The Systems Approach to Housing Delivery
The Housing Delivery: Statistics

SONA (President Zuma, 2014)

- 3 m. DUs and 855k Serviced Sites since 1994.
- 95% have running water - remaining 5% impatient & protesting.
- 12 National Strategic Outcomes (NSO’s), the Outcome 8 - focuses on Sustainable human settlements and the improved quality of household life
- NDP: a roadmap outlining interventions to improve water, electricity, sanitation, jobs, HOUSING, public transport, adequate nutrition, education, social protection, quality healthcare, recreation and a clean environment.

BUDGET SPEECH (Min. Sisulu, 2014)

- 3.7 m Housing opportunities provided since 1994.
- Housing backlog 2.3 m and growing & delivery dropped 25% past 5 yrs.
- Target 1.5 m Housing opportunities in next 5 years (270k housing opportunities per annum)
- BNG forms the basis of NDP (Chapter 8)
The Housing Delivery: Statistics


- Rapid Urbanisation - 63% of population growth in Metros

- Service Delivery by Municipalities (STATS SA).
  - 2011/12: 51% happy with service delivery; 2004 - 71% happy,
  - 2012/13: 155 service delivery protests; 2011/12 – 173 in total,
  - R9.82 bn. - Irregular Expenditure
A NEW Approach is needed...

- **Known Causes of Backlog:**
  - Suitable Land
  - Funding
  - Legislative and Compliance Requirements
  - Delivery Capacity, Skills shortage etc.

- **An APPROACH that looks at various stakeholders and issues,**
  - Identity their nature (structure & function),
  - Cause & Effect (process),
  - Complexity,
  - Inter-relatedness

- The word SYSTEM: from the Greek word ‘synistanai’, meaning to bring together or combine.
- A SYSTEM: an organized, unitary whole composed of two more interdependent parts where the whole contains identifiable BOUNDARIES from its ENVIRONMENT. A dynamic and complex whole, interacting as structured functional unit.
- The state of the systems is defined by determining the value of its properties which comprise ELEMENTS, ATTRIBUTES and RELATIONSHIPS.

- **ELEMENTS** are the interacting parts (Eng., Arch., Finance, Sales, HR depart. etc.) that make up a system.
  - Each element has an effect on the functioning of the whole.
  - Each element is affected by at least one other element in the WHOLE SYSTEM.

- **ATTRIBUTES**: characteristics of the elements that may be perceived and measured.

- All possible SUBSYSTEMS or SUBGROUPS of the elements also have the first two properties of the elements.

- **RELATIONSHIPS**: the associations that occur between elements and attributes.
Systems Thinking (Ackoff & Emery, 1972)

- SYSTEMS THINKING: HOUSING MANAGERS must view SYSTEMS from a BROAD PERSPECTIVE (structures, patterns and cycles), rather than SPECIFIC EVENTS in the system.

- MANAGERS must know Basic relations in systems thinking are STRUCTURE, FUNCTION and PROCESS (Ing, 2013).

- STRUCTURE: arrangement in space and it defines the components and their relationships (input, means and cause).

- FUNCTION: contribution of a part to the whole, and defines the outcome, or results produced (outputs, ends and effect).

- PROCESS: arrangement in time and it defines the sequence of activities and the know-how required to produce the desired outcome (Gharajedaghi, 1999).
THE SYSTEMS APPROACH TO HOUSING DELIVERY

- Resources (input) enable delivery Processes (throughput) to produce Affordable Housing Units (output) which the Beneficiaries Accept (feedback).

(De Leew, 1990)
THE SYSTEMS APPROACH TO HOUSING DELIVERY

- SYSTEMS THINKING enables STAKEHOLDERS (Government, Labour, Business) to view HOUSING DELIVERY SYSTEMS from a broad perspective.

- ROLE PLAYERS quickly identify 'bottlenecks' and KNOW HOW to address them for EFFICIENT and EFFECTIVE HOUSING DELIVERY.

- ROLE PLAYERS in housing delivery must note that:
  - Optimum DELIVERY occurs when all ROLE PLAYERS function properly.
  - Optimum delivery CANNOT be guaranteed by performance of best member – but by all ROLE PLAYERS functioning satisfactorily.
  - Sub-optimum performance of a HOUSING DELIVERY SYSTEM is determined by the “worst” performance of just one active ROLE PLAYER.
### Housing System

