



Human Settlements Development Summit 2017

Session Title	Commission 4: Building smart, inclusive cities and neighborhoods: up scaling innovation and transformative technologies
Date	21 & 22 September 2017
Chairperson	Ms Nocawe Mafu (MP) , Chairperson Human Settlement Portfolio Committee – National Assembly Co chairperson : Mr Devraj Chainee (DDG NDHS)
Presenters	<ul style="list-style-type: none"> • CSIR, • Department of Science and Technology, • NHBRC, • WITS
Scribes	Ms Nonhlanhla Buthelezi & Mala

Presentations
1. Department of Science and Technology
2. CSIR
3. NHBRC
4. WITS
5. UJ

Topic: Department of Science and Technology: Innovation Roadmap for Sustainable Human Settlements	
Notes	Key issues
1. There is a need to celebrate what has been done to date as achievements by government in a form of an awards ceremony . Awareness on alternative technology is key.	<ul style="list-style-type: none"> • Celebrating innovation through awards ceremony • Tighten awareness & consultation with stakeholders to ensure implementation.
2. There is already a partnership between the Department of Human Settlements and Department of Science and Technology. The Memorandum of understanding contains areas of cooperation - Landscape stud , Alternatives building technology , Green economy , Flagship projects and off-grid solutions with a detailed project plan. There is a number of projects that have since been implemented e.g. off- grid sanitation , energy, etc.	<ul style="list-style-type: none"> • Sign MOU to strengthen relationships and set up Joint Working Committee with Subcommittees to implement as government
3. Demand planning must be considered and acknowledged for innovation. 4. Innovation not just in construction but across the whole human settlement delivery chain	<ul style="list-style-type: none"> • Planning jointly across the whole human settlements delivery value chain



<p>5. Policy/Strategic Mandate</p> <ol style="list-style-type: none"> a. NDP b. STI White Paper 1996 c. New Urban Agenda 	<ul style="list-style-type: none"> • A need to align with the NUA and adapt policies
<ol style="list-style-type: none"> 6. There is also risk management which details the antropescenic- analysis of the risk on the environment. 7. Presentation approach is to define ST&I in the development of sustainable human settlements; 8. E.g. Ethekwini Municipality – ST&I introduced alternative technology solutions e.g. Local flush sanitation system- off-grid solutions 9. Eastern Cape implemented a Green human settlements village . 10. Support offered by Germany 	<ul style="list-style-type: none"> • Best practices be crafted based on projects already implemented and undertake risk management • Seek solid partnership with international countries
Questions	Responses
<p>11. How to get to a point of a completely integrated model ?</p>	<ul style="list-style-type: none"> • DST & DHS need to craft a clear road map that defines the way forward for focusing on technology and alternative innovative solutions

Topic: CSIR : Alternative and transformative approaches to Access and Mobility: technology implications (Transportation)	
Notes	Key issues
<p>1. Part of the human settlement solution is to reduce the cost of transportation and energy</p>	<ul style="list-style-type: none"> • Reduce transport cost and deliver settlements next to transport networks- Build innovatively next to rail, bus , taxi stations
<p>2. Innovation is about creating or developing strategies to minimize our energy consumption and dependency on a single mode of delivery.</p>	<ul style="list-style-type: none"> • Raise awareness about the need for electric cars , promote ride sharing , reduce cars on the roads and invest in public transport – days where ride sharing is the theme,
<p>3. Part of the Solution is to invest in local solutions;</p> <ol style="list-style-type: none"> a. Our built environment is unique and requires unique solutions b. Higher density doesn't translate to lower car ownership and use; c. E.g. in Gauteng – from 2001-2013 the commuting distance has increased even though there are higher densification strategies for human settlements 	<ul style="list-style-type: none"> • Transforming public spaces- Municipalities implementing reforms on bicycle lanes and pedestrian walkways. • Invest in research & development – car sale analysis and plan



