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**Sustainable Return on Investment: Towards a Method of Valuing Social and Environmental Change in the Built Environment**

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**Abstract**

Predictive and evaluative approaches that define the economic impacts and benefits of developments have been used over many decades to value materials, construction methods, labour, maintenance, occupation etc. More recently, valuation approaches using non-market valuation techniques have been used in areas such as philanthropic giving, the performance of social enterprises, and the management of upland water catchment areas. This paper explores the potential to apply these approaches to urban renewal projects in order to understand the value of social and environmental change in these areas. To date the evaluation of social and environmental return on investment has often been reduced to qualitative predictions or ex-post narrative. The approach used to value social and environmental change in this paper has been called sustainable return on investment or SuROI and has, to date, been applied in a range of built environment contexts in UK, the USA and Brazil. The paper explains the approach and then concludes with a number of observations on how this non-market valuation technique has performed in the field.

*Keywords:* Sustainable Change, Social Return on Investment; Ecosystems Services Analysis; Social and Ecological Value, Urban Renewal

## 1. Introduction

Cost benefit analysis (CBA) is still the predominant tool used to assess the relative economic merits of a project. An extension of the more conventional financial CBA that considers the effect of the project on environmental and societal factors is gaining traction and is called social cost benefit analysis or SCBA. Dunn (2012) states that in the UK the Supplementary [HM Treasury] Green Book Guidance 'Accounting for Environmental Impacts', recommends the use of SCBA as a way of expressing the value of a proposal to UK society for policy appraisal purposes. The Guidance goes on to say that this approach can also be applied to projects. The drawback to the use of CBA or SCBA is that these approaches tend to focus on economic costs and benefits. Vardakoulias (2013) explains that this is understandable because 'projects are often driven by the economic imperative to generate jobs and growth, [while] social and environmental costs and benefits are often treated as secondary considerations. This is despite the fact they are of central concern to individuals and communities'. The advantage of monetizing social and environmental impacts is that all of the influences of the project can be weighed using the same metric. A further difficulty with CBA-type calculations is that they can overlook indirect impacts of an intervention that are not tangible or have no market value. Examples of this are enhancements to personal wellbeing or stronger interconnections between community members.

Approaches such as Social Return on Investment (SROI) (Nicholls et al., 2012) and Ecosystem Services (Millennium Ecosystems Report, 2003 /2005) are particularly useful when calculating the monetary effects of changes to social circumstances or environmental conditions. Wellbeing is the term used to describe how an individual feels about their life and can also be monetized for both the instrumental and the intrinsic value of the project (Nicholls et al., 2012). Instrumental wellbeing might result in an individual getting a better job that can also boost the local economy. It may also mean that feeling healthier leads to savings to the health service or lower insurance claims. Mulgan et al. (2006) explain that 'instrumental value is based on the monetization of the consequence of feeling better or worse while intrinsic wellbeing values are often derived from a willingness to pay (to feel greater self-esteem for example), or from survey or panel-based data which allow monetary values to be equated with the way they feel about their lives. Wenger and Pascaul (2011) point out that 'the hindrance for CBA is that intrinsic values exhibit monetary incommensurability, i.e., individuals are unable and often refuse to measure them along the scale of money. As a consequence, like the psycho-cultural dimension of wellbeing, any intrinsic form of value that may be attached to nature remains excluded from CBA' (p.10).

This paper develops and tests a way of combining social value (through SROI and Wellbeing Valuation) and ecological value (through ESA) in a framework called Sustainable Return on Investment or SuROI. The approach does not conform to the principle ways of estimating value in the built environment as set out in the Royal Institution of Chartered Surveyors (RICS) Valuation - Professional Standards (RICS, 2014) known as the 'Red Book' and the International Valuation Standards. Broadly, these rely on market, income or asset-based methods and these are not questioned or criticized by this paper. The approach outlined and illustrated in this paper is proposed as additional and complementary to the established market-based method regularly utilized by built environment valuation practitioners.

