

Social Sustainability: A Comparison of Case Studies in UK, USA and Australia

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Abstract

Traditionally, the sustainable development concept emphasizes on environmental areas such as waste and recycling, energy efficiency, water resource, building design, carbon emission, and aims to eliminate negative environmental impact while continuing to be completely ecologically sustainable through skilful and sensitive design. However, contemporarily sustainable development also implies an improvement in the quality of life through education, justice, community participation, and recreation. Recently social sustainability has gained an increased awareness as a fundamental component of sustainable development to encompass human rights, labour rights, and corporate governance. The goals of social sustainability are that future generations should have the same or greater access to social resources as the current generation. This paper aims to reveal the level of focus a development has in meeting social sustainable goals, success factors for a development, and planning a development now and into the future from a socially orientated perspective. This paper examines the characteristics of social sustainable developments through the comparison of three case studies: the Thames Gateway in east of London, UK, the Sonoma Mountain Village in north of San Francisco, USA, and the New Rouse Hill in north-west of Sydney, Australia.

Keywords: Sustainable development, Social sustainability, Case study

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INTRODUCTION

Currently, “sustainability” and “sustainable development” are extensively used terms in development projects, which have exercised a mounting pressure on planning, housing and urban guidelines. It is commonly established in this field that the foremost dimensions of sustainability are the economy, the environment, and society, and that they are related to each other in some manner (Macintosh and Wilkinson, 2006). Whilst in recent years social sustainability has gained an increased awareness, Colantonio (2008a, p.3) recognised social sustainability as “a fundamental component of sustainable development, becoming increasingly entwined with the delivery in sustainable community discourse and the urban sustainability discourse”. Davidson and Wilson (2009) define social sustainability as a life-enhancing condition within communities, and a process within communities that can achieve that condition.

However, while there is general conformity that social sustainability is significant, there have been few investigation of what it exactly means in practice. In common with environmental sustainability, social sustainability is the idea that future generations should have the same or greater access to social resources as the current generation. This paper aims to reveal the level of focus a development has in meeting social sustainable goals, success factors for a development, and planning a development now and into the future from a socially orientated perspective. This paper examines the characteristics of social sustainable developments through the comparison of three case studies: the Thames Gateway in east of London, UK, the Sonoma Mountain Village in north of San Francisco, USA, and the New Rouse Hill in north-west of Sydney, Australia. The paper first provides an overview of the concept of social sustainability by bringing together scholarly views on the subject of the principles of social sustainability, including characteristics and core issues of social sustainability in planning developments and future communities. Hence, this paper investigates the current practices in UK, USA and Australia sustainable developments through a qualitative case study analysis. Finally this paper will establish comparisons between how different parts of the world see, prioritize, and implement socially sustainable practices into their developments and recommend how future developments could best enhance the social dimension of sustainability.

SUSTAINABILITY

The concept of sustainability has its origins in the environmental movement of the 1960's, particularly in response to concerns about the impact of society consuming natural resources faster that they could be replaced. Annandale et al. (2004, p. 597) identified that sustainable development was first described by the Brundtland Commission (1987) as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”. However numerous definitions have been developed over the years with the only harmony being that it is consistently described in term of three overarching and interacting fundamentals – social, environmental and economical (Barron and Gauntlett, 2002, Davidson and Wilson, 2009, Macintosh and Wilkinson, 2006).

A number of models for conceptualising sustainability and the association between the three fundamentals have been developed. The first model of sustainability is represented as three interlocking circles (Figure 1). This model of sustainability is understood in terms of an appreciation of the associations between the three elements and also through achieving

equilibrium between them. In particular, this model enables an assessment of the dynamics that transpire within each sphere and at the boundaries between the spheres.

In the second model (Figure 2), sustainability is represented as three concentric circles, i.e. the environment, society and economy as systems within systems. This model demonstrates the economy exists wholly within society on the foundation that all parts of the economy require human interface. However society is much more than the economy and includes a range of relations other than those that simply relate to the exchange of goods and services. In turn, society is seen to sit wholly within the environment on which we rely for basic necessities.

