20TH Built Environment Seminar

Thursday, 19 April 2018 | Botanical Gardens Conference Centre

Theme: Energy Use in the Street Food Sector. Is there a need for more responsive design?

INTRODUCTION AND BACKGROUND

Energy is a key input for informal and micro-enterprises in the Street Food Sector, which is largely dominated by women in African countries. These enterprises require energy to transform, cook and process food, however, energy use patterns in this sector are not well understood by policy makers and local level authorities who regulate their trading activities. How inclusive are our design, appropriateness and consideration of trading spaces, socio-cultural and contextual factors that determine the energy strategies of the enterprises?

The research was conducted in partnership with the Energy Research Centre at University of Cape Town (UCT) and is part of a consortium of research partners: MARGE (in Rwanda) and ENDA (in Senegal), led by the University of Twente (Netherlands). The purpose of the seminar was to better understand energy use and the impacts of regulations in the informal food sector which could lead to influencing practice and informing policy in local government. Surveys and interviews were conducted with over 700 enterprises in the urban areas of Rwanda, Senegal and South Africa. The research findings show that enterprises use both traditional and modern energy sources to meet their business needs. It would be naïve to think that by providing electricity infrastructure, then it would satisfy the clean and sustainable energy needs of the sector. According to the study, an understanding the energy stacking strategies and multiple energy use behaviour of informal and micro-enterprises can help in regulating access to cleaner sources of traditional and modern energy services.

KEY OBJECTIVES

- To share research findings for the 3 city study: Rwanda; Senegal and South Africa
- To demonstrate the need to understand energy consumption behaviour and strategies of enterprises in the street food sector when designing the built environment
- To provide recommendations that would stimulate a policy dialogue about energy for productive uses in eThekwini Municipality

PROGRAMME

07:30- 08:15 – Registration and Breakfast
08:15- 08:30 – Welcome and Purpose of Session
08:30- 09:30 – Presentations (Univ of Cape Town & Univ. of Twente)
09:30- 10:15 – Panel Responses (Asiye Etafuleni; Rocket Works: Durban; Energia: Senegal)
10:15- 11:15 – Open Discussions
11.15- 11.30 – Way Forward and Closure

PRODUCTIVE USES OF ENERGY AND GENDER: THE INFORMAL FOOD SECTOR IN RWANDA, SENEGAL AND SOUTH AFRICA

The importance of access to energy in the informal food sector

Energy is a key requirement in the street-food sector which operates within the informal sector of the economy and is largely dominated by women in most African countries. These enterprises require energy to transform, cook and process food. However, energy-use patterns are not well understood by policy makers and local authorities who regulate their trading activities.

The street-food sector in Sub-Saharan Africa is a source of affordable and nutritious meals for the urban poor, whilst also serving as an important source of income for the women who dominate this sector. However, there is little evidence-based research to inform policy and influence practice about this energy use dynamics of enterprises in this sector and whether these enterprises would benefit from clean, more efficient modern energy services (MES).

POINTS OF DISCUSSION

1. **Knowledge sharing opportunity**

EThekwini Municipality is currently in the process of developing its Renewable Energy Policy. In the interest of benchmarking and sharing best practices, the Energy Department will extend technical expertise with regards to the municipality's Energy Policy, and the position on energy access and renewable energy.

2. **Areas of Collaboration in Potential Interventions**

Over time, the need for cleaner, modern sustainable energy was elevated. A collaborative approach in devising interventions and projects aimed at achieving this objective is required with all stakeholders, more particularly with the informal traders themselves as they understand their energy needs. In this context, reference can be made to the informal trader

contributions translating to the desired infrastructure design of the communal space by a private investor in Cape Town. Therefore, a bottom up approach would be beneficial.

Moreover, in partnership with CSIR, the municipality has an interest in assisting entrepreneurs devising environmentally friendly solutions. The area of collaboration with academia is to provide needs-based analysis which can form part of the evidence provided to CSIR for an informed intervention.

