1 Introduction

Stakeholders are groups or individuals who have a stake in, or expectation of a project's performance. In the case of social housing these include tenants, housing providers, managers of different sectors, developers, designers, subcontractors, suppliers, funding bodies, users and the community at large. Stakeholders can influence the direction and decisions of a project by retaining the current status or enforcing change. Gaining approval for a project or implementing successful change during projects is therefore largely dependent on stakeholders' attitudes, motives and expectations. These groups have expectations, which the project is under pressure to fulfil; this may not be a problem were it not for the fact that different groups of stakeholders often have conflicting expectations (Newcombe, 2003). Frequent conflicts between stakeholders revolve around long term versus short-term objectives, cost efficiency versus need, quality versus quantity, and control versus independence. In housing, the tenant as a stakeholder has become more powerful and influential with the formation of 'Tenant Liaising Groups' and can form and shape the strategy of the project. The concept of sustainability has gained wide acceptance in policy and rhetoric and can also be viewed from different perspectives. The diversity of perspectives on sustainability poses a challenge to the design of these means. Sustainability is an ambitious goal, which requires, among other efforts, new kinds of governance and decision-making processes involving a large variety of stakeholders (Irwin et al., 1994; Loorbach and Rotmans, 2006). Hence, stakeholder engagement and involvement has a significant role to play in the pursuit of sustainability, and achieving its goals.

The UK government is committed to effectively implement a viable sustainable agenda in the social housing sector and the housing associations and local authorities are being encouraged to improve the environmental performance of their new and existing homes. There are four million homes maintained and managed by the public sector authorities responsible for improving their existing stock, and are increasingly encouraged to work sustainably. In the past, the environmental performance of new homes has been emphasised when, in fact, the existing stock offers the greatest opportunity for environmental improvement. UK housing is largely inefficient, expensive to heat and is responsible for; 25% of UK green house gas emissions, 50% of water consumption, 8% of waste generation from households, 24% of waste generation from construction and demolition (SDC, 2005). If a significant change in energy consumption trends is to be implemented, this must clearly consider the existing building stock and in the social housing sector there is the greatest potential for innovative maintenance and refurbishment. From preliminary staff consultations it became apparent that in local authorities there is little understanding of renewable & micro-generation, low zero carbon technologies, and water efficiency and conservation issues. The lack of proper qualifications, training, access to cutting edge knowledge and technology, fear of taking risks, the culture and mindsets of the particular organisations could all be contributing factors.

Buildings that are inefficient in their consumption of resources such as energy and water are expensive to operate, leading to disproportionate spending on resources by the occupants. Within the existing housing stock, the private rented sector has the poorest energy performance, and may be considered the most difficult sector in which to promote energy efficient measures, as the most

tangible benefits of energy efficiency, in the form of reduced spending on energy and increased comfort, are not realised by the landlord. Intelligent application of advanced 'smart' facade technology in conjunction with innovative environmental systems can result in significant energy savings and – at the same time – improvement of indoor comfort. 'It has been shown that, when designed carefully, innovative systems do not represent additional initial building costs. Running costs are lower and energy costs can be reduced by approximately 30% compared with conventional solutions' (Kragh, 2001). A series of barriers currently exist against the physical improvement of existing community neighbourhoods including planning system procedures, limiting opportunities for improvements and slowing progress. Further barriers exist to the implementation of improvement measures in existing homes including: unequal levels of VAT between new build (zero rated) and repairs and refurbishment (17.5% VAT) (Rowlands, 2007); barriers relating to access to finance for householders; householder apathy due to lack of interest or awareness; lack of information about how to improve properties; and landlord-tenant share of benefits where the landlord may invest in resource efficiency improvements but the tenant receives the benefits of reduced bills.

Consultation and engagement with stakeholders is good practice when developing an evidence base to inform future policy or initiate an innovative project. It helps to ensure that there is some degree of consensus around the information and evidence that will inform policy development regarding the project. This has the potential to reduce conflict during the development of policy and its implementation. This paper presents the formulation, implementation and results of such a stakeholder consultation and engagement of a Neighbourhood Council that was initiating a sustainable refurbishment programme. The responses and the results of the consultation illustrate the disparity that exists in the groups that work directly and reflect the aspirations of the tenants and the decision makers. While the managers attempt to drive the sustainable agenda forward and initiate implementation of innovative environment technologies, the sectors that directly work with tenants are trying to achieve their basic environmental criteria such as alleviating fuel poverty, installing double glazing or increasing levels of insulation in their facades and security needs in terms of surveillance etc. It also high light the socio economic issues that have to be addressed before embarking on a major sustainable development programme. The problems in the implementation of various sustainable technologies where extra capital costs have to be justified and the dilemma the mangers face in their decision making process where a balance has to be struck in achieving the tenants aspirations while meeting the government agenda is also fully illustrated.