<p>4. Revisit targets and commitments made e.g.</p> <ol style="list-style-type: none"> a. PICC Cabinet resolution to use Innovative Building Technologies for schools, public facilities, clinics and targeting 60% in these sectors. b. international agreements – Paris Agreement on climate change SA by 2050 will have 2.9 million electric cars 	<ul style="list-style-type: none"> • Formulate implementation plans for commitments and targets set.
<p>5. Our planning processes are based too much on assumptions. The critical part of innovation is to understand and respond to the need of the people.</p>	<ul style="list-style-type: none"> • Raise awareness about the need for electric cars , promote ride sharing , reduce cars on the roads and invest in public transport – days where ride sharing is the theme
<p>6. There is heretogeneity in travellers e.g. People work for transport, Public transport not safe , wake early and come home late and not safe walking to the station. Innovation is about packaging of measures – convenience; affordability; safety; comfort; reliability; speed.</p>	<ul style="list-style-type: none"> • Invest in improving transport systems through alternative technology
Questions /Comment	Responses
<p>There is a need to engage further with DHS regarding alternative transport solutions to solve human settlements problems. The commitments may not be about housing but they solve human settlement challenges and planning problems.</p>	



Topic: CSIR : Alternative and transformative approaches to Solid Waste Management for Sustainable Human Settlements: innovation and technology implications	
Notes	Key issues
<p>1. Change the way we think – Waste is a resource . 17 Billion worth of resources goes to waste . Awareness campaigns be conducted on how to recycle . We need to talk about known facts – 30% of food goes to waste before hitting shelves & 85% of builders rubble goes to land fill sites</p>	<ul style="list-style-type: none"> • Requires a change of mind-set to accept that waste can be made useful
<p>2. Recycling initiatives needs to be intensified to impact on SMME development and empowerment . In using waste management innovative technologies and solutions we can create more jobs</p>	<ul style="list-style-type: none"> • Set up database on types of waste management to create jobs and • Set up cooperatives that address waste management – Construction and demolition waste (CMD), electric appliances , jeans , plastic bottles (set up plants)
<p>3. There must be an enabling environment for change</p> <ul style="list-style-type: none"> ○ Landfill sites must be regulated more efficiently in municipalities ○ KPIs must be changed to deter away from landfill sites ○ The private sector must be engaged and encouraged to innovate and this can be pursued through PPPs ○ Integration to ensure all involved in waste management are included in processes of integration 	<ul style="list-style-type: none"> • Review waste management policies and legislation and M& E mechanisms on waste management
Questions	Responses
None	



Topic: NHBRC: BARRIERS TO UPSCALING IBTs:	
Notes	Key issues
1. Experiences of the NHBRC in their journey for IBTs	<ul style="list-style-type: none"> Eric Molobi and various technologies. A need for such centres across the Provinces. Everyone must take responsibility for raising awareness about alternative and innovative technology - Both Private sector and government
2. NHBRCs mandate is to - <ul style="list-style-type: none"> o Protect covering Enrolment , Warranty & o Regulate – Registration which covers Home Builders & Inspection Homes , 3. There are attributes not covered by NBR e.g. Acoustics , aesthetics , safety , economics ,etc and those that are covered e.g. fire safety etc. The detailed description of each attribute is contained in a presentation	<ul style="list-style-type: none"> NHBRC to rollout a communication and consumer education legislative mandate
4. IBTs offers a viable solution for quality, speed, cost & scale (?), ownership, awareness 5. Consumer education is important to create understanding of the product and process for IBTs	<ul style="list-style-type: none"> The approach to implementing human settlements especially informal settlements upgrading needs to incorporate all innovative technology and use livelihood approach in responding to poverty , unemployment and inequality .
Questions	Responses
1. Do suppliers have to be registered with NHBRC? Who is responsible for monitoring the end product?	<ul style="list-style-type: none"> NHBRC promotes the IBT technology by suppliers Communicating the benefits of the IBT Develop and contractor are mainly responsible for quality control
2. There is money allocated for IBT where is this being spent?	<ul style="list-style-type: none"> Funds get allocated but don't specify that they are for IBT . When there is under spending these are often linked to the SCM processes and specifications not meeting quality standards leading to delays in finalizing the work allocated by the end of financial year.