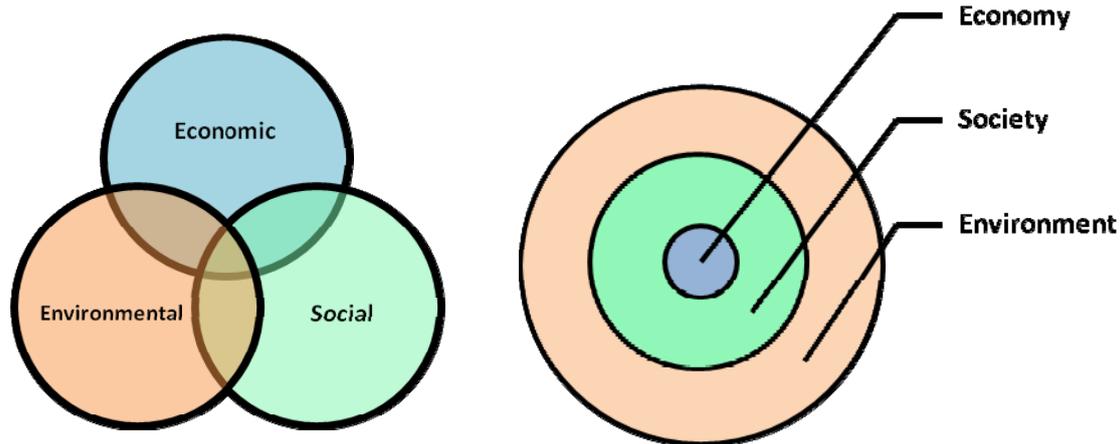


Figure 1:
Interlocking circles model of sustainability
Source: (Barron and Gauntlett, 2002)

Figure 2:
Concentric circles model of sustainability
Source: (Barron and Gauntlett, 2002)

It is clear that the two models serve different purposes. The concentric model provides a representation of how we should understand the relationship between the environment, social and economic spheres, portraying the mutual independence and our ultimate reliance, as social and economic beings, on the physical environment. In contrast, the interlocking spheres model is a way of representing, in visual form, how we might go about understanding the nature of each sphere (Barron and Gauntlett, 2002). The focus on the interlocking spheres model also reflects the fact that while there has been considerable work done on the environmental and economic aspects, the social has tended to fall off the sustainability agenda and remains relatively unexplored in any depth. This paper therefore attempts to investigate the social dimension of sustainability in urban development projects around the world.

SOCIAL SUSTAINABILITY

Social sustainability can be broadly defined as the maintenance and improvement of well-being of current and future generations (Chiu, 2003). According to McKenzie, (2004) the condition incorporated equity of access to key services (including health, education, transport housing and recreation), as well as equity between generations, meaning that future generations will not be disadvantaged by the activities of the current generation.

Davidson and Wilson (2009) suggested that social sustainability is a system of cultural relations in which the positive aspects of disparate cultures are valued and promoted. Also the need for widespread political participation of citizens not only in electoral procedures but also in other areas of political activity, particularly at a local level, and it is regularly interpreted from three perspectives: development-oriented, environment-oriented, and people-oriented.

In the notion of urban social sustainability, numerous key themes identified by many authors are summarized by Colantonio (2008a and 2008b), showing how basic needs and equity are consistently being held as fundamental pillars of social sustainability. The chronological analysis of social sustainability themes also indicates how these traditional themes, such as equity, poverty reduction and livelihood, are increasingly being complemented or replaced by more intangible and less measurable concepts such as identity, sense of place and the benefits of social networks. In the past few years the concept of social sustainability has shifted toward being seen as depending on social networks, community contribution, a sense of place, and community stability and security (Glasson and Wood, 2009).

Bramley et al. (2006) provided an operational explanation of social sustainability, where two ideas were identified at the core of social sustainability. Firstly, social equity issues or more collectively “sustainability of community” is fundamental to the concept. Secondly, the concept is concerned with the continued feasibility, health and performance of “society” itself as a communal entity; this is generally demonstrated under the heading “community”. This is not to suggest that these two dimensions are completely independent of one another, merely, that this is a useful conceptual distinction. Examination of social sustainability at the urban development level requires both of these dimensions to be covered.

