

Defining, identifying and mapping stakeholders in the assessment of urban sustainability

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ABSTRACT

The assessment of sustainability requires that the diverse values of the stakeholders are represented in the context-specific interpretation of sustainability and in the choice of a desired course of action. Sustainability is a broad concept, and the stakeholders in sustainability are many. In order to have effective stakeholder engagement, it is crucial that all the relevant stakeholders are identified early in the process. In urban development projects, some stakeholders may be obvious, but there might be others who are excluded from the usual decision-making processes and these may even bear disproportionate environmental, social or economic costs leading to inequitable outcomes. This has created the need for a systematic approach to defining and identifying stakeholders for different contexts. This paper will evaluate existing approaches for defining and identifying stakeholders in development projects and the requirements of a sustainability assessment process. Through this analysis, it will identify/develop an approach for defining and identifying stakeholders that is most appropriate for sustainability assessment.

The paper also argues that it is important to map out the levels of interest of different stakeholders in relation to the power that they hold. This is useful in determining the appropriate engagement techniques at the different stages of a project and also in understanding any potential conflicts. It is thus important to understand the relationships between the different stakeholders because this can affect the success of the engagement process. Such a mapping of stakeholders can also be useful in anticipating the expectations of the different stakeholders from the project.

Key Words: Stakeholders, identification, mapping, urban sustainability, sustainability assessment

1. INTRODUCTION

In the context of the overall agenda of Sustainable Development, there has been a strong reiteration of more inclusive decision making. In particular, phrases such as public participation, local decision making and enhanced stakeholder participation can be seen in diverse literature relating to the subject of sustainable development. Although the 'Sustainable Development' paradigm has strong roots in issues related to natural resources and environmental impacts, it has also been recognised that it is essentially a social project (Devuyst *et al.*, 2001; Becker *et al.*, 1999; Meppem and Gill, 1998) putting demand for new kinds of governance and decision making practices (Irwin *et al.*, 1994; Loorbach and Rotmans, 2006). It has been argued that sustainable solutions require transitions to new modes of governance and decision making approaches involving a large variety of stakeholders (Loorbach and Rotmans, 2006). Roseland (2000: 105) emphasises that "sustainable development must be participatory development". Irwin *et al.* (1994) highlight that sustainability can only be achieved through informed choices. And they propose that this requires "social management" - enhancing our decision making structures in a way so as to enable wider citizen involvement and include those groups of the society into decision making who are generally not considered within established approaches. Public engagement for decision making for sustainability can be seen as means as well as an end in itself (Kemp *et al.*, 2005).

Sustainable Development has emerged as a prominent policy goal, and it is important to assess the extent to which certain choices are contributing to this goal. Sustainability Assessment can be a valuable tool towards this end. A robust, holistic and transparent Sustainability Assessment process has a significant role in guiding decision makers to better choices in particular projects. Walton *et al.*, (2005: 60) argue that "participation of stakeholders ... is essential to sustainability analysis". They further claim that most existing approaches to Sustainability Assessment either do not incorporate stakeholders' values or do not do it in a transparent way. The importance of participatory approaches for assessment has also been recognised widely in the literature. Hartman *et al.* (1999: 256) state that sustainability requires that stakeholders monitor and evaluate progress in addition to negotiating a clear vision. The role of stakeholder participation in the assessment of sustainability has also been emphasised by Ukaga (2001: 35) who argues that: "to promote sustainable development it is essential that as many stakeholders as possible participate actively in assessing the given situation and in determining how to improve it". The need to capture multiple dimensions and the diversity of perspectives on sustainability necessitate combining of scientific assessment tools with democratic participation methods (Kasemir *et al.*, 1999). Kaatz *et al.*, (2005) have argued that a more inclusive stakeholder participation than in most existing building assessments is

crucial to ensure that transformation for sustainability in construction occurs in a wider social context instead of being merely a technical intervention.

