Peri-urban Systems: Challenges of Change for the Surveyor

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*Peri-Urban Settlements: Tools and Techniques for Surveyors to Ensure Environmental and Social Resilience*

FIG African Task Force WORKSHOP:
Mombasa Kenya
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Structure

• Experiential images...
• An inspirational image
• Land administration and peri-urban systems
• Problem contexts
• Systems approaches to unstructured problems
Project Oriented Goals: Shifting the Burden?

Millenium Development Goals?
George Washington, Abraham Lincoln and Thomas Jefferson practised as surveyors. They were also interdisciplinary thinkers and practitioners.

Surveyors have a history of being adventurers, innovators and creative thinkers.

Current challenges: boundary expert, measurement, mapping and land tenure information processes and expert advice that serves to improve quality of life.
Land Administration Systems

Objectives & Challenges
• Integrated planning & administration
• Sustainable land use and land tenure security
• Fairness & equity - tensions with economic solutions and political agendas
• Agile or flexible system design and implementation – tensions with law and entrenched administrative procedure

Built environment is a physical manifestation of social, political, economic, legal, natural and technical structures and processes.
## Peri-urban Concepts and Systems

- As a location is proximate to city.
- But as a comprehensive system it is dynamic, interactive and transformative \( (\text{Iaquinta \& Drsescher 2000}) \)
  - Demographic components – population change patterns
  - Multifaceted livelihoods – non-agricultural labour force
  - Multiple individual, family, group, local “community”, and rural “community” goals. Long standing v newcomers, surrounding residents.
  - Social-psychological and political facets.
  - Customary and formal tenure “forces”
  - Social Change \( \rightarrow \) competition, entrepreneurial behaviour, coalition formation, power challenges and change
  - Intervention catalyses social change
  - Social change - how do we leverage and manage this this to fashion a workable city
  - Recurring question: who “owns” the problem? Who’s going to own it?
- Scale and nature of observable units for developing policy, law and intervention strategy – location, individual person, family, group, suburb, city, rural – urban linkages
Grand Theories

• The Titling “Solution”
• Customary / communal land tenure systems

What will work in a continually changing situation?
Wicked Problems

- Cannot be easily defined so that all stakeholders agree on the problem to solve;
- Require complex judgements about the level of abstraction at which to define the problem;
- Have no clear stopping rules;
- Have better or worse solutions, not right and wrong ones;
- Have no objective measure of success;
- Require iteration - every trial counts;
- Have no given alternative solutions - these must be discovered;
- Often have strong moral, political or professional dimensions.

- At a particular time, may appear to be intractable
### Jackson’s Problem Contexts

<table>
<thead>
<tr>
<th>System Type</th>
<th>Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>Unitary</strong></td>
</tr>
<tr>
<td><strong>Simple</strong></td>
<td>Hard Systems</td>
</tr>
<tr>
<td><strong>Complex</strong></td>
<td>Systems dynamics Organisational Cybernetics Complexity theory</td>
</tr>
</tbody>
</table>

Subjectivity: Ideally we can place our problem contexts in these boxes and we will know when they move from one box to another.
Context of an Intervention
(Mingers 2006)

Problem Context
Real World situation to be improved

Intervention System
Agents undertaking the intervention

Intellectual Resources System
– theories and methodologies

Constitution of the situation

Historical Constitution of the situation

Constitution of Discourse
– power & knowledge

Constitution of the subject
-technologies of self
Intervention Strategy: Check List or Trade Offs?

• Efficacy – will it work?
• Efficiency – do things right
• Effectiveness – do the right things
• Ethics
• Elegance
Soft Systems Original 7 Stage Method

1. Problem Unstructured
2. Problem Situation Expressed
3. Root Definitions of Perceived Systems Involved
4. Conceptual Models
5. Compare 4 and 2
6. Feasible Desirable Changes
7. Action to Improve

Reality
Systems World
EXPRESSING THE PROBLEM

Rich Pictures
Express a problem situation, compiled by an investigator(s), examine elements of structure, elements of process, and the situation climate (Checkland 1999).

Three types of Analysis of the Pictures or Problem

• **Analysis 1**: intervention, roles of client, problem-solver and problem-owners
• **Analysis 2**: social systems analysis, roles, norms and values
• **Analysis 3**: politics, how power obtained and used
Informal Settlements: Rich Picture

Lani Roux 2008
Periurban Accra

Rich Picture of the Peri-Urban Area

Kwame Danso 2010
Definitions CATWOE

- **Clients** – beneficiaries and victims? Who benefits and who suffers or stands to suffer? Who will join the party?
- **Actors** – Who implements the activities to make this work?
- **Transformation** – What transformation does this system bring about? Inputs, the changes they go through, outputs?)
- **Weltanschauung (Worldview)** – What are the different worldviews? From which view(s) is this system meaningful?
- **Owner** – the power and authority holders to change or even eradicate the system? Power to appropriate or manipulate?
- **Environmental constraints** – what are the givens in the social, political, economic, legal, technical and physical environments? Which external constraints does this system take as a given? How do we set the boundaries? How often should we change the boundaries of the situation we’re trying to improve
When you get to the end (and end of each stage); start again as the whole system has changed – do you need to reset the boundaries and CATWOE definitions
Surveyor’s Role

• The product is “peace of mind”
• What technical tools and process oriented tools can we develop?
• Who else should be part of the process?
• What are the critical success factors?
• Risk management
• Change management?
References