<table>
<thead>
<tr>
<th>Institutional Element</th>
<th>Financial Element</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>3 SPHERES OF GOVT.</strong></td>
<td><strong>GOVT - TREASURY</strong></td>
</tr>
<tr>
<td>National, Provincial, Local (Legislated Roles &amp; responsibilities)</td>
<td>National, Provincial (s214 Constitution)</td>
</tr>
<tr>
<td>Inter-Departmental Co-operation (DoHS, DLA, DPW, DWAF)</td>
<td>Budget Allocation (R30.5bn with R2bn increases annually) - for provision of Bulk Infrastructure, Housing Subsidy Funding (HSDG-R17bn, USDG-R10bn)</td>
</tr>
<tr>
<td><strong>LEGAL FRAMEWORK</strong></td>
<td><strong>FINANCIAL INSTITUTIONS</strong></td>
</tr>
<tr>
<td>s26 of Constitution, Legislation (Housing Act, DORA, PFMA etc.), Regulations, Policies</td>
<td>Government (DFIs) - NHFC, Private Sector Banks, Investors, NGOs</td>
</tr>
<tr>
<td><strong>CONTRACTUAL AGREEMENTS</strong></td>
<td><strong>HOUSING PROGRAMMES - Funding</strong></td>
</tr>
<tr>
<td>MoUs, Programme &amp; Project Agreements</td>
<td>Feasibilities, Costing, Subsidy &amp; Funding Allocation, Financial Closure</td>
</tr>
<tr>
<td><strong>BUREAUCRACY, CAPACITY</strong></td>
<td><strong>NEED &amp; DEMAND.</strong></td>
</tr>
<tr>
<td><strong>LAND.</strong></td>
<td>Sensitivity Profiling (Expectations, Preferences, Tenure &amp; Type, Product, Pricing)</td>
</tr>
<tr>
<td>National, Provincial, Local - (s25 of the Constitution)</td>
<td>Behavioural Profiling (need for housing)</td>
</tr>
<tr>
<td>HDA (Land Audit)</td>
<td><strong>SOCIAL PROFILE</strong></td>
</tr>
<tr>
<td>Price, Location, Suitability, Availability, Accessibility</td>
<td>Demographics, Family size, Composition, Household Income, Level of education</td>
</tr>
<tr>
<td><strong>PHYSICAL STRUCTURES</strong></td>
<td><strong>ADEQUACY OF HOUSING</strong></td>
</tr>
<tr>
<td>Infrastructure (sewer, water, roads, electricity), Superstructure, Regulations, Policies</td>
<td>Six Housing norms (Tenure, Structure Type, Space, Quality, Neighbourhood, Expenditure) Safety &amp; Security, Amenities, Utilities, Transport, Health</td>
</tr>
<tr>
<td>Dwelling Unit (location, quality, design, timeous delivery) - NHBRC (Regulator)</td>
<td><strong>EMPOWERMENT, CONSULTATION.</strong></td>
</tr>
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</table>

**Social Element**

- Need & Demand:
  - Sensitivity Profiling (Expectations, Preferences, Tenure & Type, Product, Pricing)
  - Behavioural Profiling (need for housing)

- Social Profile:
  - Demographics, Family size, Composition, Household Income, Level of education

- Adequacy of Housing:
  - Six Housing norms (Tenure, Structure Type, Space, Quality, Neighbourhood, Expenditure) Safety & Security, Amenities, Utilities, Transport, Health

- Empowerment, Consultation:
  - Housing System Social Element
  - Provincial (s214 Constitution)
  - Provincial (s214 Constitution)
  - Provincial (s214 Constitution)
  - Financial Element

- Institutional Element
  - Physical Element

- Land:
  - National, Provincial, Local - (s25 of the Constitution)
  - HDA (Land Audit)
  - Price, Location, Suitability, Availability, Accessibility

- Physical Structures:
  - Infrastructure (sewer, water, roads, electricity), Superstructure, Regulations, Policies
  - Dwelling Unit (location, quality, design, timeous delivery) - NHBRC (Regulator)
THE SYSTEMS APPROACH TO LOW-INCOME HOUSING DELIVERY

1. HOUSING INSTITUTIONS are systems and are part of larger Housing System.

2. NEEDS of the external larger HOUSING SYSTEM ultimately determines if that Housing Institutions sub-system is sustainable or not.

3. INTERNAL FUNCTION: the Housing Institutions as a system is made up of elements and sub-systems that interrelate and contribute to the overall purpose of the housing organisation.

4. ELEMENTS consist of engineering, architecture, construction, marketing, finance, human resources and sales.

5. Elements support the Housing Institutions’ purpose of providing low-income houses to the HIGHER SYSTEM, the MUNICIPALITY.

6. EXTERNAL PURPOSE: HOUSING INSTITUTIONS as systems have a role that they plays in the HIGHER-LEVEL HOUSING SYSTEM in which they exists.

7. The Municipality reduces the backlog at LOCAL LEVEL, thus contributing to reducing the backlog at PROVINCIAL LEVEL and ultimately the NATIONAL LEVEL.
AFFORDABLE HOUSING OPPORTUNITIES FOR SOUTHERN AFRICA

Housing System (Local Authority Level)

- **Information**
  - E.g. Beneficiary Information (income, gender, age, family size, marital status, Beneficiary Expectations & preferences etc.)
- **Resources**
  - E.g. Developers, Contractors, Finance, Land, Human Resources, etc.

**Inputs from Nat./Prov./Local level Housing system**

**Outputs to Nat./Prov./Local level Housing system**

- **Feedback Response of Nat./Prov./Local Housing System to Outputs**

**Outputs must fulfil the role and purpose of Project Level Housing System in the Nat./Prov./Local -Level Housing System**

- **Project Level Housing System (Developer)**
  - Physical Element
  - Social Element
  - Institutional Element
  - Financial Element

- **Inter-relationships**
  - Unit
  - Department
  - Function
Housing System - National Level

Inter-relationships

Housing System - Project Level

Interdepartmental System - Provincial Authority level

Housing System - Provincial Authority level

Housing System - Local Authority level

Institutional Element

Social Element

Physical Element

Financial Element

Sub System 1

Sub System 2

Sub System 3

AFFORDABLE HOUSING OPPORTUNITIES FOR SOUTHERN AFRICA
CONCLUSION

- AWARENESS OF SYSTEMS APPROACH.
  - SYSTEMS THINKING.

- IDENTIFICATION OF FOUR MAIN ELEMENTS - PHYSICAL, FINANCIAL, INSTITUTIONAL & SOCIAL.

- INTER-RELATEDNESS OF FOUR MAIN ELEMENTS

- SOLUTIONS USING SYSTEMS APPROACH CAN BE REPLICATED

- CASE STUDY : MORGEN's VILLAGE PRECINCT (MITCHELLS PLAIN)