## **2. Valuing Sustainable Change**

### **2.1. Valuing Social Change**

Considerable work has been done to assist built environment professionals to appreciate the importance and significance of social factors (see Colantonio, 2007; Dillard et al., 2009; Colantonio & Dixon, 2010; Vallance et al., 2011; Dempsey et al., 2011; Woodcraft, 2011; Weingaertner and Moberg, 2011; Murphy, 2012; Magee et al., 2012; Woodcraft, 2012). However, the focus has been on understanding the impacts that these might have on the success or otherwise of proposals, or (at the ex-post stage of projects) on whether the project met expectations of social and environmental performance. The work to monetize the detrimental or the added sustainable value of development schemes has not featured to date in any depth in the literature and it is this aspect that is the focus of this paper.

One sector that has led the way in the development of these tools is social landlord organizations. In the UK these are public or third sector owned and managed housing bodies for (predominantly) lower income tenants. Wilkes and Mullins (2012) found that 35% of the social landlords in their study used internally developed tools while 41% used externally sourced and 9% used a mixture of the two. The study identified Social Return on Investment as a favored approach for a number of reasons:

- It is flexible and can incorporate a number of other methods into its framework
- It has clear principles which encourage a consistent approach

- It relies on a combination of stakeholder accounts and statistical trends to ensure a robust and defensible result
- It is well-suited to build environment contexts.

SROI was developed from an interest in determining the value of outcomes from charitable donations. Early work was carried out by the Roberts Enterprise Development Fund (REDF) in San Francisco. REDF, formed in 1986 by venture capitalist George Roberts, sought to apply commercial business values and practices to non-profit owned social enterprises (Emerson and Twersky, 1996). This venture philanthropy fund wanted to determine whether its investments were providing the social benefits that its Trustees required and developed an SROI mechanism to try to evidence this. The approach was further refined at the Harvard Business School (Maughan, 2012). In the early 2000s, following extensive promotion efforts by REDF, a number of non-profit and social enterprise practitioners and consultants became aware of the SROI methodology and attempted to develop it further (Scholten, Nicholls, Olsen, & Galimidi, 2006). The most current iteration is the 'Guide to Social Return on Investment' published by the SROI Network (now known as Social Value International) (Nicholls et al., 2012). In the UK, and later in the USA, interest started to go beyond individual philanthropic donor organizations and was adopted by a broader constituency including public sector resource providers such as local and federal governments.

This SROI Network Guide explains that the current approach was developed from a combination of social accounting and cost-benefit analysis. It was developed to ensure all types of value were captured and reported in an evidence-based manner. The Guide states that SROI 'is a framework for measuring and accounting for this much broader concept of value; it seeks to reduce inequality and environmental degradation and improve wellbeing by incorporating social, environmental and economic costs and benefits' (Nicholls et al., 2012).

There is no unequivocal definition of social value. Tuan (2008) for example offers that social value is the 'concept and practice of measuring social impacts, outcomes and outputs through the lens of cost'. Emerson et al. (2001) explain that it is created 'when resources, inputs, processes or policies are combined to generate improvements in the lives of individuals or society as a whole'. Wood and Leighton (2010) say that social value refers to 'wider non-financial impacts of programs, organizations and interventions, including the wellbeing of individuals and communities, social capital and the environment'.

Effectively SROI methodology compares the value of the benefits of a particular action, project or programme against its costs. One recent application for this has been to determine the added value of the work of social enterprises. For example, if

the Big Issue (the magazine and social business devoted to helping the homeless) takes 100 homeless individuals off the streets and improves their health and employment prospects, this might save the public purse £1m in averted medical, social worker and police time by reducing crime. If the enterprise is successful in finding jobs for the ‘vendors’ (so called because part of their income is created by selling the magazine on the streets), it will also create income for the State through increased taxes. If the cost of the Big Issue programme is £100,000 (raised through advertising revenue for the magazine) then the return on investment for this expenditure is 1:10. As long as the change in lives is known, the intervention that caused the change is clear, and the cost of these consequences can be obtained, it can always be possible to calculate the monetary value of that change.

Wellbeing Valuation is an approach that assesses the impact of projects by measuring how much it increases people’s life satisfaction based on large data sets from national (UK) surveys. The attitudinal surveys ask respondents to self-report on their current mental and physical condition before answering hundreds of other questions about their lives which reveal the influences on their wellbeing. This avoids the psychological complexities of asking people how an intervention (a project programme or policy) has affected their lives. Fujiwara (2013), the architect of the approach, explains that ‘welfare economic theory on valuation’ underpins the main approaches to valuing social change. This states that the value of a good or service is subjective and should reflect the utility that people derive from it, where utility refers to the notion of underlying welfare or wellbeing’. Fujiwara’s work calculates the amount of money that induces the equivalent change in welfare for the individual.

