Public Participation, Values and Interests in the Procurement of Infrastructure Projects in Australia: A Review and Future Research Direction

Susilawati Connie[1], Johnny Wong[2] and Bwembya Chikolwa[3]

Abstract: In many countries, the main providers for major infrastructure projects are government or public agencies. Public infrastructure projects includes economic and social infrastructure such as transportation, education and health facilities. Most decision-making models for delivery of public infrastructure projects are heavily weighted towards financial/economic factors. In Australia, public participation is an essential instrument in the procurement of infrastructure and development within Australia. This study reviews the public participation, values and interests in the procurement of infrastructure projects in Australia, and identifies the research direction in this research area in order to improve the decision-making models that capture stakeholder social, economical and environmental concerns in infrastructure projects.

Key words: Decision-making, infrastructure, public infrastructure projects, social-economic issues, public interest tests

1. INTRODUCTION

Over the past decade, infrastructure development within Australia has been a major topic of discussion. Major cities in Australia have been facing an increasing demand for upgrading existing infrastructure and to build new infrastructure to align with the projected population growth. Traditionally the procurement of infrastructure such as roads, railways, hospitals and prisons, etc is conducted by the government (Martimot and Pouyet 2006, 394).

Ensuring balance of interests for different project partners and stakeholders including protecting public interests is a critical aspect in the public infrastructure project. Pressure to involve a broader representation of the public in decision-making continues to increase. In particular, pressure to improve public involvement in environmental policy decisions – social decisions that influence the present or future quality of the environment or decision about environmental resources management is especially high (Stave, 2002). The rights of community members to participate in decision making is also leading to increased scrutiny of engagement processes by media, politicians and the general public (Irvin and Stansbury, 2004). Also, defining public interest test is problematic. The purposes of this paper are twofold: (1) to discuss the public participation, interests and values in infrastructure projects in Australia, and (2) to suggest the future area of research in this discipline.

2. LITERATURE REVIEW

2.1 Definition of 'Public' and 'Public Interest'

There is no single group or interest which can be defined as 'the public', according to Petts and Leach (2000). The term provides a convenient catch-all to describe those with an interst in a decision other than a proponent, operator or responsible authority. Common good is the term that used interchangeably with public interest (Edwards, 2007, p. 252). Those interests may be organised or disorganised. Similarly, there is no single definition of public interest, which are subject to different interpretations. Edwards (2007) defines 'public interest' as the interest that individual citizens have collectively. Public interest is the collective good of society (Ayling, 2008). He further adds the meaning of public interest is porous, with multiple meanings depending on their context. According to Edwards (2007, 244), there are three primary roles in public affairs: (i) as a rhetorical device, (ii) as a statement of current policy, and (iii) as a normative standard. The use of this term by government officers remains only the minister's or government's opinion and becomes more authoritative when it crystallises into departmental policy, cabinet decision, regulation or legislation (through parliament).

Edwards (2007) further argues that the public interest statement will approach as a benchmark, an ideal or a normative standard against public policy assessment. The benchmark measurement would incorporate feedback loops that allow adjustment in the light of experiences. Thus, normative standard is not static and it is not prescriptive. It can be tangible (realisable formulation) and intangible forms (ideal formulation). The philosophical approaches which are used as analytical tools, can be clustered around relativism and natural law. The main difficulty in defining public interest is the adjustment capacity of human attitudes and behaviour (Edwards, 2007, p. 248).

2.2 Public Interest and Preserving Public Values

According to Van Gestell et al. (2008, 139), the interests and values of the public and various stakeholders are important because they affect the service provided by the infrastructure if it is not utilised, constructed or managed efficiently for its specific purpose. As such, public interest plays an essential and important role in the success of infrastructure development.