3. Gender differences with location

The research revealed observed differences between men and women in the street food sector with regards to infrastructure. Catering is predominantly preferred by women as infrastructure associated with it tends to be accommodating of them. On the contrary, males dominate other segments of the informal economy which require increased level of physical strength to operate under. Hence, infrastructure is at the centre of these preferences, and there is an opportunity to improve infrastructure design to improve accessibility to other segments of the informal economy.

4. Impacts of energy by-products

While the research is centred on alternative uses and cleaner sources of energy, it also reflects the impracticality of them to a certain extent. This is attributed to the compromise of the taste, quality and aesthetics of the product prepared with alternative energy. Often, there is a high demand of food prepared in a certain manner and diversions would lead to a decrease in sales.

5. Waste Management

One of the core functions of DSW is to remove any by-products of energy use deemed aesthetically displeasing, and seen as a hazard. Energy sources utilised in this sector produces significant waste which is a persisting ongoing issue. Going forward, improved waste management would be achieved through multi-departmental partnerships.

6. Approach to Regulation

Often, officials tend to focus on regulation and enforcement. Adopting a developmental approach to the sector by forming a Committee that keeps within the by-laws, but operates innovatively. While this approach would seek to be softer to the traders, it would also be within the scope of law enforcement. As a result, it would enable traders to use desired methodologies without waste generation.

7. Information flow

Officials on the ground experience issues on a first hand basis and are in touch with the realities on the ground. However, the flow of information is perceived as a one-dimensional issue as there are cracks of misinformation is some senior management officials. Therefore, there is an opportunity for officials to inform their superior of the realities.

8. Use of wording

The use of words like “energy” and “fuel” have separate meanings from each other. Energy is synonymous with many other aspects and extends beyond making food for remuneration. Energy is inclusive of transport, traders packing up and going home, survival, compliance, and the energy it generally takes to make a success out of this sector. The focus should not be one-dimensional, but inclusive of all the other aspect of energy.

PANEL DISCUSSION

Panellist: Adrian Padt (Rocket Works)

Key success factors for designing and introducing fuel efficient stoves

The company based in Durban was established four years ago and is centred on the following areas:

- *Health*
  The various designs of the stoves are a direct response to the significant number of people that lose their lives to smoke-related diseases attributed to cooking fires. This elevates the need for cleaner alternatives. The company offers several types of stoves, *viz* conventional wood burning, charcoal, bio-gas, and bio-mass stoves. In terms of aesthetics, these stoves use small twigs rather than wood logs.

- *Burning Efficiently*
  Fuel is a big aspect in this context and significant savings can be made. The introduction of new technology to stoves brings about certain elements. One being the improved stove has to match the power and speed of cooking, as well as culture. Stove sales globally are significantly higher than in South Africa. Requirements for bio-mass cooking is exponentially increasing over the next ten years in Africa, and the global trend on the decline. Energy alternatives in the informal food sector will persist to be a need. In order to obtain buy-in, a need for a social and interactive programme that needs to be undertaken to introduce this concept successfully.

- *Cost Convenience Simplicity*
  Temperatures used for cooking are significant. Durability of the stove relies on temperature resistant materials which are often expensive. This situation can be addressed by carefully considering the materials or by designing stoves with a year life span and would require annual replacement thereafter. Consideration must also be given to convenience as these equipment need to be easily portable. Hence any design has to factor in these considerations to ensure simplicity in design.

Panelist: Esiya Etafuleni (Richard Dobson)

The primary challenge is that efforts are being made in assimilating new activities in urban spaces, which are not responsive to the needs of these new activities. Durban is exemplary in introducing new infrastructure in those urban spaces assimilating new activities. In this context, the following interventions are worth highlighting:

- *Durban is exemplary*

With over twenty-two years of creating an enabling environment for the informal food sector to operate, EThekwini Municiplaity's Warwick Junction is a case study. This alludes to a sense of stability, as entrepreneurship is passed down many generations. This apparent success has attracted additional people into the sector, and that is where regulation comes in. Moving away from the initial developmental approach towards a regulatory one seems to be an issue. What is important is that infrastructure is a significant contributor to providing growth, unlike the widespread assumption of informal traders not having the aspirations of business growth.

- *Institutional learning*

The documentation of successes and lessons learnt from key intervention is crucial as they can inform future interventions. Knowledge management plays a critical role in realising the real value of interventions and building on to it.