Barron and Gauntlett, (2002) explored the scope of social sustainability through a formal consultation process, including meetings, discussions and presentations. Their findings showed that the goals in urban settings are what make society strong and livable, now and into the future are including equity, diversity, interconnectedness, quality of life, and democracy and governance. These findings bring to light that social sustainability occurs when the formal and informal processes, systems, structures, and relationships actively support the capacity of current and future generations to create healthy and livable communities. Social sustainable communities are impartial, varied, associated, and autonomous and provide excellent quality of living.

Chan and Lee, (2008) reviewed significant success factors for socially sustainable projects refer to maintenance and improvement of well-being of current and future generations. Urban developments in order to be socially sustainable should create a harmonious living environment, reduces social inequality and divides, and improves quality of life in general. These identified significant success factors are provision of social infrastructure, availability of job opportunities, accessibility, townscape design, preservation of local characteristics, ability to fulfil psychological needs.

From this concise review of literature, the discussion on social sustainability is quite complex. It showed that social sustainability encompasses human rights, labour rights, and corporate governance. In common with environmental sustainability, social sustainability is the idea that future generations should have the same or greater access to social resources as the current generation. Social resources include ideas as broad as other cultures and basic human rights. This evidence has been discovered through the exploration of its evolutionary meaning and views from scholars on the principles of social sustainability, including characteristics and core issues of social sustainability in planning developments and future communities, so that more operational measures of its achievements may be discovered. A list of social sustainability considerations in urban development are identified and summarized in six core categories as shown in Table 1. The next section of the paper draws upon case study sources to observe evidence on aspects of sustainability and their relationship to social sustainability of local urban development projects.

Table 1: List of Social Sustainability Considerations in Urban Development

	Social Sustainability Considerations	Reference
(A) Concepts of sustainability		
1	Sustainable development meets the needs of the present without compromising the ability of future generations.	Brundtland Commission (1987)
2	Sustainability is a combination of three fundamentals: <ul style="list-style-type: none"> • Social sustainability • Environmental sustainability • Economical sustainability 	Barron and Gauntlett (2002), Davidson and Wilson (2009), MacIntosh and Wilkinson (2006)
3	Concentric relationship between the environment, social and economic spheres portraying the mutual independence and the ultimate reliance, as social and economic beings, on the physical environment.	Barron and Gauntlett (2002)
(B) Perspectives of Social Sustainability		
4	<i>Development-oriented perspective</i> : development is socially sustainable when it keeps to social relations, customs, structures and values.	Davidson and Wilson (2009)
5	<i>Environment-oriented perspective</i> : development is sustainable when it meets social conditions, norms and preferences required for people to support ecologically sustainable actions regarding resource distribution and intergenerational equality.	Davidson and Wilson (2009)
6	<i>People-oriented perspective</i> : emphasis on maintaining levels of social cohesion and preventing social polarisation and exclusion.	Davidson and Wilson (2009)
(C) Key Themes to Social Sustainability		
7	Key themes show how basic needs and equity are consistently as fundamental pillars of social sustainability: <ul style="list-style-type: none"> • <i>Identity, sense of place and culture</i> • <i>Empowerment, participation, access</i> • <i>Health and safety</i> • <i>Social capital</i> • <i>Demographic change</i> • <i>Social mixing and cohesion</i> • <i>Well being, happiness, quality of life</i> 	Colantonio (2008a), Colantonio (2008b)
8	Concerns how individuals, communities and societies live with each other.	Colantonio (2008a)
9	Incorporated equity of access to key services (including health, education, transport housing and recreation), as well as equity between current and future generations.	McKenzie (2004)
(D) Dimensions to Assist Local Communities		
10	The urban environment as a space within which social needs are to be fulfilled, and implies that the physical form in urban developments should make the fulfillment of these needs viable.	Yiftachel and Hedgecock (1993)
11	Individuals within the society need to work together and interact with the built elements in order for societies to be socially sustained.	Ancell and Thompson-Fawcett (2008)
12	Social equity or sustainability of community: concerned with the continued feasibility, health and performance of “society” itself as a communal entity: <ul style="list-style-type: none"> • <i>Interactions in the community/social networks</i> • <i>Community participation</i> • <i>Pride and sense of place</i> • <i>Community stability</i> • <i>Security (crime)</i> 	Bramley et al. (2006)
13	Urban developments in order to be socially sustainable should create a harmonious living environment, reduces social inequality and divides, and improves quality of life in general.	Chan and Lee (2008)