[1]Senior Lecturer, PhD, School of Urban Development, Faculty of Built Environment and Engineering, Queensland University of Technology, Brisbane, QLD, Australia; 4000; Ph: (617) 3138 1853; FAX: (617) 3138 1170; Email: c.susilawati@qut.edu.au

[2] Senior Lecturer, PhD, School of Urban Development, Faculty of Built Environment and Engineering, Queensland University of Technology, Brisbane, QLD, Australia; 4000; Ph: (617) 3138 7195; FAX: (617) 3138 1170; Email: johnny.wong@qut.edu.au

[3] Lecturer, PhD, School of Urban Development, Faculty of Built Environment and Engineering, Queensland University of Technology, Brisbane, QLD, Australia; 4000; Ph: (617) 3138 4072; FAX: (617) 3138 1170; Email: bwembya.chikolwa@qut.edu.au

Public values are somewhat misinterpreted in a sense as people seem to think that they are only concerned with a specific group of public inputs, however this is incorrect. As described by Van Gestell et al. (2008, 140), public values can be placed into five categories:

- Public values that govern the relationship between government and society in general.
- Public values involved in the relationship between employers, employees and clients in the sector or project.
- The suitability of infrastructure and services to specific target groups such as low-income groups, or the disabled.
- The contribution of infrastructure to regional economic development.
- Public values in the relationship between the infrastructure and the direct social environment.

From this, one can assume that public values span a broad range of areas and affected multi stakeholder participants. A large number of stakeholders need to be consider the public values which may have adverse effects on the success of the project.

In order for these values and interests to be recognised and preserved, governments must create conditions for this to happen (De Bruijn and Dicke 2006, 725). One way to ensure this is done is for governments to set out and establish representative bodies to negotiate and deal with these issues. With these representative bodies, consumer, businesses and stakeholder evaluation, views and opinions can be dealt with by involving relevant parties concerned with construction/ infrastructure projects. Ultimately negotiations would take place seeking 'win-win' opportunities by directly involving relevant parties without making anyone worse off (Coglianse 2002, 4). In order for this negotiation process to happen, government should therefore indicate how the outcome between companies and consumers relates to the formal decision making process. However this is where things become somewhat hard to comprehend and implement.

In most instances, Governments take a stance in protecting public values. Governments use market forces to protect public values rather than opposing and trying to alleviate such forces which companies adopt (De Bruijn and Dicke 2006, 725). Companies are competing on using corporate social responsibility to win attention of consumers by considering that preserving public value is to be of utmost importance. One example of how companies attempt at adopting this feature is energy producers who over recent years have been offering 'sustainable energy'. Consumers realise the importance of this issue as it pertains to the public value 'environment'. Therefore the more 'public value' protection that can be guaranteed by a company, the more attractive the company is to consumers (De Bruijn and Dicke 2006, 726).

By introducing more competition within the market by the Government ensures that public values are kept high on a company's agenda. As an example of how more competition can be introduced within the market, when there is a tender, the government body can specify and put in place special conditions regarding public values in which companies are to adhere to. This feature ensures that there is a relationship between the government, companies and the consumers who utilise the infrastructure and more importantly that public values are protected.

De Bruijn and Dicke (2006, 728) elaborate the significant of public values to the success of infrastructure projects which involved Dutch Rail (private provider of the rails service), Ministry of Transport and consumer organizations. In brief, Dutch Rail proposed to implement fare increases at certain dates in the year 2003. The Government reacted along with consumer organisations as their original agreement did not detail any fare increases. The Ministry of Transport blocked the increases and settled in court. As a result a number of negotiations were made between Dutch Rail and consumer organisations and the outcome was that they would be able to increase fair if it satisfied a number of quality standards.

2.3 Private Sector Values

On the other hand we have private values which are concerned with creating value for their shareholders and associated interested parties. Private sector's goal is to make profits from the developments which they undertake. According to Calderon and Serven (2003, 7), private providers have been taking over public firms and often make them more profitable by downsizing or cutting corners in the delivery of quality. This would lead to job loss and increase unemployment within an economy, which creates a snowball effect within the sector, eventually creating negative public interests. This can be seen in the National Health Service (NHS) in the UK where Private Financed Initiatives (PFI) are used to fund Public Private Partnerships (PPP) in infrastructure projects. The PFI method has a potential damage to societal welfare where it is employed in the provision of goods that have a societal value over and above their private value, such as healthcare. According to Hellowell and Pollock (2010, 27), an important loss in societal welfare could arise if providing healthcare facilities and services through PFI compromises the supply of services, moving the economy away from its welfare optimum. For this reason, economists tend to see the case for PFI as involving a trade off between productive efficiency and the overall public interest.