2 The Current Practice of Social Housing Refurbishment

The decision on whether to demolish or refurbish old housing stock is based on a number of interrelated factors including desired housing mix, density, suitability of plan form, and state of repair. Once the decision has been taken, the aim should be to fully exploit the environmental potential of the building using environmentally benign specification and minimising waste. There may be more restrictions with refurbishment than with new build in terms of exploiting all sustainable design principles, but significant differences can be made with simple measures like retrofitting insulation, windows and efficient heating

systems. In the current practice the basic minimum environmental criteria are met in terms of heating and energy performance and the industry has much potential to incorporate innovative environment technologies into their refurbishment strategies.

A snapshot of case studies illustrated in Green Street (Sustainable Homes, 2003) illustrates the current status of refurbishment and the savings that can be achieved with the most basic environmental upgrades in the short term. In many examples (Case study Sandwell, Green Street), refurbishment costs about 15% higher than for comparable conventional housing are considered a worthwhile investment due to the fact maintenance costs are likely to be much lower than for traditional council homes. A pilot study done with six housing associations (Sustainable Building Research Group, University of Greenwich, 2005) revealed that value for money is a major governing factor in selecting environmental systems and components. The benefits should out weigh the costs incurred and the technology should be proven and illustrated in a mass market before they are being employed in the social housing sector. Confidence level in new products and processes are also low and misconceptions regarding durability and performance of these new technologies are commonly prevalent among housing professionals.

There are some misconceptions regarding the tenant perception about living in homes with new environmental technologies. The perception existed that there is no market for environmental housing and social housing residents did not prefer to stay in environmental housing. Another prevailing assumption existed that residents of environmental homes would not know how to use the environmental friendly features in homes and it would be very difficult for them to understand the features and their working methods. The Study commissioned by Sustainable Homes (2003), concluded that when reduction in fuel bills and climate considerations are concerned the tenants are happy to adapt and learn about new environmental features and methods.

3 Stake Holder Consultation

The Neighbourhood council was embarking on a sustainable refurbishment programme and the stakeholder consultation had mutual benefits to the researchers and the council in understanding and responding to the changing needs and expectations of the people who were affected by the council's approach to sustainable development (SD) stated as, "We recognize that earning and keeping the trust and respect of our stakeholders, through strong SD performance, is not only a prerequisite for our license to operate, but will fundamentally strengthen our business". Since the project directly concerned the tenants' choices and their requirements the information gathered in the workshop directly benefitted the council in terms of clarifying their position regarding the tenants' attitudes to 'Sustainable Refurbishment' prior starting the programme. Engagement with wider stakeholders is also seen by Kaatz et al. (2005), who evaluate the role of stakeholder participation in building sustainability assessment and have made a case for broadening this participation, 'to provide legitimacy to any compromises that may need to be made as a result of involvement of multiple stakeholders, through increasing the transparency regarding equity considerations'.

3.1 Workshop aims and objectives

For the academic research, the aim of the workshop was to gauge the responses from a group stakeholders who are directly involved with the housing procurement, development and tenant liaisons regarding a number of issues that are increasingly important in social housing provision. Within this aim, the objectives were,

- Engage directly with stakeholder groups
- Survey the responses from different groups to the same theme, criteria and questions
- Get specific responses from specialist about their own sectors
- Survey what is meant by 'Quality of Life' issues to different stakeholders

3.2 Implementing the workshop

The 50 participants of the workshop were divided into 5 groups according to the sector they work and the job titles that were provided by the organisation. These sectors included,

- Housing Policy/ Strategy and Development group (Which included the managers responsible for strategic decision-making)
- Sustainability Team (Technical professionals)
- Area Managers (Concerning operations)
- Neighbourhood Managers (Housing officers etc. working with tenants)
- Community Participation Team (Personnel who had direct contact with tenants)

The format of the workshop was a brainstorming session where participants would come up with issues and responses that they think are important to specific questions. After consultation with research members, six questions were selected prior to the workshop and responses to these were listed and prioritised. The research group co-ordinated each of the work groups by tabulating and initiating the discussion. Three common questions and one question specific to each sector were presented to all groups. The common questions were,

Q 1. What factors do you think would most improve tenants' quality of life?

