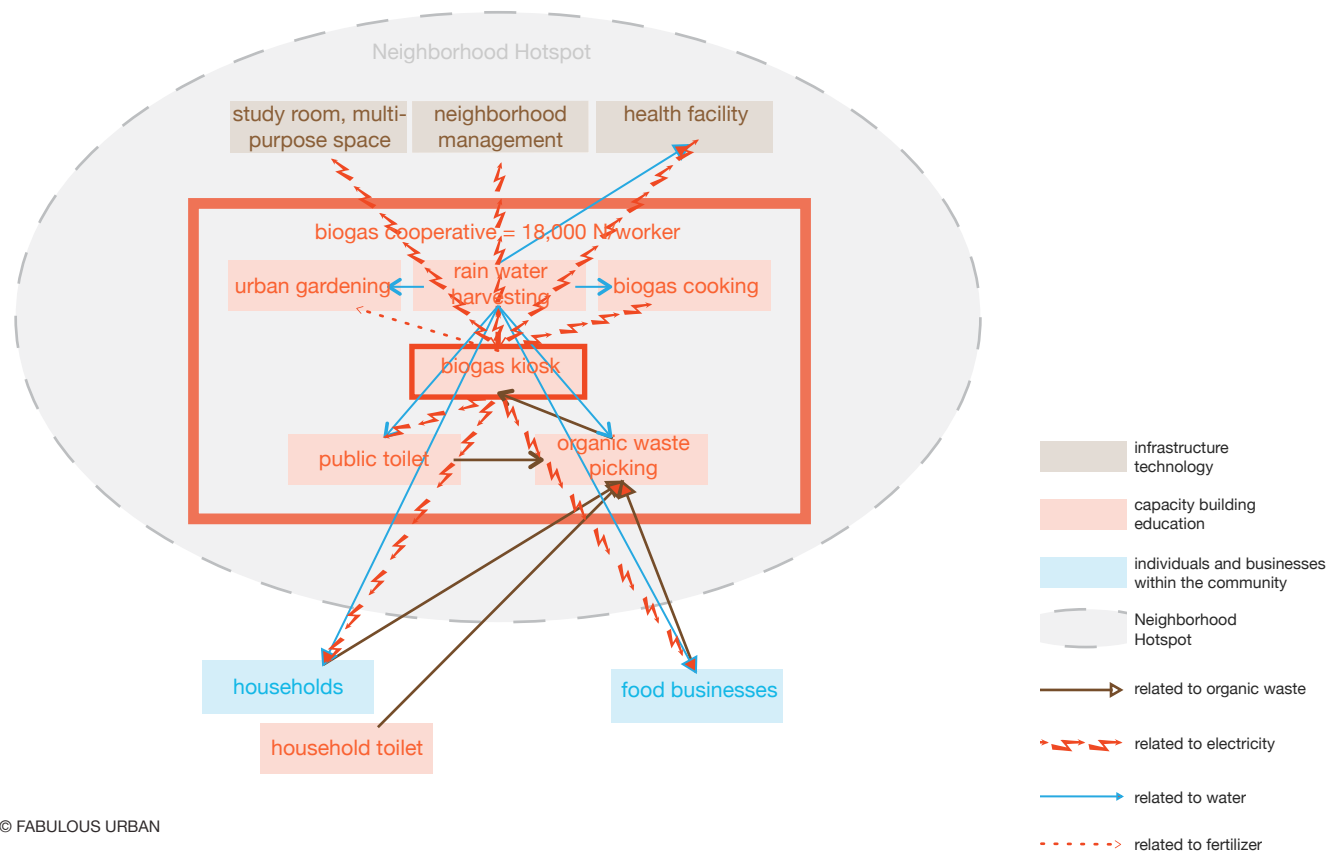
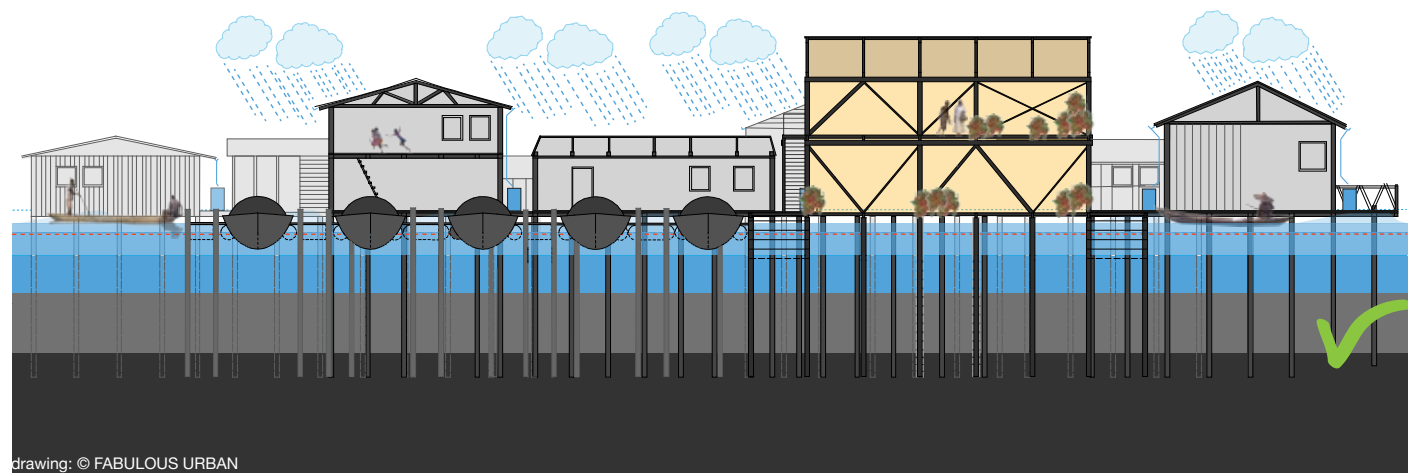