Although a need for designing participatory assessment mechanisms has been emphasised, there are considerable challenges. Part of these challenges are related to the early stages of engagement where the relevant stakeholders can be identified. The meaningfulness and effectiveness of any participatory exercise can be seriously undermined if all the key stakeholders have not been identified and involved early enough to affect key decisions. This paper will focus on how the stakeholders may be defined in the context of urban development projects and their sustainability, how they may be identified in a specific context, and how they may be classified and prioritised in a manner which is useful in determining the appropriate techniques of engagement. The next section will discuss some of the common definitions of 'stakeholder' and discuss their applicability to the context of sustainability assessments of urban development projects.

2. DEFINING 'STAKEHOLDERS'

Although the term 'stakeholders' often appears in the literature, it has been pointed out that relatively little attention has been paid to developing systematic approaches for identification and an analysis of stakeholders (Bryson, 2004).

It must also be noted that literature related to stakeholder engagement has emerged from at least three distinct areas – public policy, organisational management and (international) development projects. Within public policy debates, there has been a recognition of engaging with common public in order to design policies and schemes that are sensitive to the needs of the people (Audit Commission, 1999). In the context of public policy, wider stakeholder engagement is also considered necessary to ensure active citizenship, transparent and democratic decision making structures to ensure that tax-payers have power to determine the services that they need. In contrast to this, the strategic management literature simply attempts to define who is important from a firm's perspective and to whom the managers need to pay attention (Mitchell *et al.*, 1997). In the context of international development projects, the emphasis has been on identifying those who are 'affected' by a project and seek their active engagement in order to ensure that the project is sensitive and responsive to local context and needs, thus ensuring support of the intended beneficiaries.

Within these distinct areas, two broad approaches to stakeholder involvement have been identified – consumerist and democratic (Ridley and Jones, 2002). The purpose of the consumerist approach can be understood as the private sector's desire for competitiveness in the market, whereas the democratic approach values the process of participation for the ethical issues of equity and empowerment of ordinary citizens

(Ridley and Jones, 2002; Rowe and Shepherd, 2002). McAdam *et al.* (2005) have emphasised that there is a significant difference between the focus of the private sector on discovering the needs of their 'customers'; and the intention of public sector in seeking to address the issue of multiple 'stakeholders' who may have diverse and sometimes even conflicting interests.

Bryson (2004) also distinguishes between two broad definitions used in public and non-profit management literature. The first definition, according to him, defines stakeholders as those individuals or groups who have the power to affect the future of an organisation, implying that those who do not have such power do not qualify as stakeholders. The other definition, which Bryson argues in favour of, has a clear ethical dimension. According to such a definition, stakeholders are a wider range of individuals and groups including the "nominally powerless" (p. 22) to whom certain responsibility is owed. An example of such a definition is that provided by Nutt and Backoff (1992: 439, as cited in Bryson, 2004) – "all parties who will be affected by or will affect [the organisation's strategy]." Similarly, Kaler (2002) distinguishes between two sorts of definitions of stakeholders as those seeing stakeholders as "claimants" and those seeing them as "influencers". For the purpose of business ethics, he argues that stakeholders should be defined as those with a claim on the organisation's services.

Most literature on international development projects emphasises the importance of those who are 'affected' by projects as being considered key stakeholders. According to the most common definition of stakeholders in the context of development projects, stakeholders are those who are affected by the outcome or those who can affect the outcome of a proposed development intervention (World Bank, 1996).

There is another common perspective on defining stakeholders which defines stakeholders as those who are interested in a project/development activity (DfID, 2002). The Canadian Environmental Assessment Act also demands that anyone who is interested in participating in the Environmental Assessment should be allowed to participate (cited in Doelle and Sinclair, 2006). According to Harding and MacDonald (2001: 4):

"...the very fact that they take an interest means that they should be engaged with. They have defined themselves as stakeholders and excluding them from your definition will not make them go away."

The implication of such definition is clearly that the nature of this stake is wide open as individuals or groups define themselves as being a stakeholder or not, rather than the project team. Such a definition is more sensitive to implications of a project as perceived by individuals and groups rather than those perceived by the project team.

