Bottom-up Planning for Storm water Management in Informal Settlements: Lessons from the Design Charrette in Goba, Dar es Salaam City

Tatu Mtwangi Limbumba
Senior Research Fellow
Institute for Human Settlements Studies
Ardhi University, Dar es Salaam, Tanzania
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Outline

- Background
- Planning Challenges in informal settlements in Dar es Salaam
- Past responses
- The Design Charrette (Bottom-up planning for Landscape based Stormwater management)
- Lessons Learnt

The Project – Water Resilience Green Cities Africa Project

- The Water Resilience Green cities Africa project WGA – funded by DANIDA examines options for utilizing the urban green infrastructure (LSM).
  - To build in resilience in the urban fabric,
  - To adapt and prepare cities for changing precipitation patterns.
  - To also addresses housing and livelihoods for the urban poor, as impoverished people tend to settle and use flood prone areas for e.g. urban agriculture

Planning Challenges in Informal Settlements

Informal settlement downstream along the Mbezi River
(Source: Khatib, 2014

- Precarious location of the settlements
- Indiscriminate sub-division of land
- Overcrowding, lack of basic infrastructure
- Increase in impervious surface

- **Consequences**
- With increased rainfall intensity in fragile areas – flooding risk
- Health risks due to waterborne diseases
- Damage to poor peoples' properties

Past Participatory responses – National level

	Remarks
Slum Clearance programmes (1960s)	'Instant' physical improvement, but top-down, no engagement of community, great social costs . No resilience built or sustained
Sites and services and squatter upgrading projects (1980s)	Top-down, little engagement of community or other key stakeholders e.g. private sector in upgrading and installation of basic services hence no ownership to maintenance of infrastructure , some livelihoods disrupted
Environmental Planning and Management approach 1990s	Consultative, multi-sectoral approach to dealing with environmental issues, no 'incentive' for communities to sustain the process/approach.
Community Infrastructure Upgrading project (CIUP) 2000 to date	Participatory physical upgrading of informal settlements from planning and implementation design done by experts/professionals for roads and conventional stormwater drainage systems.

Emerging Issues

- Environmental impacts/issues in informal settlements are very localised and cannot be wholly solved by a top-down approach
- Participation has to be meaningful to all stakeholders especially the local community
- Issues are complex and involve choices between livelihoods and protecting the environment.
- Participation in the very least, has to.....
- Provide that space for participation – capacity for all stakeholders to communicate equally, safely, and with dignity
- Deal with the local community on site which is more sustainable
- Build on existing local strategies
- Build local empowerment and largely enable transformation among the participating stakeholders

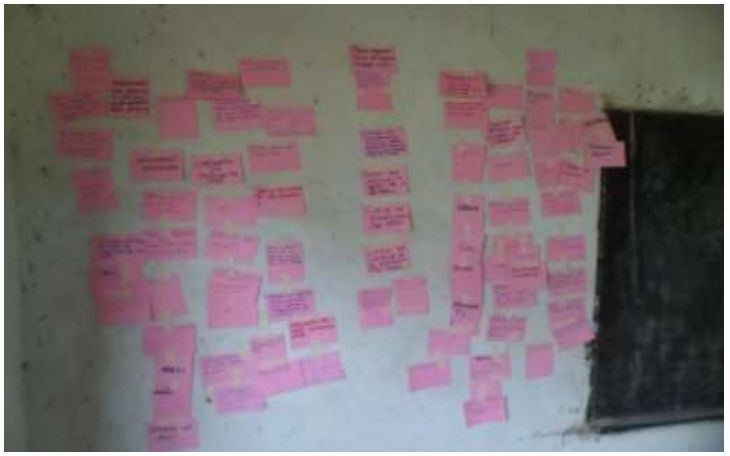
Water Resilience Green Africa Project
2013-2018

Design Charrette for participatory landscape-based storm water management

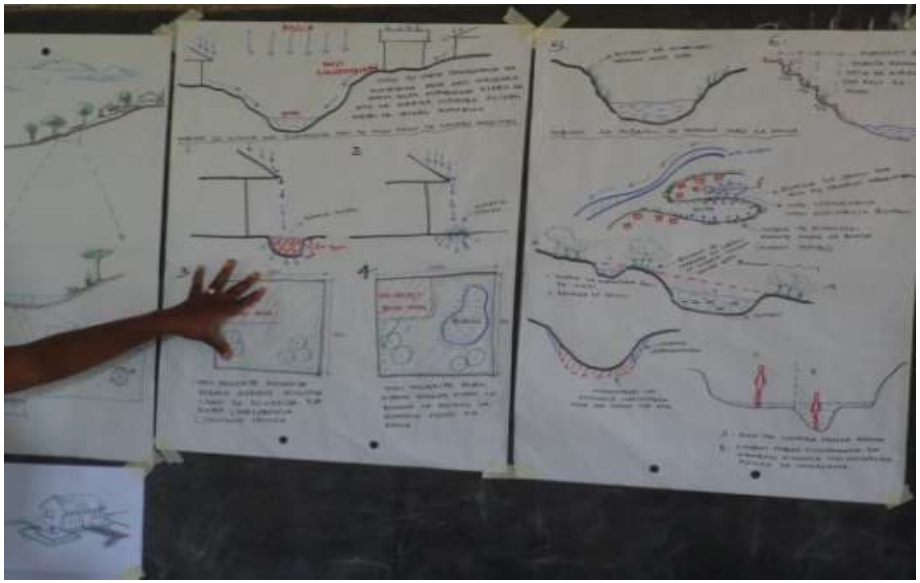
- The Design Charrette is a participatory planning method that is anchored in multi-disciplinary engagement and collaboration of professional and non-professional stakeholders to achieve targets. Output is a design.
- Changing spaces and landscapes in informal settlements is a challenge and requires negotiation for land, mutually agreed improvements to everyday lives and practices as well as the perceived value by the community.