Wellbeing valuation relies on information produced by four large UK surveys including the British Household Panel Survey (BHPS); Understanding Society; The Crime Survey of England and Wales; and The Taking Part Survey. These have been carried out on an annual basis with over 10,000 of the same respondents over a period of more than two decades. Fujiwara’s work with social housing providers and government departments has resulted in hundreds of average and specific values. These values represent the annual worth to an individual from an improvement (or removal) of each factor in monetary terms. The Housing Associations’ Charitable Trust or HACT has produced a Guide to using the approach (Trotter et al., 2014) which contains these valued outcomes, examples of which include:

- Secure job - £12,034
- Good neighborhood - £1,747
- Can rely on family £6,784
- Relief from being heavily burdened by debt - £9,428

- Never arrested (youth) - £3,684
- Active in tenants group - £8,116
- Gardening - £1,411

These values are per person, per year and so can be aggregated throughout the life of the project. The advantage of this approach is that it is consistent and easy to apply. However, the approach can lack the direct relationship to specific interventions because it relies on the experiences of the average person. It is therefore a cruder measure of social value compared to SROI which is based on direct stakeholder responses to an intervention. The SuROI judgement is that Wellbeing Valuation will be the favored approach where it is either not possible or too expensive to carry out a project-specific stakeholder exercise. It can supplement values collected by SROI surveys and added to calculations where feedback on certain aspects (crime, training etc.) was incomplete, inconclusive or unavailable.

## **2.2. Valuing Ecological Change**

The work on valuing natural systems has a more established literature, although it is less commonly applied in urban contexts. From 2001 to 2005, more than 1,360 experts worldwide contributed to the Millennium Ecosystem Assessment or MA (Millennium Ecosystem Report, 2005). Together these experts assessed the consequences of ecosystem change for human wellbeing. Their findings provided a state-of-the-art scientific appraisal of the condition and trends in the world's ecosystems and the services they provide, as well as the scientific basis for action to conserve and use them sustainably. The MA distinguishes four categories of ecosystem services: Regulating, Provisioning, Cultural, and Supporting. Since 2005 when the MA was published, there has been a plethora of other classifications. Some retain the four broad categories of the MA but this research reduces this to three, ostensibly by placing what the MA categorized as supporting ecosystem services elsewhere within the categorization. Another resource, The Economics of Ecosystems and Biodiversity (TEEB), is a global initiative focused on drawing attention to the economic benefits of biodiversity by highlighting the growing cost of biodiversity loss and ecosystem degradation. The TEEB database contains a range of values for ecosystem services derived from empirical data across the world.

Those ecosystem services that can be bought and sold are easily monetized. These include the production of timber, textiles, minerals, potable water etc. Other services do not lend themselves to commodity trading and are assessed more easily

using wellbeing valuation sources. The value of beauty, or healing and spiritual value are examples of this

### **2.3. Deriving Social and Ecological Values from Survey Data**

The sources and nature of data used by SuROI practitioners will directly influence trust in the sustainability indicators to be integrated or compared with financial parameters. Some have been concerned about the ability of private sector developers and public sector regulators to collect sufficient information to operate an analysis of this nature (Hall Aitken, 2011, Trotter et al., 2014 for example), and this could easily be extended to Ecosystems Services methods. Those who argue for a simpler method such as Wellbeing Valuation have taken this position. However, data collection designed to understand social and environmental change requires similar methods to those employed at planning stage (environmental impact analysis for example) tend to be less demanding than many participative design exercises.

Generally the best primary data for these studies is obtained through face-to-face techniques such as interviews, focus groups, or telephone surveys as answers from the respondents can be qualified through follow-up questions against a semi-structured interview script. Larger numbers of returns can be achieved through questionnaires distributed through a range of channels including social media. Corroboration of survey returns can be found in many places including national and local social-economic statistics sets, academic and NGO websites. For social change metrics, the Global Value Exchange ([www.globalvalueexchange.org](http://www.globalvalueexchange.org)) web site contains the combined work of hundreds of researchers and organizations and is often the primary starting point to identify indicators and proxies. Ecosystem Services metrics are distributed across a wider range of sources, but the TEEB Valuation Database is one of the more comprehensive data sets in this area.