Q 2. What are the environment technologies that can make a real difference in tenants' life?

Q 3. What are the barriers in implementing these sustainable technologies in housing developments?

In addition, Group1, the Housing Policy/ Strategy and Development group were presented with their specific question, Q 4. 'Which criteria influence the decision making process in allocating resources?' Q 5, 'How do the tenants' feel about incorporating environment technologies in their dwellings?' was presented to Groups 4 & 5, Neighbourhood Managers and Community Participation Team mainly dealing with tenants. Groups 2 & 3, Sustainability Team and Area Managers mainly dealing with operations were presented with Q 6, 'What improvements will provide a better service to the tenants?' All responses were tabulated and analysed to identify the priority criteria pertaining to each group and for each question.

4 Discussion

For the groups who work directly with tenants; fuel poverty, warm homes, comfort, which are the basic standards of housing seem to be the priority while more general, grand issues seem to be the priority for the decision makers. Three groups; Teams Sustainability & Community participation and Area managers stated elimination of fuel poverty as their number one priority in improving a tenant's quality of life while the other two groups (40%) stated money, income, jobs and cost of housing as their priority (Figure 1).

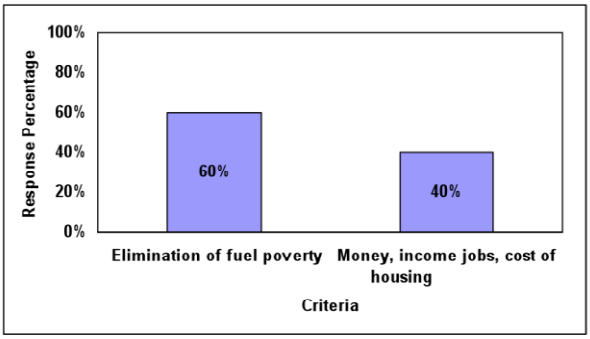

Figure (1) Criteria that form the first priority in improving a tenant's quality of life

In compiling the criteria that were stated as important in improving a tenant's quality of life by various groups, it was observed that many responses were repeated by the groups but not in the same priority order. Safe living environments were sighted by three groups (60% of the sample- Policy/Strategy & Development managers, Sustainability team & Neighbourhood managers) as a second priority and increased opportunities, education, jobs were cited by two groups as a third priority (Policy/Strategy & Dev managers & Neighbourhood managers) Figure 2). Good quality decent homes were mentioned by four groups but at varying priority levels.

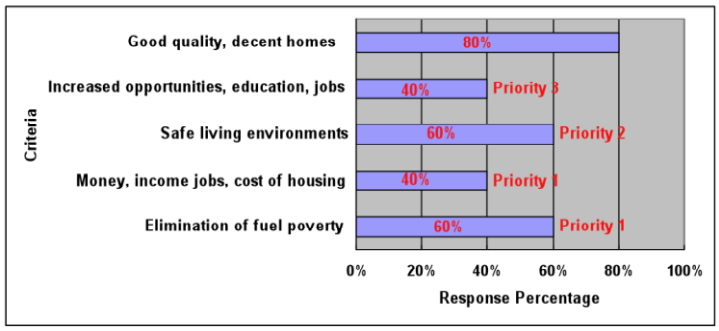

Figure (2) Criteria stated as important in improving a tenant's quality of life

All groups stated double-glazing and efficient heating as the priority one technology that can make a real difference in tenants' life. This illustrates the problem that is faced by current housing stock in failing in thermal comfort. Priority two, insulation is also dealing with basic thermal comfort and high lights the need to alleviate fuel poverty in the social housing sector. Three groups stated implementation of renewable technology measures but not a criterion listed by the managers. Area managers (involved with operations) gave priority to alternative energy & energy efficient measures only.

4.1 The Barriers in implementing Sustainable Technologies

All participants agreed that the number one criterion, which acts as the barrier in implementing these sustainable technologies, is 'initial cost, value for money and long payback periods' (Table 1). By popular consensus, 'tenants' attitude, lack of interest, fear & behaviour' came as the number 2 criterion. Three groups agreed that the 'structure of organisation' also play a key role in this process and sited it as number 3 barrier. Lack of maintenance staff, reluctance to take risks, politics and legislation were also cited as other barriers.

Table 1 Responses to the Q 3- what are the barriers in implementing these sustainable technologies in housing developments?