Developing a shared vision for landscape based storm water management at the local community

- Day 1- Understanding the community problems and generation of ideas, information exchange and training is key.
- Day 2: Proposing local solutions and translating into sketches



- *Translating solutions into sketches and local community present their proposed strategies*

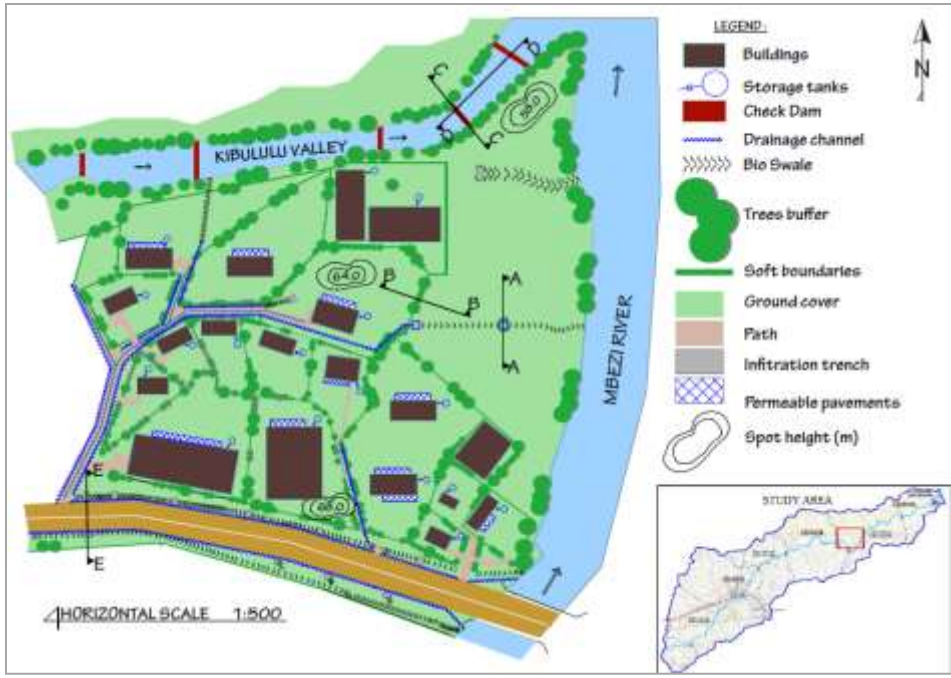


- Day 3- Visualisation and collection of ideas from the community through public exhibition in open grounds to improve the solutions and strategies put forward.
- The final designs were improved by professionals/experts

The final product

- A compilation of community strategies at different spatial levels to manage storm water including:
- (i) Continue with urban agriculture; rain water harvesting , permeable paving/construction of pervious compounds at plot or household level

- At neighbourhood level -terraced cropping system – to reduce the speed of storm water runoff; rain water harvesting for income generation e.g in school compounds



Plan implementation

- The conventional design charrette process modified to include a plan of roles and responsibilities which concretises proposals.

Implementation

Rain water harvesting – storage tank at primary school

ration areas to arrest
on at plot level –reduces
age to property

Infiltration areas to arrest erosion at community level (primary school)

Lessons Learnt

- Acknowledging and strengthening existing local interventions easier with bottom-up planning
- A strong driver is the link to enhanced livelihood that should be highlighted in intervention activities
- The bottom-up process of collectively identifying problems; experience sharing, knowledge exchange between experts and local community is empowering and transforming
- Visual outputs engenders learning among the participants. The community sees a visual output of the ideas.
- Possible Challenges
- Do all the participants have the capacity to communicate adequately - equally?
- Vested interests...especially those related to land. Need to be discussed in a transparent manner in order to lead to consensus to allow LSM
- How can we engage the 'system' in the process, community owns the plan and is ready to implement but how should new sustainable ideas be enforced i.e. legal backing
- Resource (human and financial) availability for such design process as well as for scaling out/up


Thank you for listening!