2.4 Public Participation

Al-Kodmany (1999, 37) explains that the benefits of broad-based community involvement in planning and design are widely documented; they include enhancing the capacity of citizens to cultivate a stronger sense of commitment, increasing user satisfaction, creating realistic expectations of outcomes and building trust. Not only does community participation reap these benefits, but also it has an enlivening effect on design and that energies of individuals and the community as a whole strengthen design (Al-Kodmany, 1999, 37). Through the combination of community expertise and local knowledge, better plans and designs are produced. The local communities have expressed their input, thus they will appreciate and use the end product more often.

According to King et al. (1989) and Al-Kodmany (1999, 38), visualization is the key to effective public participation because it is the only common language to which all participants who have technical and non-technical knowledge can relate. This enables individuals or groups of individuals from a community, who do not know how to read a plan, will be able to understand what is being developed and the final appearance. Hale (1993) points out that public participation can be further divided into three categories based on the intended outcome; (i) public awareness, (ii) public education, and (iii) public participation. Stave (2002, 142) defines public *awareness* as increasing public knowledge that a problem or issue exists; public *education* as the act of providing information so the public can understand government policies and actions; and public *participation* is when the public has an opportunity to assist in decision making or takes some action to support policy implementation. Stave (2002) also explains that public relations efforts often focus on raising public awareness without soliciting public input and when stakeholders *are* asked for their views, it is

often in such a way that it does not allow for a two-way exchange of information between the public and experts.

Stave (2002) expresses the importance of stakeholder involvement when discussing the environmental tradeoffs. The information gathered from the relevant stakeholders, which is part of public participation process. will be carried over to the decision making stage. Stave (2002) links his report to summarise and expand Sandman's (1991) report that public agencies see environmental education as a one-way communication with people they think public agencies are ignorant and wrong. However, the evidence is predominantly concluded from limited participation results in the dissatisfaction of the community with these agencies. No surveys or questionnaires have been presented from either the public agencies or the community to support this view but a case study had been analysed that there had been a distrust between an American community and a developing group.

Enserink (2000) focuses on methods used to improve decision-making in infrastructure planning by involving stakeholders in the early stages of the policy process. Stave (2002) agrees is a good idea by discussing the involvement of environmental stakeholders in the planning process to avoid any problems with environmental lobbyists. However, Stave (2002) does not illustrate a method of how to evaluate public participation. In contrary, Beierle (1999) has created a framework for evaluating the actual decision making mechanisms. Beierle's (1999) framework requires a mixture of both qualitative and quantitative information to reduce conflict amongst stakeholders. Beierle (1998) developed a method for evaluating public participation but the framework proposed is limited to the success factor of decision-making and not public participation as a whole.

2.5 Public Interest Test

As summarized in the review above, public participation is regarded as one of the contributors to the success of infrastructure projects, but there are other critical success factors which influence public interest. Public-Private Partnerships (PPP) is the dominant form of procurement of infrastructure development within most countries around the world. Jefferies (2006, 452) describes PPP's are a means of public sector procurement using private sector finance and best practice. PPP's can involve design, construction, financing, operation and maintenance of public infrastructure and facilities, or the operation of services to meet public needs. PPP's are established with the ultimate aim of achieving some sort of advantage by delivering value that could not have been achieved without collaboration (Weihe 2008, 153).

Many projects have seen success with this form of procurement in a broad range of sectors such as roadways, bridges, airports and railways. However on the other side of spectrum many countries have experienced problems with PPP implementation which is not surprising considering the many risks and uncertainties involved in long term PPP projects, the many members and stakeholders involved and the lack of expertise in many countries (Zhang 2005, 3).

The discussion of success factors is mainly based on Zhang (2005). In the study of critical success factors (CSF) of PPP projects, Chua et al. (1999) described that there are four aspects that determine the success of a construction project, namely: project characteristics, contractual arrangements, project participants, and interactive processes. Zhang (2005, 4) explains that project characteristics include external and internal characteristics contribute to certain project risks, including financial risks and schedule delays. Larson's (1995) concludes that project success can be better assured if participants work together as a team with established common objectives and defined procedures for collaborative problem solving. The World Bank has provided reasons why many partnered infrastructure projects have been held up:

- Wide gaps between public and private sector expectations;
- Lack of clear government objectives and commitment;
- Complex decision making;
- Poorly defined sector policies;
- Inadequate legal/ regulatory frameworks;
- Poor risk management;
- Low credibility of government policies;
- Inadequate domestic capital markets;
- Lack of mechanisms to attract long-term finance from private sources at affordable rates;
- Poor transparency; and
- Lack of competition (Zhang 2005, 4).