(E) Goals of Social Sustainability		
14	<ul style="list-style-type: none"> • <i>Equity</i>: Equitable opportunities and outcomes • <i>Diversity</i>: Promotion and encouragement of diversity and value of difference • <i>Interconnectedness</i>: Community processors, systems and structures that promote connectedness within and outside the community • <i>Quality of life</i>: Insurance that the communities basics needs are met • <i>Democracy and governance</i>: Democratic processors, open and accountable governance structures 	Barron and Gauntlett (2002)
(F) Significant Success Factors		
15	<ul style="list-style-type: none"> • <i>Provision of social infrastructure</i>: Public facilities for basic needs, open spaces facilitate social gatherings and public interaction, provision of accommodation for different socioeconomic groups. • <i>Availability of job opportunities</i>: Provision of employment and the working area offers a place for social contact and interaction, to improve the feeling of social well-being of citizens. • <i>Accessibility</i>: Aspirations to live, work and participate in leisure and cultural activities without travelling too far, and to be housed in areas of convenience to access certain places in daily lives, with the freedom of movement. • <i>Townscape design</i>: Pedestrian-oriented streetscapes, visual images of street furniture, and interconnectivity of street layouts • <i>Preservation of local characteristics</i>: Preservation of heritage items, local characteristics and distinctiveness in existing community networks has to be conserved. • <i>Ability to fulfill psychological needs</i>: Safe and security is an essential element in every neighbourhood, senses of belonging in the community 	Chan and Lee (2008)

CASE STUDY 1 – UK: THAMES GATEWAY

The case study chosen from UK is the Thames Gateway; which is the UK's largest regeneration program, stretching for 40 miles along the Thames estuary from the London Docklands to Southend in Essex and Sheerness in Kent (Figure 3). The UK Government has identified several key aims for the Thames Gateway success in particular one key aim is improving social sustainability and as outlined in the Gateway Delivery Plan, the improvement of “the quality of life for residents of the Gateway”- with an ambition to provide 160,000 good quality homes at all levels of affordability for existing and new communities, reviving town centres (Figure 4), improving public services and providing a better environment through the Thames Gateway Parklands program (Department for Communities and Local Government, 2007).

The project brief is for the Thames Gateway to be a place where people choose to live and stay, where businesses choose to locate and where investors choose to invest (Department for Communities and Local Government, 2007). It reflects how this project will build on opportunities that offer to the society:

- Economic opportunity in the key transformational locations
- Housing opportunity to accommodate the region’s growing workforce and improve conditions for current residents
- Employment opportunity in town centres and in key regeneration areas, developing the potential in local businesses and brown field sites

- Environmental opportunity through the creation of the Thames Gateway Parklands and new approaches to address climate change and flood risk
- Community opportunity through investment in education and training, better quality public services and support for inclusive communities.

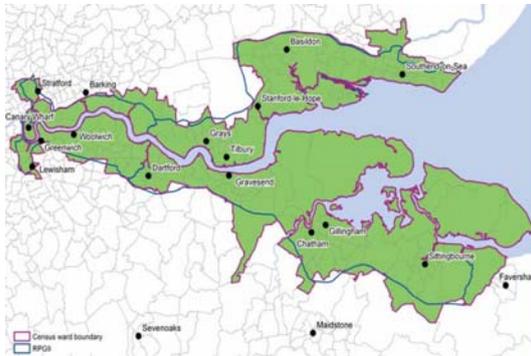


Figure 3: Thames gateway area
Source: (Department for Communities and Local Government, 2007)



Figure 4: One of the new redevelopment along the Thames Gateway development
Source: (Department for Communities and Local Government, 2007)

