

Theme #3 Green and Circular Local Economies

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Green and Thriving Neighbourhoods

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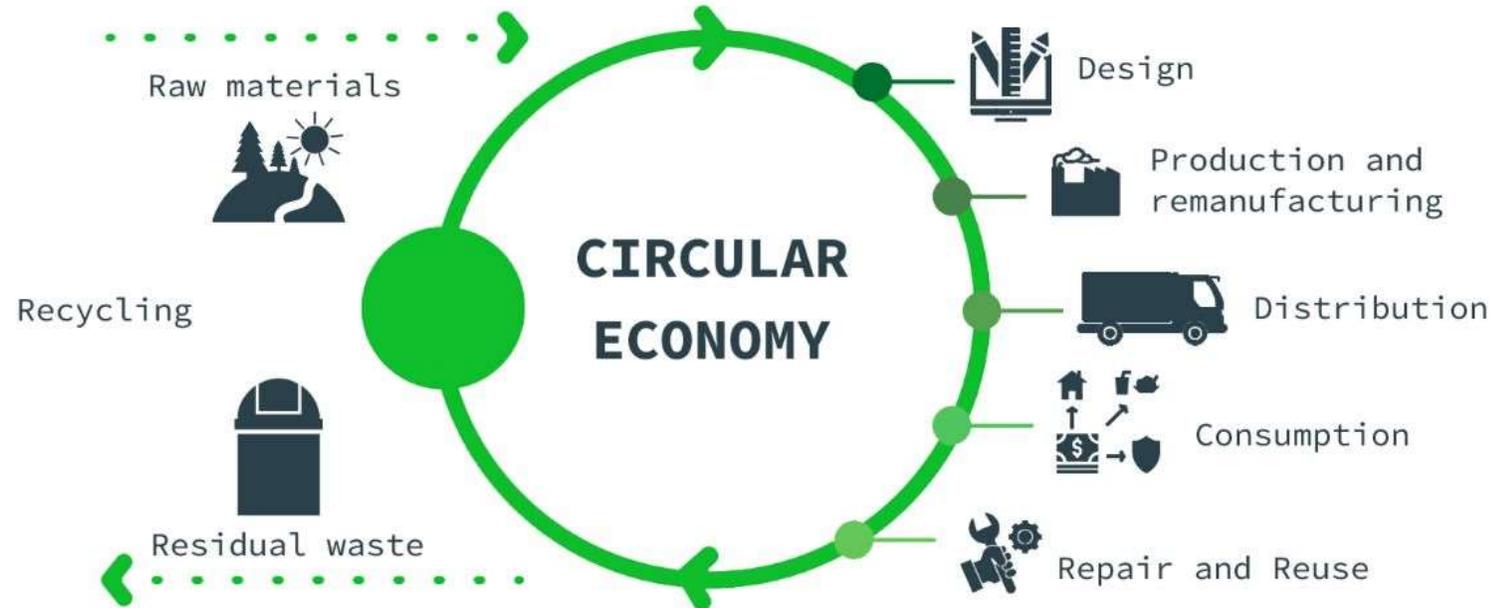
URBANIZATION AND RESOURCE USE

- Cities consume > 75% of natural resources and produce >50% of worldwide waste
- By 2050, the urban population in Asia is expected to grow by 50%
- Without a new approach to urbanisation, material consumption by the world's cities will grow from 40 billion tonnes in 2010 to about 90 billion tonnes by 2050
- **Resources should be a central policy concern, in addition to climate change**



THE FUTURE IS CIRCULAR

- The circular economic model offers an alternative to the “take, make, waste” system.
- **It is regenerative and restorative by design, building upon three core principles:**
 - Design out waste and pollution
 - Keep products and materials in use for as long as possible
 - Regenerate the natural systems to improve the environment



From top to bottom : linear economic model, circular economic model.

Source: Urban Morphology and Complex Systems Institute.

**URBAN
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OVERVIEW STRUCTURE

Question 1: How can neighbourhood-scale spatial planning act as a catalyst for circular flows of energy, materials, skills, and services—by reconnecting people with production and enabling closed-loop systems?

Question 2: What overlooked assets (e.g., rooftops, informal economies, food markets) can be mobilised for regeneration?

Question 3: How to ensure people are placed at the centre as we transit to circularity?



.Source: ReLondon.