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## Neighborhood Hotspot

Suggested closed-loop cycles

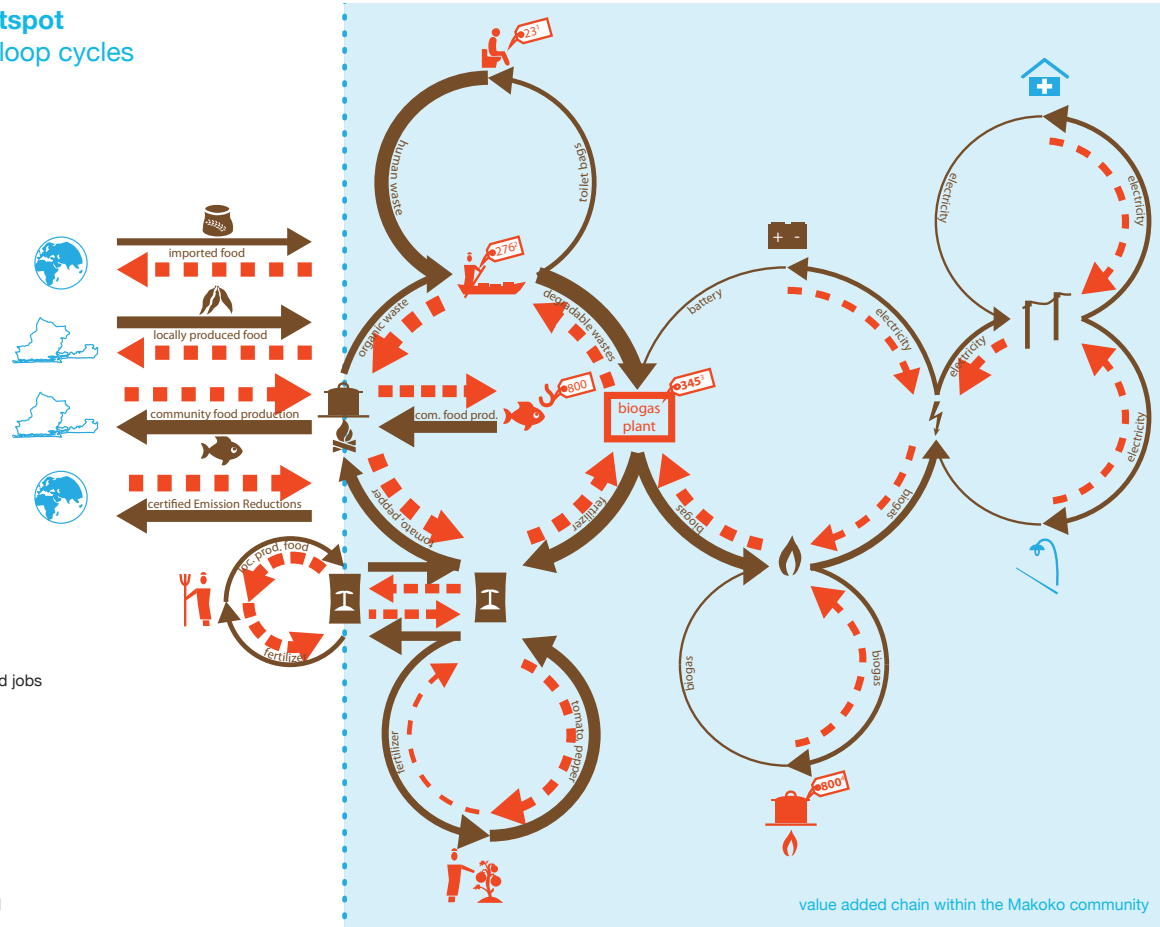
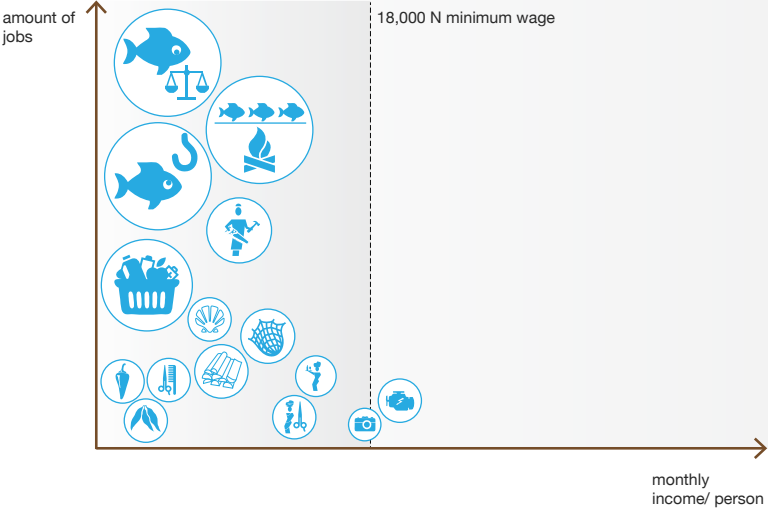


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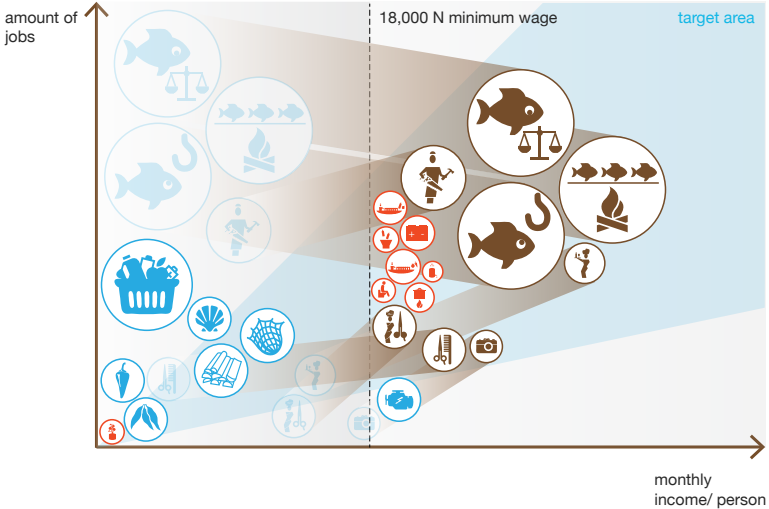
# Job opportunities in Makoko Current job situation



Today, 40% of the Makoko community lives below poverty line (on less than 1.25 US\$/ day) and almost no-one is able to secure their livelihoods.\*

\*Data based on field research Makoko April 2013 and Rosemary Omoayena Yadua, Determinants of Urban Housing for the Poor, 2009)

# Job opportunities in Makoko New job situation with new opportunities



The aim of the Makoko economic development plan is to create new job opportunities trough the new waste economy and improved existing job opportunities.