CASE STUDY 2 – USA: SONOMA MOUNTAIN VILLAGE

The case study chosen from USA is the Sonoma Mountain Village, which is considered one of the most sustainable communities in the world (Green Eco Communities, 2009; One Planet Communities, 2010). Its award-winning, deeply sustainable community combines the idea of designing for people with cutting-edge sustainability to create a community that cares for the lifestyle, as well as the Earth’s natural resources (Coddling Enterprises, 2009). Sonoma Mountain Village is located 40 miles north of San Francisco and is planned as a mixed-use community. The model for this development is to create a community designed to care for its residents, the community and the planet without compromising quality of life (Coddling Enterprises, 2009). The project is proposed to include a maximum of 1,694 residential units and an additional 198 secondary dwelling units for a total of 1,892 dwelling units (Post et al., 2009).

The project site is located on the former industrial business technology park and this development includes adaptive reuse of the existing industrial business park buildings to contain a mix of residential, office and retail/commercial uses (Figure 5). Construction work of new buildings is scheduled to begin in 2011, with the first homes planned to be completed mid-2011, and construction planned through until 2025. Currently the renovation of the existing buildings is underway to serve the daily needs of the neighbourhoods and surrounding community (Figure 6) (Coddling Enterprises, 2009).

The major project objectives identified by the developers of Sonoma Mountain village include, “Choosing building-materials responsibly reduces waste, while responsible choices in energy offer an alternative to fossil fuels. Opportunities for residents and tenants to support each other with social and business networks contribute to living well with less impact on the Earth” (Coddling Enterprises, 2009). Implications of the project on society will offer a lifestyle full of choices for a healthier, happier way of life. The planned development will live well and within the Earth’s natural resources.



Figure 5:
Sonoma Mountain Village site plan
Source: (Coddling Enterprises, 2009)



Figure 6: Artist Impression of the Sonoma Mountain Village town square
Source: (Coddling Enterprises, 2009)

CASE STUDY 3 – AUSTRALIA: THE NEW ROUSE HILL

The case study selected in Australia is the New Rouse Hill development. The development is located in the Baulkham Hills Local Government Area in north-west Sydney. This development will provide an overview of characteristics of social sustainable developments in Australia. The development demonstrates combining the traditional streetscape of a contemporary town with community spaces. In particular the social sustainable elements include several community focused assets including library, community business hub, town square, market square, community employment website and community engagement program (Figure 7) (GPT, 2009a).

The developer claimed that this project balances a pedestrian friendly and environmentally sustainable town centre that respects the heritage, cultural and landscape features of the local community (Figure 8). The New Rouse Hill has a strong connection to its residential neighbourhoods, primary and secondary schools and natural environment. The mix of great architecture and active spaces creates an authentic and contemporary Australian town (GPT, 2009b). In addition the Rouse Hill town centre is able to reduce its ecological footprint by 32% compared to a standard NSW regional shopping centre. Based on these design concepts, the new Rouse Hill development has also received a number of prestigious awards both nationally and internationally for sustainability and design excellence (GPT, 2010a). It is considered one of Australia’s best new developments which pay’s particular attention to sustainability and community interaction.



Figure 7:
The New Rouse Hill Community Map
Source: (Landcom et al., 2010)



Figure 8:
The New Rouse Hill town centre
Source: (GPT, 2009a)

The Rouse Hill town centre development was completed in March 2008. The New Rouse Hill will become home to approximately 4500 residents upon completion comprising of up to 1800 residential properties, with approximately one quarter of the total development area being devoted to open space, including parks, playgrounds, waterways and walking and cycling trails (Lend Lease GPT (Rouse Hill) Pty Ltd, 2010).

COMPARISON OF CASE STUDIES

The fifteen considerations summarized (Table 1) from the “Social Sustainability” section are used to identify and compare against these three case studies from UK, USA and Australia. It is determined that there needed to some degrees of recognition through a scoring system, which will aid in the comparison and discussion. This scoring system recognises the importance, strength and number of responses from a textual analysis. The sources of references for this textual analysis are listed in Table 2.