Some definitions in the literature also emphasise the legitimacy dimension of stakeholders. According to El-Gohary *et al.* (2006) stakeholders are those who have

a legitimate interest in a project. Mitchell *et al.* (1997) argue that defining stakeholders on the basis of legitimacy emphasises the moral dimension of an organisation's responsibility, whereas defining stakeholders on basis of their power and urgency suggests amoral and self-interested focus of organisation's responsibility. They argue in favour of a merger of these two approaches. Such an approach, they argue, can address the moral dimension in addition to attending those who have power to influence.

Defining stakeholders in a narrow and consumerist manner would obviously lead to less individuals and groups being identified as stakeholders and ignoring those individuals and groups who do not have the power to influence the project. Integrated Sustainability Assessment, it has been argued, must focus on principles of transparency, participation, equity and learning rather than merely striving for a quantitative appraisal (Verheem, 2002).

It has been widely recognised that decision making for sustainability requires integration of different forms of knowledge and perspectives due to its multi-dimensional and complex nature (Siebenhuner, 2002; Meppem, 2000; Shepherd and Bowler, 1997; Walker *et al.*, 2006; Kaatz *et al.*, 2006). It is argued that in order to capture different kinds of knowledge including non-technical, indigenous, and layperson's experiences, the assessment process should secure participation of broad range of stakeholders including non-specialists and especially those who are affected (Kaatz *et al.*, 2006; Siebenhuner, 2002). A narrowly defined group of stakeholders is likely to exclude those who have little or no influence on the project but may possess knowledge types described in literature as experiential - common sense, knowledge gained through experience; and more importantly, value-based – moral, normative values, based on individuals' perceptions (English Nature, 2002).

Inclusive decision making processes are more likely to lead to an increased sense of ownership and support to a project (Shepherd and Bowler, 1997; Shindler and Cheek, 1999). This emphasises the need for all the intended as well as non-intended users of a project to be considered as stakeholders, since their sense of ownership may be crucial for the project. Moreover, there is a justifiable argument to engage with the local community or general public who may not be targeted users, and not considered as stakeholders in a narrow conception of the term, but may be considered as stakeholders, for example, due to the project's impact on sustainability issues of larger interest such as those on climate change, or on local built heritage. Such a wide acceptance of the project might not be considered necessary for the success of the project, if the success is defined in the narrow conventional parameters of cost and time. However, sustainability demands precisely a shift away from these narrow parameters to encompass a much broader social and environmental responsibility.

Environmental conflicts that arise from 'attitudinal differences' between the actors (Awakul and Ogulana, 2002) are sometimes unavoidable (Shepherd and Bowler, 1997), and are not necessarily a bad thing, as they expose the different values and perceptions. In other words, major causes of environmental conflicts are value differences among the actors (Harashima, 1995), and the best way to avoid or address such conflicts is to enable open dialogue which includes a wide range of interest groups in early stages of the project (Glasson *et al.*, 1999). Through engagement with a wide range of stakeholders, it may even be able to highlight the trade-offs clearly to those opposed to a project and reach more acceptable decisions (Shepherd and Bowler, 1997).

Social capital can be enhanced through group activities and collaborative processes. During collaborative decision processes, "trust and knowledge are generated and circulated, to provide a foundation of social and intellectual capital upon which collaboration can build" (Healey, 1997: 247). In this context, the potential for Sustainability Assessment to create trust and long-term partnerships cannot be undermined. However, this potential for creation of social capital benefits of which can be reaped within and beyond the project depends on how inclusive the process is.

The issue of equity in distribution of benefits and detriments across different groups in society has directly been related to the opportunity they have to influence decisions that create them. In the context of Sustainability Assessment, these benefits and disadvantages may be economic, social or environmental. Sustainability requires that issues related to intra-generational as well as inter-generational equity to be addressed. It has been argued that needs and preferences of certain groups may not be recognised unless they take part in an open participatory process which influences the decision-making (Innes and Booher, 2004). In this light, it is essential that decisions are made by those who stand to bear main consequences (Meppem and Gill, 1998).

The concept of social learning, as compared to technical learning, derives from the argument that different kinds of stakeholders including the layman have an equally valid knowledge. And it has been argued that the pursuit of sustainability requires enabling such processes which facilitate social learning (Meppem and Gill, 1998).