- *Not capitalising on this learning*

Widespread unresolved infrastructure design challenges continue to persist. *Is the City cooperatively addressing these issues? Will there be any learnings from them? Is there will to engage robustly and not avoiding comfortable truths?*

- *Serious Transformation Project*

Through this intervention, the City will be transformed spatially, economically and culturally. Embracing transformation fits in with the developmental approach, with the exception of enforcement.

Panellist 3: Diouf Maimauna (Energia: Senegal)

(See full Presentation)

DISCUSSION POINTS

Biogas Rollout

EThekwini Municipality has aspirations of rolling out biomass stoves Durban schools especially those benefitting from government feeding schemes. The case of Senegal is exemplary, hence the terms of reference for the rollout will be shared.

Implementation of biogas digesters

Senegal runs a national program on biogas which is applicable to household and entrepreneurial use. It was tested and is characterised by its immobility. Entrepreneurs are encouraged to use them.

Health impacts of biomass stove

Smoke is unburnt fuel and if burnt efficiently there is is efficient combustion achieved. The absence of smoke “visibility” does not mean there is no risk, such as in the case of gas stoves. Adrian’s company offers a wide variety of globally tested stoves classified as Tier 4 stoves. The best-selling stove is characterised by that it burns a multitude of fuels due to its non-reliance on the traditional combustion process. If operated in a space without ventilation, the stove would be a health hazard.

Balancing the use of public space

The Senegalese case highlighted that traders who are regarded as informal (ie not registered, not renting a formal space, etc) can perceive themselves as formal. This is attributed to that Local Authorities collect taxes. Therefore, it is crucial for the government for the government to gather taxes and generate income from the sale of the premises with water and electricity.

RESEARCH FINDINGS:

- Micro enterprises used multiple energy sources for a range of applications
- Energy ladder concept as transition does not hold true in this sector
- Energy stacking – movement between traditional and modern energy – is somewhat more realistic BUT does not take into account conceptual factors that affect energy choice, use and access of enterprises.
- Factors: location, type of product prepared and sold, type of structure, affordability, customer preference, quality of product, ease of use, security of supply, stability of enterprise. Some factors are prioritised more than others therefore will have more influence
- Overlap between domestic use of energy and enterprise
- Low use of electricity for thermal needs and MES in IFS but still important for 'quick' needs such as food warming, water boiling and phone charging.
- Whereas in the literature, women's informal enterprises are often categorised as 'non-entrepreneurial', we found that the majority of our respondents had growth ambitions – yet their ambitions often 'fall through the cracks' as they don't fit within the general entrepreneurship paradigm

KEY MESSAGES:

- Support policies for informal food sector have gender component because (a) it is one of few livelihoods with female majority, (b) women combine productive tasks with household and children care, but: no difference in ambition
- Energy policy needs to encompass more than just electricity. Especially the thermal energy of micro-enterprises has more varied needs. ➔ This needs to be reflected in energy policy
- Systemic change is needed in how we view entrepreneurship and growth in the sector, from one that has more 'male' focused growth characteristics towards one that embraces the growth ambitions of both women and men in the sector.
- We need tools to accommodate businesses with what they really need: credit, training and other needs to be identified in the remainder of the study

MOVING TOWARDS AN ACTION PLAN

	STAKEHOLDERS	PROJECTS	BY-LAWS
LEAD ROLE	Businesses in IFS		✓
	Economic Development		✓
	Business Support		
	Energy		
SUPPORTING ROLE	Electricity		✓
	DSW		
	Spatial – Land Use Management		✓
	Architecture		
	Metro Police		✓
	Fire Department		
	Legal Department		
	Public Transport		
	Health		
	Environmental & Air Quality		✓
	National Departments		

Way Forward:

It was noted that the seminar provided a key platform to solicit response from this **focus group** given that the research was ongoing.

Action: The final research output will be released to MILE for dissemination and comment

It was further noted that the Energy Office and the Business Support Unit were keen to engage further with the research findings and recommendations that could influence the programming of recommendations into practice and policy in eThekwini.

Action: MILE was tasked with facilitating the networking and engagements.

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