Table 2: Sources of References for Social Considerations Score

Case Study 1 - UK: Thames Gateway

Department for Communities and Local Government (2006a) *Thames Gateway Interim Plan: Policy Framework*

Watson et al. (2006) *Thames Gateway Evidence Review*

Case Study 2 – USA: Sonoma Mountain Village

One Planet Communities (2009) *Sonoma Mountain Village: Sustainability Action Plan Report - 2020*

Codding Enterprises (2009) *SOMO Sonoma Mountain Village*

McCabe (2010) *Greenest of the Green*

Case Study 3 – Australia: The New Rouse Hill

Lend Lease GPT (Rouse Hill) Pty Ltd (2010) *The New Rouse Hill*

Australian Institute of Architects (2009) *Rouse Hill Town Centre*

Premier's Council for Active Living (2010) *Retail areas: Rouse Hill Town Centre*

Based on the sources of references for each case study, the score of each social sustainability consideration is identified based on a measure of between one and five (Table 3). For a case study to receive a maximum score of five, that particular case study would have to demonstrate that the processes incorporated into that case study confirm what the literature initially brought to light in the case study, additionally acknowledgement of all factors contained within that particular social sustainability consideration would be required. Conversely to receive the minimum score of one, that particular case study made no direct reference to that social sustainability consideration from the sources of references.

Table 3: Social Sustainability Considerations Scores of the three case studies

Social Sustainability Considerations	Case Studies		
	UK	USA	Australia
(A) Concepts of sustainability			
1. Meets the needs of the present without compromising the ability of future generations	●●●	□□□□	++++
2. Combination of three sustainability fundamentals	●●●●	□□□□□	+++
3. Relationship between the environment, social and economic spheres	●●●●	□□□	++++
(B) Perspectives of Social Sustainability			
4. Development-oriented perspective	●●●●●	□□□□	++++
5. Environment-oriented perspective	●●●●	□□□□	+++
6. People-oriented perspective	●●●●●	□□□	+++
(C) Key Themes to Social Sustainability			
7. Basic needs and equity - fundamental pillars of social sustainability	●●●●	□□□□	+++
8. Individuals, communities and societies live with each other	●	□□□□□	++++
9. Equity of access to key services	●●●●●	□□□	+++++

(D) Dimensions to Assist Local Communities			
10. Urban environment as a space to fulfil social needs	●●●	□□□□	+++
11. Individuals' Interactions with the built elements	●●	□	+
12. Continued feasibility, health and performance of society as a communal entity	●●●●	□□	+++
13. Urban developments create harmonious living environment	●●●	□	+
(E) Goals of Social Sustainability			
14. Goals: equity, diversity, interconnectedness, quality of life, democracy and governance	●●●●●	□□□	++
(F) Significant Success Factors			
15. Significant success factors: provision of social infrastructure, availability of job opportunities, accessibility, townscape design, preservation of local characteristics, ability to fulfil psychological needs	●●●●●	□□□□	+++

Comparison of the case studies against the social sustainability considerations can be analysed from two perspectives. Firstly from an overall perspective, for example in item 4 “Development-oriented perspective”, all three case studies scored between four and five, this gives reason to confirm that this social sustainability consideration identified in the literature review is being put into practice in these case studies, and may be considered common practice throughout each development. Second way to interpret this comparison is to break down into each case study, for example item 9 “Equity of access to key services”, indicates the UK and Australian case studies have strength in equity accessing key services and were given a score of five, whilst the USA development indicates there is a slight shortfall in the analysis from its sources of references and was only given a score of three. The followings are summarized comparisons of the case studies in UK, USA and Australia according to the six core categories of the social sustainable considerations.

(A) Concepts of sustainability

All three case studies acknowledged sustainability is a long-term commitment over generations and the futures users of these developments should be entitled to the same features as the present users. They all showed the reliance on the environment, economic and social interactions within the development. The USA development has created and demonstrated these through: economic sustainability – local, organic, and fair trade products; social sustainability – creating quality affordable housing and jobs; environmental sustainability – green building standards for materials, water, energy and indoor air quality. Of difference was the Australian case study which identified achieving sustainability is a “shared responsibility” of all, here the Australian development confirmed the relationship between social and environmental sustainability in an economic setting, being the new Rouse Hill town centre. This also helped to demonstrate how social sustainability works with environmental sustainability and how social sustainability also exists wholly within environmental sustainability.