In addition to resolving conflicts, capturing multiple forms of knowledge, facilitating enhancement of social capital and increasing social learning as discussed above, from a democratic perspective, inclusive decision making can be considered as an end in itself. More democratic decisions are generally considered to be more acceptable and increase a feeling of empowerment.

The following table summarises how a narrow definition of stakeholders may not be able to fulfil these and some other process-related objectives of an Integrated Sustainability Assessment.

Table 1: Different objectives of Sustainability Assessment and the implications of a narrow definition of stakeholders for each of them

Objectives of and within Sustainability Assessment	Implications of adopting a narrow definition of stakeholders
Capture diverse forms of knowledge	Local, non-conventional, non-technical and indigenous knowledge likely not to be captured
Increase support for and ownership of the project	Unintended users and general public may not be included, and hence not support the project
Avoid, reduce and resolve conflict	Conflict with external or peripheral actors such as campaigning groups cannot be addressed
Build social capital, facilitate spin-off partnerships, collaborations	Less likely to lead to creation of new or wider partnerships
Promote equity and fairness	Not adequately addressed because the “powerless” do not have a role
Encourage social learning, increase awareness, change attitudes and affect behaviours	May lead merely to technical learning, and not social learning between diverse stakeholders
Enhance inclusive decision making, sense of empowerment	Unable to contribute to wider democratic ideals

Broad definitions of stakeholders pose challenges when identifying stakeholders in a specific context. On the other hand, the wide scope of the definitions may be crucial because there is a strong emphasis on ethical requirement of participation within sustainability.

A useful definition of stakeholders, hence for Sustainability Assessment, in order to be able to address the strong ethical dimensions inherent in the concept of Sustainable Development, may be “any individuals or groups who affect the project, or are affected by it, or exhibit an interest in it”.

3. IDENTIFYING THE STAKEHOLDERS IN A PARTICULAR PROJECT

There are a few types of individuals/groups who will be stakeholders in most urban development projects. However, stakeholder engagement should be carried out

within the context of a particular project. In order to do that, particular attention must be given to the distinctive features of the circumstances in which a project is being carried out. It has been argued that:

“Every situation is unique, shaped by the issues, the people, history, location, structures of organisations and institutions taking part, wider decision making processes and systems, and so on.” (INVOLVE, 2005: 8)

Additionally, stakeholders in a particular context may be “...persons, neighbourhoods, organisations, institutions, societies, and even the natural environment...” (Mitchell *et al.*, 1997: 855).

Hence, it is important to devise a systematic approach for identifying the stakeholders in the context of a particular project early, so that the appropriate means for their engagement can be planned.

Four key distinct techniques for the identification of stakeholders have been identified from the literature. These are: the use of a generic list, asking a set of questions, using snowballing technique and stakeholder mapping. The first three kinds of techniques are primarily oriented towards identifying stakeholders whereas stakeholder mapping, although can be useful for identifying stakeholders as well, serves a more strategic purpose in terms of designing and planning the subsequent engagement approach. In other words, the activity of mapping the stakeholders can start during the early stage where stakeholders are identified but continue further into the later stages where appropriate techniques are identified and used. For this reason, stakeholder mapping will be discussed in the next section of this paper. The first three techniques are now discussed.

3.1. Generic list of stakeholder categories and types

In order to start identifying stakeholders it can be useful to start by looking at the generic stakeholders and identifying those categories and types for the particular context (INVOLVE, 2005; ODA, 1995).

The following table summarises the broad stakeholder types according to the three main categories – those who affect the project; those who are affected by the project; and others who may be interested. It should be noted that some stakeholders may belong to more than one category – they may affect the project and be affected by it as well. The following classification is useful in starting to put down the names of organisations or identify individuals who should be considered for engagement.