Mentioned Barriers	**Criteria Number1**	**Criteria Number2**	**Criteria Number3**	**No priority order**
Initial cost, value for money, long payback periods	100%			
Tenants attitude- lack of interest, fear & behaviour		100%		
Structure of organisation			60%	
Lack of maintenance staff/ Reluctance to take risks				80%
Politics				60%
Legislation				40%

Decision making and prioritising the requirements that gets funding in a limited budget is a key process in any local authority strategy and policy. When presented with the question 'Criteria that influence the decision making process in allocating resources', the Housing Policy/ Strategy and Development group came up with a list that they thought best illustrate the crucial criteria and stressed the fact that funding issues span and govern all the other criteria as a major issue. The tabulated criteria were,

- Statutory requirements
- Achieving government targets (political connotations)
- Tenant interest requirements
- Good value for money (payback period, options)
- Annual budget
- Speed of delivery
- Lease holder tribunals

There were also discussions regarding the justification of resources for each requirement; issues pertaining to increasing rent to recover the capital cost; and the constraints held by the tenant tribunals in challenging each of the council's decisions regarding improvements to the housing stock. The level of deprivation in each scheme and its influence in the allocation of resources in refurbishment were also discussed as a governing factor. The dilemma faced by the strategic

managers in the balance between achieving a little bit for a large number or a lot for a small number in terms of sustainability was presented as a key issue.

Q5, 'How do the tenants' feel about incorporating environment technologies in their houses?' was presented to the Neighbourhood managers and Community participation team who work closely with tenants. The community participation team mentioned;

Lack of effective basic services, Lack of trust, Lack of information, Lack of credibility of green issues and lack of practical demonstrable examples as drawbacks and important in using innovative environment technologies.

The Neighbourhood Managers mentioned education, incentives, legislation & encouragement as important in this process. Area Managers (operational) & The Sustainability Team were presented with the Q6 'Improvements that will provide a better service to the tenants' and responded with the following criteria;

- Efficient organisation
- Change in subsidiaries
- Information/ education
- Rent options for added technology
- Environmental assessment
- Micro grid
- Grants
- CHP with individual controls

The social systems surrounding construction, especially housing production, resist change. This could be due to inflexible mindsets, socio-cultural values, or simply fear of change or taking risks. In order to achieve the full benefit of innovative technology, the user has to be familiar with its use. Educating the occupier is crucial to overcome these setbacks. Research carried out by Sustainable Homes (2003) showed that, given the right information and control, tenants are happy to implement new environment technologies in their dwellings. Savings in utility bills can be a major incentive in this process. Communicating information in a simple manner is crucial in engaging all types of stakeholders. Promoting and providing after sales support in innovative products and services, access to information systems, helpline services could all contribute to this process.

Results from the stakeholder consultations showed that many housing organisations are reluctant to implement innovative technologies due to fear of taking risks, and consider implementing only basic technology in their refurbishment programmes. A snapshot of case studies given in Green Street (Sustainable Homes, 2003) illustrates the current status of refurbishment and the savings that can be achieved with the most basic environmental upgrades in the short term. In many examples (Case study Sandwell, Green Street), refurbishment costs about 15% higher than for comparable conventional housing are considered a worthwhile investment, due to the fact that maintenance costs are likely to be much lower than for traditional council homes.

5 Conclusions

All stakeholder groups identify elimination of fuel poverty and finances as main criteria in 'Quality of Life' issues. Double Glazing, efficient heating and insulation are stated as the technologies that can make a real difference in a tenants' life stressing the need to alleviate fuel poverty and provide warm comfort conditions to the tenants. Even though the government has much more ambitious environmental efficient targets for the local authorities to achieve what is actually achieved in practice is basic refurbishment and upgrading standards. Surveillance technology is also desired in terms of providing a secure environment that enhances the wellbeing of tenants. These social issues and concerns can only be realised by engaging the stakeholders in dialogue and high lighting their needs and concerns.

Value for money, tenants Attitudes and structure of an organisation were identified as the main barriers in implementing new and innovative technologies. Level of deprivation and the balance between achieving a little bit for a large number or a lot for a small number can have a major influence in the sustainable refurbishment of dwelling stock.

Real engagement is about asking what the questions should be (the risks, the agenda for change), how the issues should be addressed (process) and how success would be measured (outputs and measures). It goes beyond the way things have always been done in an organisation to discover what really matters to all the stakeholders and to get them involved in identifying the way things can be changed. The measure of the quality of such engagement has to reflect this aspiration and draw from the method itself and deliver in each case the measures of success that enable the stakeholders to talk in a shared language.

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