(B) Perspectives of social sustainability

Essentially all three case studies could be seen as incorporating facets of a modern development, including a mix of traditional main street layouts, mixed with contemporary retail and commercial facilities, transport links, etc. In particular, the USA case study made strong reference to the environment-oriented perspective, where their intent is to minimize the project's environmental footprint and maximize the use of recycled products in construction and developing neighbourhoods, street systems, parks and retail outlets geared to pedestrians and cyclists rather than cars. The UK case study showed a depth in the people-oriented perspective with numerous references were made to the maintenance of increasing social mix, bringing communities together and finding innovative ways to increase employment and reduce poverty. The Australian case study included evidence that the three sub-components of social sustainability are present with social cohesion and bringing family and friends together in mind.

(C) Key Themes to Social Sustainability

The three case studies all identified what the literature confirmed were basic needs are fundamental pillars of social sustainability. Both the UK and the USA case study looked heavily into cultural empowerment, participation and access, social mix, demographic change and cohesion of the community. The Australian case study aimed to assist improving quality of life, favourably a strong social capital investment was identified to bring communities together and create superior social cohesion. However, the UK case study showed a distinct lack of communication in regards to people and communities living with each other in these social sustainable communities. One particular strength shown by the Australian case study is the equity access to key services and it indicated that transportation as a major item in accessing key services. Traditional measure to access the developments services, being cars, public transport and other methods were explained heavily, in addition to these, the Australian and UK case study described the way they have given residence the ability to access services by taking a short walk which avoiding lengthy car trips.

(D) Dimensions to Assist Local Communities

Demonstrated strongly in the USA case studies a large part of fulfilling the social requirements of the community is how the built environment has an effect on an individual. Both the USA and Australian case studies made particular reference to their town centres, these developments had a specific urban area where residence can gather daily with family and friends and enjoy this environment. Town centres were mentioned as the “heart and soul” of these communities, not only are the town centres demonstrated as a place to meet and greet but a place to conduct day-to-day activities and fulfil social needs. All three case studies recognised a community can be designed to reduce crime and anti-social behaviour, which include simple measures such as security patrols, designing safe environments and high-quality design of the built environment were demonstrated to be implemented across these developments. Also the UK case study suggested that prevention of crime in communities increases and maintains health of residents as well as increasing community stability and leads to an increased level of comfort in their community.

In comparison to the UK development, the Australian and USA case study showed a particular lack of incorporating and acknowledging the issues to assist local communities at the urban development level. The UK case study showed that the design, layout and buildings assists creating liveable environments, these are closely tied into ensuring that the urban environment can be easily navigated. Also, the UK case study identified communities within urban developments, in order to be socially sustainable also improve quality of life in general; here harmonious livings environments have been encouraged to be adopted by residents in order to reduce social inequities and divides.

(E) Goals of Social Sustainability

All three case studies made reference to equity being a goal of their developments. Investment in programs to ensure each resident/user/visitors have an equitable experience was identified to be significant for incorporation in these developments. Another strong link was also shown to exist was improving quality of life, again all three case studies made a link between equity and improving quality of life. Raising skills, promoting jobs and fair trade were factors shown to assist increase quality of life people that could be achieved through these developments.

The UK case study showed great strength in identifying all the goals of social sustainability in their development. In particular it made reference to not isolating existing and new residents; this could be achieved by investing in programs to bring together such a diverse community of people. The USA case study also supported several of the goals, whilst the Australian case study demonstrated a number goals of social sustainability were absent from this development. The most significant importance is the disregard for providing governance in the development, whereas the UK study suggested this to be a significant factor in increasing

connectivity, economic benefits, mobility and social capital of its community. The other shortfall with the Australian case study was interconnectedness, in which the UK study acknowledged interconnectedness relates back to the goals of social sustainability; here connectivity between each of the five goals was evident. Overall the ability to meet the identified goals of social sustainability are difficult to achieve, though the ability to maintain this high level of equity, diversity, interconnectedness, governance and democracy and quality of life was demonstrated to be a far more complex task.