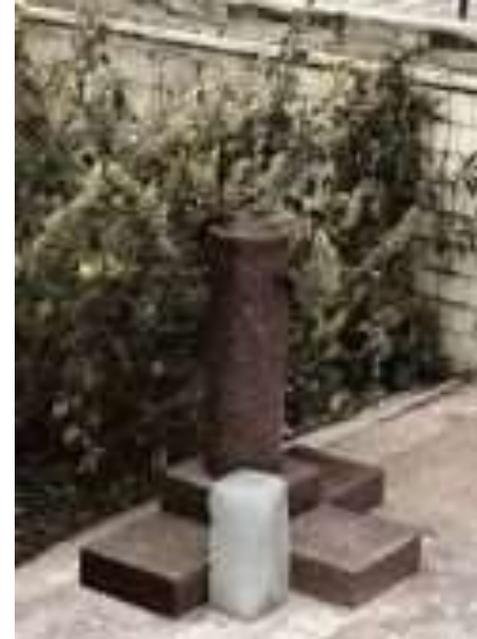
QUESTION 1: HOW CAN NEIGHBOURHOOD-SCALE SPATIAL PLANNING ACT AS A CATALYST FOR CIRCULAR FLOWS OF ENERGY, MATERIALS, SKILLS, AND SERVICES?

Moving Water. Earth School in Senegal. Source: Jeanne Schultz Design Studio and Adeyemo Shokunbi



CIRCULAR NEIGHBOURHOODS

- At the neighbourhood level, this means:
 - **Integration of circular principles** into zoning regulations, building codes, and development guidelines
 - **Densification and transit-oriented development**
 - **Prioritization of investments** in infrastructure projects that enable closed-loop systems (e.g., decentralised waste management facilities, bike-sharing networks, smart grid technologies)



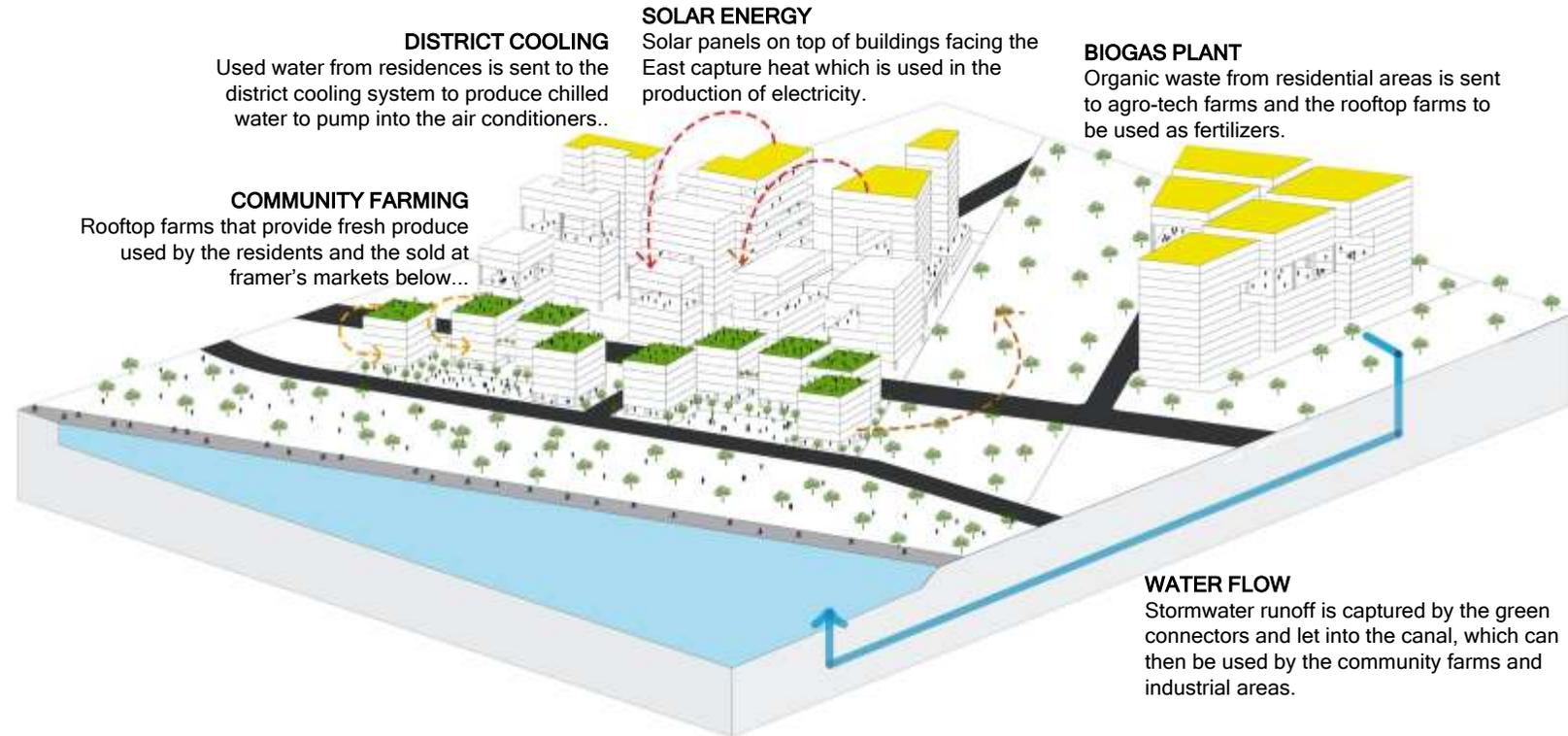
Casting Furniture with Upcycled Plastics and Urban Debris: Los Colados Project, Mexico City. Source: ArchDaily