Zhang (2005, 4) identifies five main CSF's, for PPP's which are: (1) favourable investment environment, (2) economic viability, (3) reliable concessionaire consortium with strong technical strength, (4) sound financial package, and (5) appropriate risk allocation via reliable contractual arrangements. The CSF's were identified by a series of surveys and questionnaires distributed worldwide, including Australia. The distribution and responses from a worldwide survey proved to be useful as Zhang (2005) does not focus on one country in particular, but instead, analyses the industry as a whole, whereas Larson (1995) has only surveyed PMI (Project Management Institute) members in Canada and the United States. This is because that Larson's (1995) questionnaires are related to a particular project, whereas the surveys by Zhang (2005) are of the industry instead of project-specific. The constraint in Zhang's (2005) work does not allow the CSF's and their shortfalls in the construction industry as a whole to be identified as it only provides a small amount of respondents views from a large geographic coverage.

3. IMPORTANT ISSUES AND POTENTIAL RESEARCH DIRECTION

Over the last decades, societal and political conditions are changing. The increasing role of private parties and the shift towards more communicative-based processes has led to the situation that the private sector and the public are becoming more critically involved in the infrastructure planning process. Conflicts among different stakeholders with different perspectives (for example environmental management) and goals also are increasingly common. For a successful infrastructure project, it is important to have effective communication amongst stakeholders to ensure all their interests are aligned.

In Australia, the Cross City Tunnel (CCT) project in Sydney NSW has been perceived as an unsuccessful example of the infrastructure delivery project and as a result the government's image has suffered (Jean 2006). The report of NSW state auditor general, the negative sentiment toward the Cross City Tunnel in Sydney reflected poor government communication about how the public would benefit from the road closures (Sendt, 2006). The public controversy surrounding the project also led to organizations such as the Planning Institute of Australia (2006) to criticize the lack of transparency of the planning process.

A more recent example of failure to deliver an infrastructural project is the Traveston Crossing Dam in South-East Queensland (SEQ). The case shows how interests of various stakeholders where misaligned despite extensive public consultation. An

economic study by the Queensland Water Infrastructure (2007) concluded that the Traveston dam would be the least cost supply option to solve water shortage in SEQ. One pressure group, the 'Save the Mary River' had relentlessly campaigned in vain at state government level to have the project stopped in order to protect endangered species, such as the Australian Lugfish, Mary River Cod, and the Mary River Turtle. In November 2009 the federal government using the Environment Protection and Biodiversity Conservation Act shelved the project on the premise that it would adversely affect endangered species.

The increasing complexity of decision making in public infrastructure projects limits the traditional role of formal impact assessment and evaluation methods, which can be described as comparing the future consequences of various choices in an explicit and systematic manner. Because of the growing amount of issues that must be taken into account and changing opinions, systematic and comprehensive evaluation is very difficult. The two main assessment tools for policy evaluation used in practice are cost-benefit analysis (CBA) and multi-criteria analysis (MCA). However, the use of MCA is fraught with complications of incompatible dimensionality and the interaction of cardinal and ordinal number systems not being entirely clear. Dobes and Bennett (2009) argue that MCA is not 'good enough' as it is open to abuse by special-interest groups and that its increased application poses a significant risk to the quality of policy formulation by Australian governments. As for the use of CBA, Ergas (2009) outlines three problems with it. Firstly, CBA cannot deal with the non-commensurable dimensions of a project evaluation. Secondly, CBA treats a dollar as a 'dollar', regardless of who it is removed from, or accrues to. This gives a greater weight to higher-income consumers, who have a lower marginal utility of income and hence can 'pay more' to secure a benefit or avoid a loss. Thirdly, CBA is based on complex assumptions and hence likely to be inaccurate. In the development of infrastructure, it has been argued that the current practice of governance remains insufficient or, at least, superficial, unless government proposals are based on rigorous analytical methods of assessment before decisions are taken.