(F) Significant Success Factors

The significant success factors affecting social sustainability in development projects were seen to be prevalent throughout each of these case studies. However, the UK case study was the only development which made a link to the preservation of local characteristic, here the importance of sense of place that was already established was seen as a desirable means to expand growth and social infrastructure in that community. A reason this could have been missed in the USA and Australian case studies may be because these two case studies are new developments, whilst the UK case study does include already established communities. Of significance was the shortfall by all three case studies to demonstrate evidence of fulfilling psychological needs which the literature identified as a success factor affecting social sustainability in development projects. As there was no direct reference shown throughout the three case studies, there was an underlying indirect message that demonstrated the incorporation of the five other success factors would be seen to count directly towards achieving the ability to fulfil the psychological needs of individuals. That being if jobs and social infrastructure are accessible to all and a development have been designed to incorporate these success factors, and then significant levels of an individual's psychological needs would be met.

IMPLICATIONS AND FUTURE RESEARCH

From a practical sense several shortfalls were evident in the Australian case study; these shortfalls, as follows, have given an indication into which areas could be improved to better obtain social sustainability in the existing Australian case study and also future Australian developments:

- Due to weak response into the three sub-components of social sustainability (Development, Environment and People) this could serve as an area in which future research may be helpful. The strength of the USA and UK case study response demonstrated how a social sustainable development could be viewed; the ideas brought to light in these two case studies would benefit future Australian developments.
- For future reference the Australian case study should take on board the UK case study response to incorporating and acknowledging the issues which assist local communities at the city development level. The lack of reference into how the built environment of the development has an effect on an individual was seen to be a down fall in assisting the local community in fulfilling the social requirements of the community, the UK case study demonstrated these were needed for continuing feasibility, health and performance of society.
- The other shortfall with the Australian case study was interconnectedness; the UK provided a strong link to meeting the goals of social sustainability; where interconnectedness between each of the five goals were evident. Again for future research from the Australian social development perspective a development which brings together services similar to the UK case study would be seen as beneficial in meeting a higher level of social sustainability to what the Australian case study currently offers.

From a literature sense future research could take on many forms, Firstly, as sustainability has elements of social, economic, and environmental; the social paradigm of sustainability should not be considered as a lone measure when designing sustainable developments, for this reason comprehensive research in the future would need to consider all three elements of sustainability.

Additionally a larger sample of developments may provide further information into how social sustainability is being utilised in other parts of the world or locally, the prevalence of social sustainability would also be brought to light across this large sample and also what are the more common shortfall in meeting socially sustainable development. A larger sample would also be of benefit to expose the more successful social development practices and provide further information into how future and existing developments can use these successors to improve their own developments and meet the goals of sustainability and social sustainability.

A long-term study into sustainable developments in particular the social aspects of sustainability would provide useful information in furthering sustainability knowledge, studies currently are short term and largely rely on forecasting the impacts sustainability and social sustainability has on a community or development, results of a long term study would bring to life the previously indeterminable questions and provide this hard data required to better plan, create and implement a sustainable development.

CONCLUSION

Results of the case study analysis according to the established social sustainability considerations have identified similarities and differences amongst three case studies in UK, USA and Australia. It demonstrated that all three urban developments have achieved common links for the concepts of sustainability, perspectives of social sustainability and key themes to social sustainability. However, there is a shortfall in the Australian development against the UK and USA case studies, firstly the dimensions which assist local communities at the development level need to be incorporated; secondary, the goals of social sustainability, in particularly providing governance and interconnectedness in the development; and thirdly, the identified significant success factors affecting the social sustainability of development projects were also shown to be essential for a development.

The characteristics and role of social sustainability plays in these developments are an important function in creating a sustainable development. The level of focus a development has in meeting social sustainable goals, success factors for a development, and planning a development now and into the future from a socially orientated perspective ultimately sets the foundations in determining a developments success in creating a social sustainable development. Successful application of social sustainability is critical in optimising the ongoing capacity of a development to function as a long-term viable location for human interface, communication and cultural development.

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