ENABLING CIRCULARITY BY DESIGN

Planning and design can enable circularity and resource efficiency gains.

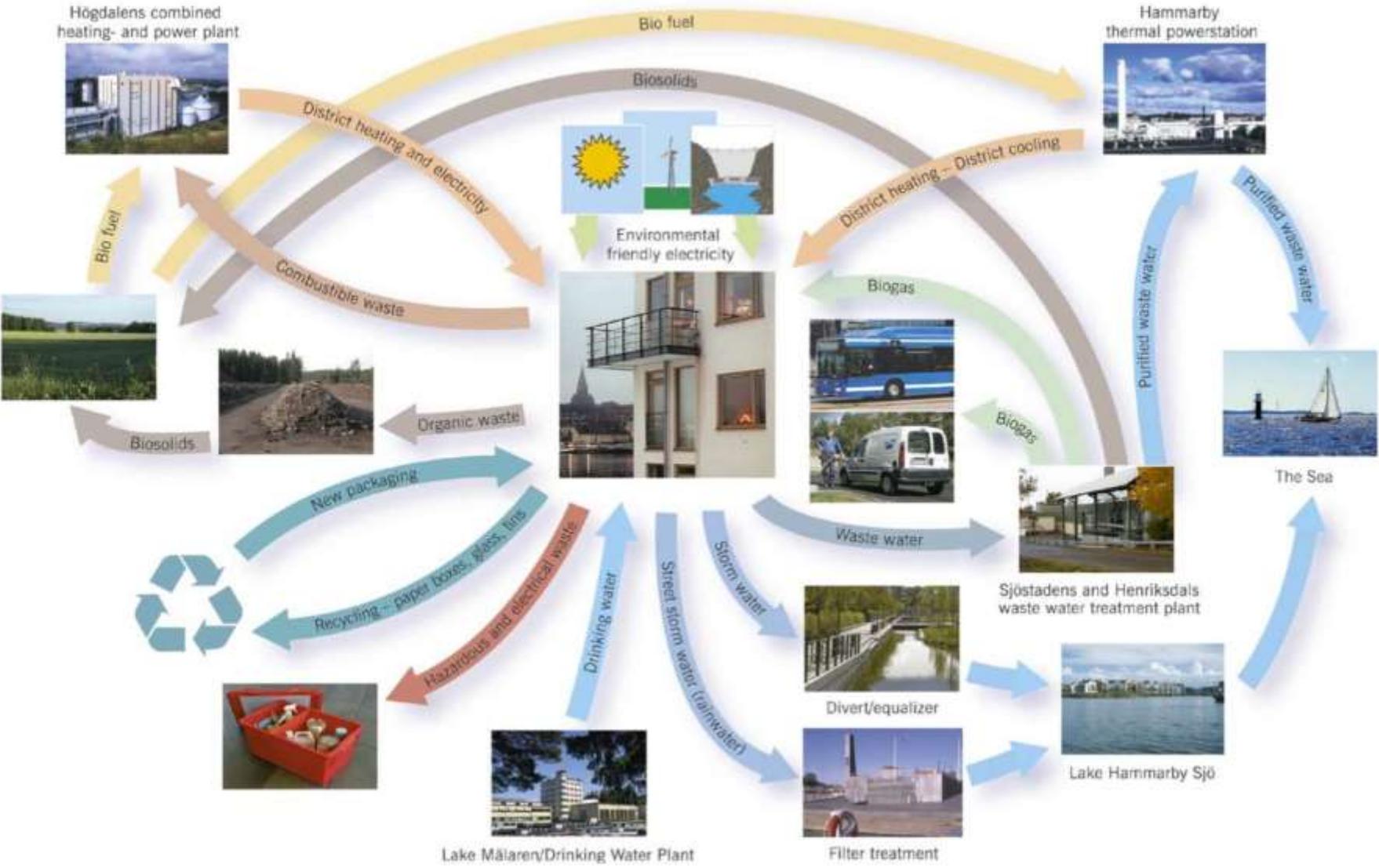
Synergies between distributed infrastructure in neighbourhoods (i.e. localized, smaller-scale energy, water, food systems, etc.) delivers multiple linked benefits. For instance:

- Solar panels positioned on public structures can provide shade to urban farming.
- The water-holding capacity of urban farms can result in a reduction in the urban heat island (UHI) effect.



Circularity and energy flow in SungeiKadut. Source: Serge Salat Design Workshop at National University of Singapore.

DESIGNING GREEN AND CIRCULAR NEIGHBOURHOODS



In circular neighbourhoods like Hammarby Sjöstad, the heating, transport, and waste collection systems work in conjunction to reduce their long-term use of energy and resources.

Hammarby Sjöstad circular model, Stockholm, Sweden. Source: City of Stockholm.

ENSURING PROXIMITY BETWEEN PRODUCTION AND POPULATION



Moving Water: Earth School in Senegal by Jeanne Schultz, Adeyemo Shokunbi. Water is at the centre of this proposal for a secondary school built with and in response to the earth around it. Harnessing the energy and utility of natural earth elements, the design employs various strategies to create a continuous, closed loop of sustainable systems.

Source: Jeanne Schultz, Adeyemo Shokunbi.

In circular communities, spatial planning ensures proximity between production and population. Planners ensure that the community's physical structure promotes the efficient reuse, collection, and redistribution of resources to support circularity.

BUILDING WITH LOCALLY SOURCED MATERIALS



This project in Senegal creates contextualized and adaptable structures by excavating the existing material on site and compacting it to create the brick modules. Traditional building construction using the method of earthen brick modularity lends itself to easy-to-learn application techniques.

Moving Water: Earth School in Senegal by Jeanne Schultz, Adeyemo Shokunbi. Stacking, shifting, and pulling the bricks allows for light and air to penetrate the building structures, especially in the central courtyard of the classroom pod, where water, wind, and moisture can naturally cool the classroom interiors. Water is also celebrated in a public square. The gentle sloping coupled with the water channel system create a vegetated earthy ecosystem. Source: Jeanne Schultz, Adeyemo Shokunbi.

DESIGNING GREEN AND CIRCULAR NEIGHBOURHOODS



King's cross announced on 11 November 2021 that it has become net zero. This place for people is designed according to human scale, with variety, and a sense of place and belonging. Visual: King's Cross Central. Source: Françoise Labbé.

To achieve green and circular neighbourhoods, the focus should become 'places' not only 'buildings.'

Places like King's Cross Central with a variety of uses that engage with communities are better placed to reach net zero and respond to challenges arising from climate risk, lifestyle trends, technology and social inequalities.

**QUESTION 2: WHAT
OVERLOOKED ASSETS
(E.G., ROOFTOPS,
INFORMAL ECONOMIES,
FOOD MARKETS) CAN BE
MOBILISED FOR
REGENERATION?**

Malmö Bo01, Sweden, Photo: Françoise Labbé.



Uncovering Hidden Assets: Mobilizing Latent Resources for Circular Regeneration



Overlooked urban elements offer untapped potential to regenerate neighborhoods in circular, inclusive ways

- E.g., rooftops, informal economies, food markets, and vacant land

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Rooftops as Productive Landscapes: From Passive Space to Urban Commons

- Rooftops can host urban farms, solar panels, and rainwater systems
- Urban agriculture increases food security and reclaims green space
- Rooftop farming also supports community engagement and micro-economies
- **China:** By 2024, over **20 million m²** of rooftop gardens had been installed in metropolitan areas such as Beijing and Shanghai
 - Inspired by Singapore's Sky Greens model, some rooftops now produce up to **1,000 kg of vegetables daily**.
 - According to the **Chinese Academy of Agricultural Sciences**, urban farming could supply **15% of China's vegetable needs by 2030**.
 - These green rooftops not only improve food resilience but also help cool the city and foster local participation.



The rooftop farm flourishes against the backdrop of Shanghai skyline.