Table 2: The generic stakeholder categories and types

<i>Broad category</i>	<i>Sub-category</i>	<i>Types of Individuals/Groups</i>
Those who affect the project	Those involved in delivery of the project	Developer
		Client
		Owner
		Investor
		Designer
		Banks
		Insurance
	Professional consultants such as architectural, financial, structural, engineering etc.	
	Those who determine the context	Local Authority – Planning department etc.
		Regional government departments
Central Government Departments		
Non-departmental public bodies such as Environment Agency, Housing Corporation etc.		
Those who are affected by the project:	Directly affected	Users of the buildings, spaces, facilities etc.
	May be directly or indirectly affected depending upon the context	Local/surrounding community members
		General Public
		Local community groups such as resident associations, or other community-based groups
		Specific demographic groups such as those based on race, ethnicity, gender, age etc.
Others who may be interested	Environmental/social campaigning organisations	
	Researchers/ Academics	
	Media	
	Potential users/clients for future projects	

3.2. Set of questions

Most engagement guidelines suggest using a list of questions in order to ensure that all important stakeholders are considered (see, for example, INVOLVE, 2005; English Nature, 2002; World Bank, 1996; ODA, 1995).

In order to identify the stakeholders, those who are involved in the delivery of a project must start by asking questions such as (adapted from: INVOLVE, 2005; English Nature, 2002; World Bank, 1996; ODA, 1995):

- Who are responsible for the project (and its different components/aspects)?
- To whom are statutory responsibilities owed?
- Who are the intended users/beneficiaries of the project?
- Who are the voiceless, but affected by the project?
- Who can negatively affect the success of the project through their opposition/non-cooperation?
- Who run (or belong to) organisations with relevant interests?
- Who have the ability to represent the interests of those unable to participate (e.g. future generations, non-human entities)?
- Who have the authority to make judgements on behalf of those they are representing?
- Who have unique knowledge related to any aspect of the project?
- Who have historical or cultural links to the area or to any issues that the project raises?
- Who depend on the resources (natural or other) which may be affected by the project?
- Are a few identified stakeholders representing interests of diverse groups (are they sufficiently representative)? Jennings and Lockie (2002) have highlighted that there is a need to ensure that the belief that all the diverse interests within the community are represented through democratically elected politicians does not preclude direct forms of participation.

By considering such questions, the project team can help ensure that no important stakeholders are forgotten, and the list prepared is sufficiently inclusive (INVOLVE, 2005).

3.3. Snowballing technique

Once these stakeholders have been identified, they need to be brought together and asked on their opinions on whom they consider as stakeholders. In other words, snowballing technique should be adopted to identify these and further participants (INVOLVE, 2005; Ananda and Herath, 2003; Hair *et al.*, 2000; Harding and MacDonald 2001; Araujo and Bramwell, 1999). Stakeholders' opinions regarding who they perceive as being stakeholders in the project may be elicited through focus group discussions, interviews and questionnaires (Araujo and Bramwell, 1999). It has been argued that this is a relatively inexpensive and effective way of identifying the stakeholders (Ananda and Herath, 2003).

Hair *et al.*, (2000) have drawn attention to the fact that snowballing technique may lead to biases if there are significant differences between those groups who are known within established social circles and those who are not. It is possible that those potential stakeholders who are less distinctly visible may not be identified

through this approach. But using this technique in combination with the other techniques discussed here, can help overcome that weakness.

It is proposed that a mapping of the stakeholders identified through these techniques should be carried out in order to start designing the engagement, start identifying the relationships between them and also contribute to identification of stakeholders, as will be argued in the next section.

It has been highlighted that, while identifying stakeholders, the concerns of any legitimate stakeholder should not be ignored simply because they are difficult to accommodate in the project planning (DFID, 2002). This emphasises the need for ensuring that the stakeholders which are identified can represent the range of interests including interests of those who cannot themselves be directly involved, especially with regard to some of the key sustainability issues such as global climate change and inter-generational equity (English Nature, 2002).

