Communal assets, Individual ownership

Lessons from an urban informal settlement WASH project in Kiribati

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KIRIBATI
Order of presentation

• Summary of project
• Context of location
• Community based health program and evolution of WASH project
• Broader sector projects
• Communal toilet blocks and coverage statistics
• Constraining factors
• Hardware design features
• Key findings
Project summary

• Urban WASH project in informal settlement in Kiribati
• July 2014 – Dec 2017
• Community based, community priorities
• Challenging environmental and land planning conditions
• Communal style toilet blocks with individual household cubicles
• 15 toilet blocks for a population of 1,200

<table>
<thead>
<tr>
<th>Activity</th>
<th>Timeframe (months)</th>
<th>Budget (AUD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community engagement*</td>
<td>42</td>
<td>165,000</td>
</tr>
<tr>
<td>Hardware</td>
<td>14</td>
<td>245,000</td>
</tr>
</tbody>
</table>

* Includes construction period
Local context

Kiribati
• Atoll island country
• Population 117,000
• Ocean is 99.9% of area

Tarawa
• Capital island with national government administration
• Population 56,000 (≈ 50%)
• 3m maximum elevation
• 500m maximum width
Betio, South Tarawa

- Port and main commercial center
- Population density 11,000/km² (similar to Singapore)
- Sewerage system (approx. 70% coverage)
Community based health program

• Aim: Help communities become resilient to be able to address their own health needs
• Town council and local health clinic involved in selection process
  • Communities with most recorded health issues
• Households ≈ 150  Pop ≈ 1,200
• Establish health committee
• PHAST approach adopted – needs assessment, community action plan
Health issues in the community

• What the community said before the WASH project...
  
  • Lots of sickness and diarrhoea

    “in our community someone dies every three days”

  • Lots of rubbish and faeces on the ground – people would use the beach, between houses or even the cemetery for going to the toilet

  • Lack of understanding about what things were making people sick
South Tarawa sewerage system

- Sewerage system installed in early 1980’s
- Coverage only for the main village areas (15% of South Tarawa)
- Approx. 70% coverage in Betio
- Mainly government housing provision
- Public toilet blocks constructed in settlements
- No hygiene behaviour change program
South Tarawa Sanitation Improvement Service Project

• Project period: 2015-2018

• Refurbishment of sewer system
  • Replacement of pumping stations and outfall pipes
  • Rebuild salt water flushing system
  • Jetting of sewer pipes

• Improved training for utility staff

• Behaviour change program incorporated
  • Focus on hand washing and maintenance and use of toilets

• Did not have funding or plan for increasing toilet connections
Communal toilet blocks

- Total 5 blocks with 30 cubicles installed in the community in 1980’s
- Population has since doubled, yet no expansion of sanitation infrastructure
- Lack of maintenance, one in three toilets were working
- Approx. 90 ppl/cubicle
- Beach is only a short walk away – under reporting of open defecation!

Sanitation coverage

<table>
<thead>
<tr>
<th></th>
<th>Households</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moanwaen-Tiantaake Community (June 2016)</td>
<td></td>
</tr>
<tr>
<td>Improved</td>
<td>24%</td>
</tr>
<tr>
<td>Shared</td>
<td>57%</td>
</tr>
<tr>
<td>Other unimproved</td>
<td>19%</td>
</tr>
<tr>
<td>Open defecation</td>
<td>1%</td>
</tr>
<tr>
<td>National Standard - Urban (JMP, 2015)</td>
<td></td>
</tr>
<tr>
<td>Improved</td>
<td>51%</td>
</tr>
<tr>
<td>Shared</td>
<td>11%</td>
</tr>
<tr>
<td>Other unimproved</td>
<td>18%</td>
</tr>
<tr>
<td>Open defecation</td>
<td>20%</td>
</tr>
</tbody>
</table>
Constraining factors

• Informal land planning
• Engineering design constraints (pipe diameter and grades)
• Lack of natural resources
• High cost of materials imported from Fiji, Australia and New Zealand
• Septic tanks – space limitations and groundwater contamination issues
• Communal use = Lack of maintenance
• Red Cross funded infrastructure and provided construction supervision
• Community provided land and in-kind labour (generate ownership)
Design consultation outcomes

Space
• Privacy for bathing
• Assisting young children, elderly and people with a disability

Elderly and People with a Disability
• Community expressed desire for care responsibility
• Expanded cubicle design rejected, maintain same design for fairness
• Hand rails made locally

Solid structure
• Durability and ease of cleaning

Solar lighting
• Safety and access considerations
Design features

- 15 toilet blocks
  - 13 sewer, 2 septic tanks
- 4 block designs
  - 6, 8 and 12 cubicles/block
- 110 cubicles
  - 1 cubicle/household
  - 8 ppl/cubicle
  - Approx. 50-100 ppl/block
Key findings: Challenges

• Little understanding of land planning process by town council

• **Land ownership identification and approval**

• Increased water supply was a secondary aim (not wholly achieved)
  • More holistic sector wide approach required (in progress)

• **Communities are heterogeneous, not everyone engaged with or provided support to the project**

• Be prepared for factors outside of your control
  • Wet season
  • Sinking of container ships and materials
  • Competing household and community plans and interests
Key findings: Successes

• Broad health program allowed community to set their priorities
• Environmental constraints required both software and hardware
• Maintenance (ownership) strengthened by allocating individual cubicles
• Land and engineering issues overcome with communal asset concept
• Government approval of community by-laws formalise and empower health committee in its role and functions (e.g. inspections, fines)
• Vital brokering role was played by Kiribati Red Cross Society between government ministries/utilities and community
Te Mauri, Te Raoi ao Te Tabomoa!
May health, peace and prosperity be with you all!

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Extra slides
Atoll island hydrogeology

3m max

500m max

Shallow wells