<p>3. Why is the cost of doing IBT is too high? Agrema certificate is issued for a short period and one has to pay for the cost of fire testing which is about R60 000, its too much for an emerging contractor . Why is government not waiving such to improve up scaling?</p>	<ul style="list-style-type: none"> • The cost will end up being incurred by NHBC as they relate to testing and such need to be incurred by a person who purport to be implementing such technology not government. Up scaling require government to consider reduce the cost of doing business
<p>4. Why have poor household accepted IBT and other innovative technologies in general? Why is awareness a problem and what proposals can work?</p>	<ul style="list-style-type: none"> • There is no better option as its offered for free . There is often a lack of awareness , government must iimplement through multi story buildings and use student accommodation to change mindset as young graduates stand a better change to understand innovation and government must engage the Banks to fund ABT houses as they currently side line houses build of ABT as risky.
<p>5. Why cant government just ensure that the 30% allocated to women is for IBT not white male dominated?</p>	<ul style="list-style-type: none"> • White male dominance is a structural problem within the economy and construction sector-currently. 5% of all houses must be constructed using IBT;

Topic: WITS – FOOD SOVEREIGNTY FOR SHS	
Notes	Key issues
<p>1. Food crisis is here; 14.1 million people go to bed hungry</p>	<ul style="list-style-type: none"> • Food sovereignty is important to build a sustainable process
<p>2. Linking Food Sovereignty , Sustainable Human Settlements and Science Technology & Innovation –</p> <ul style="list-style-type: none"> ○ Think of the Eco-social aspect of land – it is about sustaining life – a source of food production. Agro-ecology speaks to the eco-system and being in harmony with the space 	<ul style="list-style-type: none"> • People must control technology and science. The approach to implementing human settlements needs to incorporate all innovative technology and use livelihood approach in responding to poverty , unemployment and inequality .



<p>3. Water commons approach refers to how water is being used; 62% of our water goes to industrial agriculture and this is proving unsustainable if 14.1 million people are hungry. Therefore, focus needs to change to small scale farming for food production;</p>	<ul style="list-style-type: none"> • There is a need to embrace that seed-sharing and seed-banking is central to an ecological approach to poverty alleviation . People require food and therefore government must be create seed banks to deal with SDGs • Campaigns on people and science in solving the hunger crisis
<p>4. Government is not monitoring the people that go hungry ,</p>	<ul style="list-style-type: none"> • Government must monitor people that go hungry ,
<p>5. Socially owned renewables must be promoted</p>	<ul style="list-style-type: none"> • Solidarity economy – control of processes must be within the community

Topic :Nature is Nurture UJ	
Notes	Key issues
<ol style="list-style-type: none"> 1. Our relationship with the planet needs to be re-defined . Green architecture deals with comfort and dignity 2. Planning must be according to the elements. Settlement planning must be based on the nature dynamics 	<ul style="list-style-type: none"> • Mindset change in dealing with planning for human settlements and the nature to resolve human settlement issues. Nature provides its own solutions.

Topic : Human Capital in Alternative Technology CSIR -	
Notes	Key issues
<ol style="list-style-type: none"> 1. Don't do anything that people can't relate to 2. Human capital development must be an important investment tool 	<ul style="list-style-type: none"> • Investing in human capital is key

COMMON THEMES

- 1. Integration, coordination, and alignment of processes and stakeholders for AT&S in all sectors involved in creating sustainable human settlements**
- 2. A mind-set change is required to embrace innovation and alternative technologies**
- 3. Communication of IBT and ST&I products is critical for promoting awareness and consumer education**



Commission Recommendations

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| 1. Draft a framework for human settlement stakeholders and industry partners to plan and prioritise STI strategies , programmes, projects, & initiatives |
| 2. Set up Joint Working Committee with Subcommittees to implement and engage further on principles already contained in NUA |
| 3. Form and sign partnership agreements with international countries |
| 4. Invest in research & development |
| 5. Conduct demand planning and analysis -e.g car sales |
| 6. communicate and craft an action plan -PICC Cabinet resolution to use Innovative Building Technologies for schools, public facilities, clinics and targeting 60% in these sectors. |
| 7. Revisit commitments made on international agreements – Paris Agreement on climate change SA by 2050 will have 2.9 million electric cars and formulate an implementation plan |
| 8. Set targets for transforming public spaces- Municipalities implementing reforms on bicycle lanes and pedestrian walkways. |
| 9. Tighten awareness & consultation with stakeholders to ensure implementation - Both Private sector and government |
| 10. Recognition of standing innovation in ABT – Awards |
| 11. Upscale with technology require government to reduce the cost of doing business- R60 000 for fire testing in agrema certification |
| 12. Review policies and legislation - The approach to implementing human settlements especially informal settlements upgrading needs to incorporate all innovative technology and use livelihood approach in responding to poverty , unemployment and inequality |
| 13. Implement multi story buildings through student accommodation to change mindset as young graduates |
| 14. Define what is a smart city and smart community integrating theory and practice |