4. STAKEHOLDER MAPPING

There are several techniques for mapping of stakeholders, which are also sometimes referred to as stakeholder analysis techniques. The most commonly used techniques for analysis or mapping of stakeholders plot the stakeholders on a matrix/grid which has two key attributes of stakeholders as its axes. For example, stakeholders may be mapped on an importance/influence matrix, an impact/priority matrix, a power/interest matrix, readiness/power matrix, support/opposition or constructive/destructive matrix, problem-frame map, or policy attractiveness/stakeholder capability grid (Bryson, 2004; DFID, 2002). Stakeholders may also be mapped through a participation planning matrix where project activities are mapped against different approaches for engagement on a larger matrix and particular stakeholders are then included/excluded from each box (Bryson, 2004). More complex techniques for mapping the stakeholders include the three-dimensional power/legitimacy/urgency diagram, as proposed by Mitchell *et al.*, (1997), bases of power – directions of interest approach where a separate diagram is prepared for each stakeholder, stakeholder–issue inter-relationship diagram which helps to show which stakeholders have interest in which issues, and ethical analysis grid. For a detailed discussion of all these techniques, please refer to Bryson (2004), DFID (2002); and Mitchell *et al.*, (1997) for the power/legitimacy/urgency diagram.

Although the relatively more complex techniques may be very useful for developing conceptual understanding of stakeholders, their attributes and the inter-relationships between them, it can be argued that simpler techniques can be more widely adopted. Also considering that stakeholder mapping within Sustainability Assessment is one of

the several activities and needs to be time-bound, the two-dimensional grids seem to be a useful and practical approach.

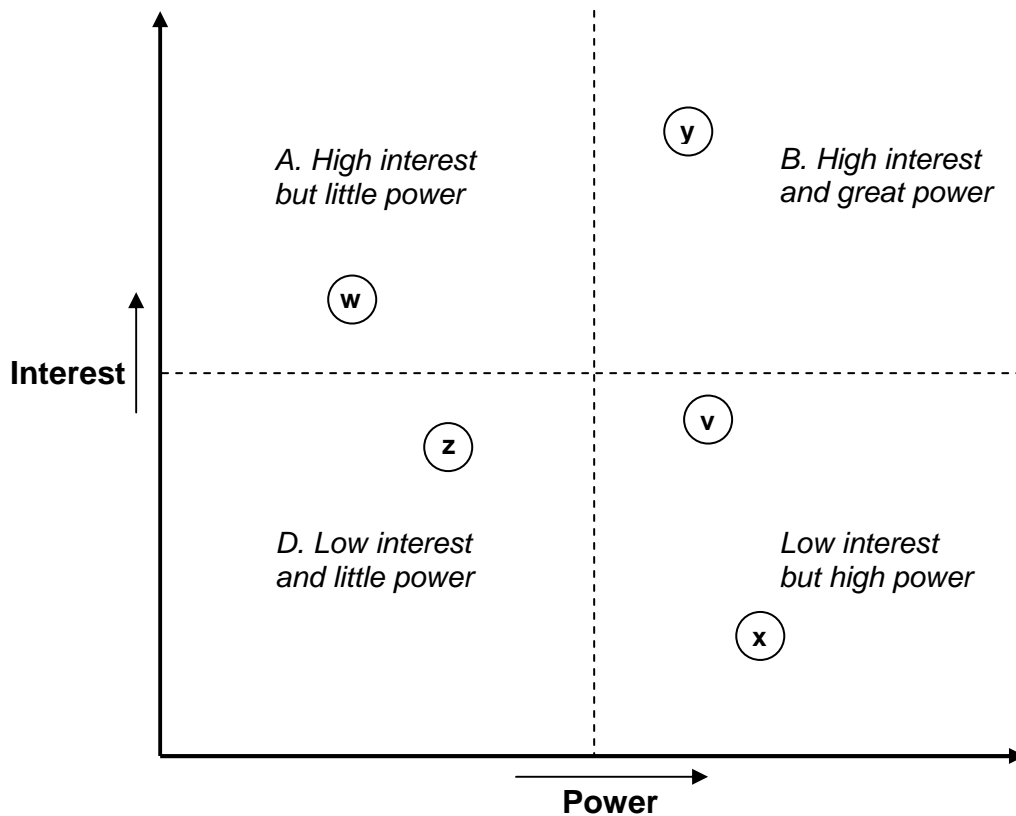
Between the various two-dimensional grid-approaches to mapping stakeholders, the simple and much widely used power/interest matrix is potentially very useful for Sustainability Assessment. This is for two reasons – firstly, relating stakeholders to their power to influence the project and/or its outcomes can be extremely useful in identifying the power imbalances and preparing strategies for addressing these. Any constructive values-based stakeholder interaction would require that the powerless (and indeed the powerful) in relation to the project are identified early and the specific choice of techniques of stakeholder engagement contributes to a more equitable forum for dialogue. Secondly, mapping stakeholders relative to their level of interest (for example, as against their importance, or their readiness, or priority) provides an opportunity to bring those stakeholders within the assessment process who might otherwise be left out and might precisely be the ones who could oppose the project if not involved. This paper argues that any stakeholders with any level of these attributes be mapped on the grid. The realistic possibilities of meaningful engagement within practical constraints could then be explored. A power/interest matrix provides an opportunity for the consideration and to a certain degree, understanding of a wide range of stakeholders including those who may not be perceived by the project team as bringing any ‘knowledge’ but may consider themselves as being legitimate stakeholders.