Stagl (2006) contends that current research has paid insufficient attention on the role of the design for the outcome of participatory multi-criteria evaluation (MCE). There is also lack of empirical research into the participants' behaviours in MCE decision processes (especially in group settings) by use of comparative studies. In this project, other evaluation techniques, such as CBA, are compared with MCE with a view of coming up with more holistic evaluation techniques. Extensive research in public participation has been conducted in water planning and environmental studies, however insufficient attention has been paid to the empirical investigation of the public interest/participation for the public infrastructure projects.

3.2 Research Focus

The research undertaking by the authors aims to provide an understanding of the factors pertinent to various stakeholders which would lead to the success of public consultation process of procurement projects; We also aim to develop a comprehensive community engagement mechanism that incorporates social, economical and environmental concerns, and also establish a risk analytical tool for assessing social concerns and other considerations in infrastructure projects. An optimal model to trade-off public interests against economical and environmental aspects in infrastructure projects is also developed.

The potential benefits from this research is to provide evaluation of existing stakeholder engagement processeses and assessment tools to capture comprehensive decision making criteria in infrastructure project planning. It also helps to enhance evaluation and feedback tools used in the public participation process of public infrastructure projects. This research also aims to provide advices to infrastructure planners by ensuring that the broader, strategic level objectives of collaboration are being met, while building adaptability into infrastructure project planning that can potentially improve its effectiveness. If done in a participatory manner, the process can foster a shared understanding of the constraints that might hinder a process, and a feeling of community ownership over problem solving and subsequent planning activities. In term of contribution to the body of knowledge, the comprehensive analytical tool aims to capturing environmental and socio-economic concerns in infrastructure projects. This improves assessment of 'public interest test' and will ultimately result in successful implementation of more public infrastructure projects.

4. CONCLUSIONS

Public participation in infrastructure development is a key principle which needs more resources put into it in order for the infrastructure to be better utilised. However in order for this involvement to be organised and incorporated more efficiently within these projects, governments must create conditions for this occur. By keeping competition during the tendering phase of the infrastructure project high, business will incorporate public values much more importantly and realise this importance is essential for the success of the project.

Though public participation plays a major role in the procurement of infrastructure there are several other critical success factors which need to be addressed, some include a favourable economic and funding environment and environmental issues. This is where the government needs to take action and make sure the last two factors mentioned are incorporated. With the issue of technology and its ever progressing form, stakeholders need to realise the importance of this and utilise the opportunity to engage public participation through the use of the internet as traditional ways of collecting information from those parties concerned has proven to be expensive. The use of e-services is an effective way to involve participants and voice opinions through the use of software technology and the internet not just in convenience but in cost effectiveness as well.

Australia should learn from those countries who have researched and developed the best ways in gathering public opinion and incorporating that opinion from planning phase to post construction to offer better public services and infrastructure, because Australia's infrastructure has become a topical and concerning public issue.

References

Al-Kodmany, K., (1999). "Using visualization techniques for enhancing public participation in planning and design: process, implementation, and evaluation". *Landscape and Urban Planning*. 45 : 37-45

Ayling, J. (2008). "Contractualism and Policing in the Public Interest". *Flinders Journal of Law Reform*. 10: 341-355.

Beierle, T.C. (1998). *Public Particpation in Environmental Decisions: An Evaluation Framework using Social Goals*. Center for Risk Management, Resources for the Future. Washington DC November 1988.

Beierle, T.C. (1999). "Using Social Goals to Evaluate Public Participation in Environmental Decisions". *Review of Policy Research*, 16(34), 75-103.

Bennett, E. (2000) *Adding Value through Project Management of CDM*, Thomas Telford Publishing, London

Calderon, C and Serven, L. (2003). *The Effects of Infrastructure Development on Growth and Income Distribution*. <http://www-wds.worldbank.org/servlet/WDSContentServer/WDSP/IB/2004/09/21/000012009_20040921105044/Rendered/PDF/WPS3400.pdf>, (access 1 June 2010)

Chua, D. K. H., Kog, Y. C., and Loh, P. K. (1999). Critical success factor for different project objectives. *Journal of Construction Engineering and Management.* 125(3) : 142-150.