Data requirements do not significantly differ between predictive or evaluative analysis other than the obvious lack of performance and impact information for the forecasting mode. However, it is important to try to engage stakeholders when possible in predictive analysis by surveying for attitudes and expectations in anticipation of the intervention. Not as much store will be placed on stakeholders' expectations as opposed to their experiences in an evaluative study, but this information can help to scope the indicators and proxies when thinking about the added values or impacts of a proposed development. For example, survey data from resident stakeholders will serve to confirm that moving into the new housing did change many of their lives, but prior to the move many could voice hopes of

change which can then be used to scope impacts for a predicative study. The SuROI approach assesses the degree to which change has occurred (whether positive or negative) both in terms of the significance of the change, and the numbers (percentage) of people that experienced the change. Each of the outcomes (changes to health, crime conditions, skills and employment status etc.) are then be monetized by first identifying an appropriate indicator for the change, and then applying a suitable monetary value or proxy to each indicator. The values are multiplied by the numbers affected (from the survey returns) and the amount of time the influence of the housing was likely to stay with them. The duration of the development is taken as the time it is occupied before major renovations are required.

Indicators and proxies are typically taken from wellbeing sources, or socio-economic statistics compiled by a range of agencies. For example, if it can be established that crime has decreased as a direct result of the intervention, then the monetary implications of lower crime (effectively fewer taxes directed at tackling these crimes) can be added to the monetary implications of the stakeholder experience. Ecological value is derived initially through an examination of the ecological changes experienced by stakeholders, both through survey questions, and by examining the changes in green and open space cover, and changes to biodiversity. The monetary implications of these changes can then added to the social monetary changes to become the gross value used to calculate sustainable return on investment. The net value is derived after adjustments are made for other influences that might have contributed to the outcomes, and the effect of time in terms of lessening affects or depreciation. There are four main adjustments including:

- Deadweight - the amount of outcome that would have happened even if the development was not built
- Displacement – the amount of activity that has moved to another place because of the development
- Attribution – the amount of outcome that was caused by a contribution from other interventions beyond the scope of the development under analysis
- Drop-off – the deterioration of an outcome over time.

## 2.4 Calculating Sustainable Return on Investment

Following the step-by-step approach set out in the SROI Guide (Nicholls et al., 2012) the data collected in field can be used to populate an Impact Map. Initially, the information placed in the Map includes:

- Stakeholders (those that have the potential to influence the project)
- Inputs (the cost of the project)
- Outputs (the number of units of delivery where applicable)
- Outcomes (predicted change/stakeholder defined change)

Typically the most pronounced impacts recorded in a SuROI survey are:

- Prospects for pre-school children
- Qualification for school leavers
- Employment status
- Health outcomes
- Actual or perceptions of personal security
- The effects of green or open space
- Changes to wellbeing

## 3. Conclusion

To date a number of SuROI analysis have been carried out by the author in the UK, the USA and Brazil. These have ranged from grant funded community initiatives, mixed use development, social housing schemes, business clusters, demolition sites and regeneration programmes for small towns. These early case studies have shown that the emerging discipline of Social Return on Investment (SROI) provides a useful framework in which to assess the social and environmental changes caused by these varied built environment interventions. While the approach can still benefit from the learning that comes from its application in the field, there are a number of early conclusions that can be drawn thus far. These include:

- The spread sheet design of the Impact Map in the SROI Guide (Nicholls et al., 2012) is capable of incorporating other approaches, such as Ecosystems Services Analysis (ESA).
- Stakeholder data collected in the field can be used to evaluate social and environmental change caused by completed projects, and to predict future changes from planned projects.

- The socio-economic and environmental data required to carry out a sustainable return on investment calculation was often required to be obtained from a variety of central and local government sources, developer sources, and primary sources collected from stakeholders in the locality of the project. In some countries, where this data is unavailable, practitioners can be consulted to construct reasonable assumptions.
- Organisations that wish to understand the value of social and environmental change should seek out partnerships with practitioners working in this field until such time as capacity in the built environment sector increases.

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