It is a declared goal that all these jobs generate a salary above 18,000 Naira.\* All our calculations on the amount of jobs, on turnover, benefit, and hence re-investment are based on this value.

\*Minimum wage in Nigeria according to the EFinA (Enhancing Financial Innovation & Access)

- existing jobs
- transformed jobs
- new jobs through the suggested waste economy



## Opportunity cards

The opportunity cards explain in detail all the new job opportunities: economically, socially, spatially. They inform about minimal investment, minimal spatial requirements, expected turnover, target group, new jobs, and profit.

Solid waste processing
Social business

Biogas kiosk and plant
Social business

Title of the opportunity

Cover image: summary or vision of the activity

Main information on activity and description of the general idea

List of minimal requirements, products, estimated price, type of jobs created, and involved stakeholders

Facilities needed for the activity

Map of Makoko with possible location(s) of activity

Solid waste processing
Social business

Biogas kiosk and plant
Social business

Information:

Biogas plants are implemented to generate biogas and electricity by fully using the organic (fish guts, household waste etc.) and human waste. The fertilizer as a byproduct of the biogas plant is sold and used for the production of home-grown foods. The biogas plants use decidedly low technology, requiring only rubber bags and sunlight, which is in Lagos available en masse. The biogas is converted into electricity, which is distributed through rechargeable (car) batteries. With each biogas plant comes a biogas kiosk, where people can charge the batteries (500 Watt – basic energy consumption for two days/household: 2 bulbs, 1 tv and 1 fan) against an appropriate fee. Hospitals, schools, street lightning etc. are served directly by the plant.

Facilities:

Biogas plant with biogas kiosk and 4 biogas digester

Minimum requirements:

4 biogas bags, batteries, inverter, gas cleaning equipment, generator, storage bags, work clothes, training

Products:

– electricity

Price:

– 250 N/ charged battery

Type of jobs created:

– biogas workers  
– security  
– office structure

Stakeholders:

– locals  
– biogas cooperative  
– biogas technology firms

Business entity: Biogas plant with 4 rubber bags (4m, 6m, 12m, 20m)

Business structure: Biogas cooperative

Owner: Biogas cooperative

Operator: Biogas cooperative

Bridged gaps:

Impact: Electricity for the locals, improving the environment, new job opportunities

Target group:

Investment:

Income:

Total jobs:

Space:

Users/households served:

Suggested business structure; info on operator, owner, impact, and target group

Financial aspects: overview of investment and income

Other important numbers: number of total job positions, required space, and users served

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## Opportunity cards

Social business opportunities  
impact oriented

## Organic waste economy

**\*new\***



## Solid waste economy

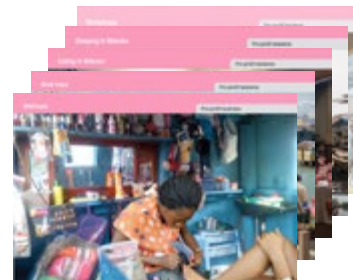
**\*new\***



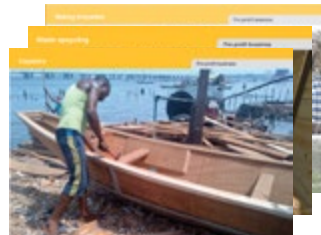
Pro-profit business opportunities  
market oriented

Leisure and tourism

**\*new\***



Urban manufacturing  
**existing, improved**



Fishing and fish processing  
**existing, improved**



Market and trading **existing, improved**



### Solid waste picking

## Social business



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## Waste upcycling

Pro-profit business



## Eating in Makoko

Pro-profit business





## Sleeping in Makoko

Pro-profit business



## Floating markets

Pro-profit business





## Tourism vision

### Strategy map for Lagos State



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