Although it is recognised that power-interest matrices have a lot of value in planning and strategising stakeholder engagement (Bryson, 2004; DFID, 2002), they can also be useful while identifying the stakeholders. As different stakeholders are identified, they should be plotted on a grid according to how much power they exert on the project and how strong an interest they have in it (see Figure 1). While considering whether certain group or individual counts as a stakeholder or not, the project team may try to ascertain its position on this grid. In doing so, their power and interest in relation to the project will need to be considered. In that sense, it becomes a way of verifying that the stakeholders that have been identified or any potential stakeholders being considered are verified for their relevance to the project. Also, mapping them will prompt the project team to think about stakeholders in relation to each other, thus start planning strategies for their meaningful engagement in the later stages.

Certain interests of some stakeholders may seem obvious. However, several stakeholders may have hidden interests, or others may have unclear interests. Certain interests of different stakeholders may also be in conflict with those of others. It is important to identify these interests at this stage in order to be able to avoid any real conflicts from emerging in the assessment process, which may be achieved, for instance, by engaging with certain stakeholders separately rather than in the same forum, if needed. While defining interest, interests exhibited by stakeholders as well

as those as perceived by the project team as being the stakeholders' interests should be considered.

Figure 1: Mapping stakeholders on a power/interest grid (Source: Derived from DFID, 2002: 2.11)



It is imperative to understand the power that each stakeholder possesses because it brings the focus on empowering or controlling the impact of the different stakeholders during the engagement. However, power possessed may be direct, or indirect. The power may lie in the ability to affect the carrying out of project activities in the short term or, to affect its success and acceptance in the long-term. These different types of powers must be considered.

5. SUMMARY AND CONCLUSIONS

This paper has argued in favour of a broad definition of stakeholders within Sustainability Assessments of urban development projects in order to be able to satisfy the ethical and less-tangible aspirations of sustainability such as equity, democracy and social learning. It has proposed the utilisation of four distinct techniques in the early stages of stakeholder engagement in order to identify and

map the context-specific stakeholders. Through the systematic use of generic stakeholder categories, set of questions, snowballing technique and power/interest mapping, project teams can be in a good position then to be able to select appropriate engagement techniques. It can be argued that choosing engagement techniques without going through a systematic process of identification and mapping of stakeholders could possibly lead to a choice of inappropriate techniques for engagement resulting in limited success or no success at all. It follows that further research must be conducted in order to test this approach on real-life projects. The key constraint in this regard is related to the fact that Integrated Sustainability Assessment is not an established practice yet.

Having argued in favour of definition and techniques which encourage consideration of diverse stakeholders within the Sustainability Assessment process, it is acknowledged, that there are further challenges. One of these key challenges is related to identifying and developing an increased understanding of those techniques for engagement which are capable of addressing the wider ethical concerns. The second key challenge is related to developing an understanding of the process of Sustainability Assessment itself – defining the merger and balance between technical and participatory dimensions of the assessment clearly. Hence this paper concludes with an emphasis on the need for further research in these two areas.

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