Coglianse, C. (2002). "Is Satisfaction Success? Evaluating Public Participation in Regulatory Policymaking." KSG Working Paper No. RWP02-038. Available at SSRN: <http://ssrn.com/abstract=331420> . (access 1 June 2010).

De Bruijn, H and Dicke, W. (2006). Strategies for Safeguarding Public Values in Liberalized Utility Sectors. Journal of Public Administration, 84 (3), 717 – 735

Dickenson, D. (2002). "Global Ethics: Black and White and Right All Over?". Lecture at the University of Birmingham. <http://www.policylibrary.com/UK/Humanitarian_Intervention/Global_Ethics/>.. (Access 1 June 2010)

Edwards, G. (2007). "Defining the 'Public Interest' ", *Unpublished PhD Thesis*. Griffith University.

Enserink, B. (2000) A quick scan for infrastructure planning: screening alternatives through interactive stakeholder analysis. *Impact Assessment and Project Appraisal*. 18 (1) : 15-22

Ergas, H. (2009), "In Defence of Cost-Benefit Analysis", Agenda, 16(3), 31-40

Hale, E.O., 1993. Successful public involvement. *Journal of Environmental Health*, **55(**4): 17–19.

Hellowell, M and Pollock A.M. (2010). "Do PPPs in Social Infrastructure Enhance the Public Interest? Evidence from England's National Health Service." *The Australian Journal of Public Administration*, 69 (1), 23 – 34

Hui, G and Hayllar, M. R. (2010). "Creating Public Value in E-Government: A Public Private Citizen Framework in Web 2.0". *Australian Journal of Public Administration*, 69 (1), 120 – 131

Irvin, R. A. and Stansbury, J. (2004) "Citizen Participation in Decision Making: Is It Worth the Effort?". *Public Administration Review*, 64(1): 55-65

Jefferies, M. (2006). "Critical Success Factors of Public Private Sector Partnerships: A Case Study of the Sydney Superdome". *J. of Engrg, Constr and Architectural Mgmt*, 13 (5), 451 – 462

Jean P (2006), Cronulla Riot, Tunnel Were My Toughest Days: Lemma, *AAP General News Wire*, 3 August 2006

King, S. , Merinda C., Bill L., and Drew F. (1989). Co-Design: A Process of Design Participation. New York: Van Nostrand Reinhold.

Larson, E. (1995). Project partnering: Results of study of 280 construction projects. *Journal of Management Engineering.* 11(2) : 30–35.

Martimort, D. and Pouyet, J. (2006). "Build It or Not': Normative and Positive Theories of Public-Private Partnerships," CEPR Discussion Papers 5610, C.E.P.R. Discussion Papers.

Petts J. and Leach, B. (2000), Evaluating methods for public participation: literature review, Environmental Agency, Bristol

Planning Institute of Australia (2006) *Statement to the Parliamentary inquiry into the Cross City Tunnel* Parliament of New South Wales , Sydney, Australia

Queensland Water Infrastructure (2007), The Economic Impacts of Traveston Crossing Dam in South – east Queensland

Sandman, P.M. (1991). Two-way environmental education. *EPA Journal*. 17 (4) : 39-41

Sendt, R. 2006. *Public Private Partnerships* . CEDA Lunch, 10 April.

Stagl, S. (2003). "Multicriteria Evaluation and Public Participation: The Case of the UK Energy Policy". *Journal of Earth and Environment*, 23 (2), 53 – 62

Stave, K. (2002). Using system dynamics to improve public participation in Environmental decisions. *System Dynamics Review*. 18 (2) : 139 – 167

Van Gestel, N et al. (2008). "Managing Public Values in Public-Private Networks: A Comparative Study of Innovative Public Infrastructure Project". J of Public Money and Mgmt, 1 (1), 139 – 146.

Weihe, G. (2008). "Public Private Partnerships and Public Private Value Trade offs." *Journal of Public Money and Management*, 2 (3), 153 – 158

Zhang, X. (2005). "Critical Factors for Public Private Partnerships in Infrastructure Development". *J of Constr Engrg and Mgmt*. 131 (1), 3 -13