<https://wildchina.com/2025/05/rooftop-farming-shanghai/>

Neighborhood Markets and Micro-Enterprises: Anchoring Circularity in Everyday Spaces

- Markets, kiosks, and street-level micro-enterprises as anchors of local food systems
- These spaces support short supply chains, composting initiatives, and low-waste living
- Reinforcing circular flows at the scale of the block or street segment
- **Chengdu, China:** Traditional food markets have begun integrating composting systems and local supply networks.
- **Jakarta, Indonesia:** Pilot programs in kampung neighborhoods use small-scale food vendors to reduce packaging waste and encourage reuse.



People practice reuse by using reusable containers during fasting month in a mosque in Jakarta. Image courtesy of Dietplastik Indonesia.

Vacant Land and Hidden Cultural Fabrics: Regenerating Underused Plots with Local Know-How

- Vacant or idle land reused as temporary gardens, play areas, reuse labs, or event spaces
- Traditional building skills and craft industries support low-carbon, place-based regeneration
- These assets are often embedded within historic neighbourhoods or overlooked blocks
- **Seoul, Mapo-gu District:** A former oil depot was converted into a reuse-oriented public park and cultural node.
- **Guangzhou, Xiguan District:** Micro-renewal projects revived alleyways using salvaged bricks and tiles, reactivating both space and tradition.



Yongqing Fang Alleyways : an Urban Transformation | Lab D+H
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Micro-Renewal in Action: Yongqing Fang Alleyways: Circular Regeneration through Embedded Urban Fabric

- Renewal of Guangzhou's old-town alleyways through incremental transformation
- Public space created through removal of unsafe and illegal structures
- Use of recycled bricks, tiles, and stones for new landscape and drainage elements
- Multi-functional systems integrate stormwater, cables, and lighting below new stone pathways
- Residents retained in place: social inclusion through preservation of community ties
- Roof gardens, grand wooden steps, and shaded plazas bring back daily street life
- Historical identity preserved while enabling contemporary uses



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QUESTION 3: HOW TO ENSURE PEOPLE ARE PLACED AT THE CENTRE AS WE TRANSIT TO CIRCULARITY?

*French Dream Town, Hangzhou. Design : Serge Salat Architect.
Source: OptivaDarna*



PUTTING PEOPLE AT THE CENTRE OF THE CIRCULARITY TRANSITION

- Jobs open the doors
- **Since we are tracking people**, it provides a “solution” to the difficulty of measuring inputs / outputs vis a vis city boundaries
- It provides insight into **societal indicators and well-being**
- Jobs in the circular economy:
 - **Core circular jobs** – e.g., in the renewable energy, repair, and waste and resource management sectors
 - **Enabling circular jobs** – e.g., in leasing, engineering, and digital technology
 - **Indirect circular jobs** – e.g., in education, logistics and the public sector



FOCUS ON CIRCULAR JOBS: WHY IS CIRCULARITY IN CITIES WITH JOBS A PIVOTAL INDICATOR?

<https://www.circular-jobs.world/>



LEARN ABOUT:

The Circular Jobs Monitor

Who can benefit from the tool

Key concepts and methodology

Partners

[< GO TO THE MONITOR](#)

Welcome to the Circular Jobs Monitor!

The workforce is a key lever for transformation towards the circular economy. To tap into this potential, we need data and evidence. Which jobs are already part of the circular economy? Where are these jobs located? How are these jobs distributed across sectors and how are they related to circular strategies?

The Circular Jobs Monitor provides answers to these questions by gathering and displaying data on the number, range and location of jobs that are part of the circular economy around the world. It provides policymakers, economists, and labour organisations with insights into the relationship between circular economy activities and the labour market across economic sectors.

The Circular Jobs Monitor is a product of Circle Economy and part of a joint initiative of Circle Economy and the United Nations Environment Programme.



CONCLUSION: LESSONS LEARNED

*French Dream Town, Hangzhou. Design : Serge Salat Architect.
Source: OptivaDarna*



LESSONS LEARNED

Key takeaways:

- **Neighbourhoods are the right scale to start a transformation toward circularity and cross-system optimization.**
- **Integrated design and spatial planning ensuring proximity** can enable circularity and resource efficiency gains.
 - In circular communities, spatial planning ensures proximity between production and population
 - Build with locally sourced materials



Moving Water: Earth School in Senegal by Jeanne Schultz, Adeyemo Shokunbi. A tall earthen brick structure containing a well anchor and identify the site, while also providing a still water pond for all to enjoy.

Source: Jeanne Schultz, Adeyemo Shokunbi.