Infrastructure for people - value driven provisions of infrastructure (key note paper)

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Infrastructure for people – value driven provisions for infrastructure

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My main propositions
Following are my main propositions around which I have developed my thoughts for the paper.

1. Affordable infrastructure is the missing link between people’s existing standards of living and their attaining a better quality of life
2. Engineers and allied professionals involved in infrastructure provision should have an influence on policy
3. Infrastructure should have a human face
4. Planning, design, procurement, construction, operation and management all need to be “people friendly”
5. Infrastructure should be popular
6. Ethics is an important consideration

Introduction
Infrastructure services are the backbone of social and economic growth. One of the main differences between developed and developing economies is the level and quality of infrastructure that they have. Infrastructure services such as a reliable water supply,
environmentally friendly waste disposal, reliable transport and a working system of communications are not just luxuries, they are essential features of life. I do not want to go into the quantitative details of what infrastructure services people need as compared to what they actually have. The size of that gap is simply enormous. Different countries have different capacities to meet the challenges of infrastructure services provision. Success or failure in meeting those challenges will determine the role of those countries in the coming world.

Infrastructure services professionals include engineers and architects, planners economists, lawyers, social workers, financial analysts … the list goes on. One of the common features of the activities of such professionals in the context of infrastructure is to change or maintain the built environment to provide for “the use and convenience of man”. In short, professionals working in infrastructure services provision will be the key to improving the quality of life globally in the future, just as they have been in the past.

In 2001, in a keynote paper I wrote, “We live in a changing world. That is not new. The new dimension is the pace with which the change takes place. The scope of change is also highly comprehensive; it covers all spheres of life. Professional and academic institutes all over the world are conservative by nature. This approach is with the good intention of safeguarding the traditions of these institutes. However, in many cases the traditions have ‘fossilised’ the intelligentsia. Instead to doing what is fairly obvious and simple, complex and even outdated procedures have been adopted in the name of good standards, specifications and practices. Innovation does not involve discarding whatever one has or had; rather it is about building upon that base as far as it is possible”. I think those observations are still true.

Many experts believe the key constraint to improved infrastructure is access to capital on terms that will allow long-term growth. The problem is compounded by lack of human resources to create and use such capital. I am beginning to believe that values (that is, ethical considerations) are also an important factor in the enhancement of capacity to promote and maintain economic growth.

Affordable infrastructure is the missing link between people’s existing
standards of living and their attaining a better quality of life

We all need infrastructure to improve or sustain quality of life. Many of us individually or collectively cannot afford the infrastructure services we need or would like. However, it would be extremely simplistic to say that the only solution is to find more and more capital. For me optimum use of capital on a sustainable basis is the key issue. The implication of this is that we need to operate in a “lean” way. For instance, how can we create infrastructures that add value to a given society? The issue is not just about the provision of low-cost infrastructure or appropriate technologies; rather it is about finding better value infrastructures for a particular society.

The question is how do we develop a strategy to provide and sustain infrastructure that will add demonstrable value to society?

Engineers and allied professionals involved in infrastructure provision should have an influence on policy

Are we not too busy looking into details and missing the larger picture? Many engineers have turned into “number crunching” analysts. That is fine, but what is also needed is the ability to synthesize information at policy level. Theory or policy and practice should communicate with one another. In many technical fields we may choose to be no more than technician, but engagement with policy is also vital. Such engagement needs courage. Infrastructure professionals should be brave enough to ask questions for which there are no right answers! They should also be brave enough to challenge existing solutions that are not delivering value and policy objectives in any given context. Professionals should be brave enough to conduct superior quality research on issues that are relevant to the context in which they live.

The question is then, how can infrastructure services professionals engage with policy?

Infrastructure should have a human face

It is amazing how easy it is for us to forget whom infrastructure services are for. My experience is that we, the engineers, are not trained adequately to deal with people. In many cases we simply fail to ask what do people want? There is very little work on evidence-based design and even less on people aspects of infrastructure provision.
How can we ensure that infrastructure have a human face?

**Planning, design, procurement, construction, operation and management all need to be “people friendly”**

Over the years I have observed that people are scared of people who are different from themselves. The factors for difference can be geography, gender, age, religion, history, social status or intellectual capability. Many professionals decide to spend their time reading standards, codes and planning guides at the cost of not understanding the very people they are trying to serve.

How can we ensure that our professionals are capable of taking on board all the different aspirations of different people?

**Infrastructure should be popular**

This point is related to the one above about the infrastructure professionals and engineers being scared of people. They have become isolated. The general public does not see the linkages between their lives and the work being carried out by infrastructure services professionals.

The question here is how can a communication strategy be developed so that the general public clearly sees the relevance of infrastructure professionals to their lives?

**Engaging with ethical issues?**¹

*Ethics is the formulation and adherence to a set of values or beliefs.* Most sustainable physical and social progress in society depends on *shared* (metaphysic-) values (values founded on ethics). Although it is important that we should differentiate between *personal* morals and *corporate or societal* ethics, in the context or our discussion about engineering activities, *the individual must subscribe personally to the corporate ethic, or impossible tensions will arise.* The *ethical imperatives* of the working environment or workplace may

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¹ This section is based on an editorial I did for *Municipal Engineer*, the Institute of Civil Engineers, Volume 156, issue ME4 Journal.
be different from, but preferably will compliment, personal beliefs or systems of belief.

Organisations will suffer if they behave unethically, even though the consequences of such behaviour may take some time to become apparent. However, the individual working in such an organisation or served by it will be affected adversely. The loss is not just financial; more importantly it also involves a loss of trust and goodwill. Ethical values should be at the heart of all that we do. We seek to improve the quality of life for communities and this itself is a fundamental objective of infrastructure service provision. Yet this statement in itself implies we are able to both define “quality of life” and to specifically seek its improvement. Both are necessarily ethical issues. Clearly such issues must be discussed and a shared agreement must be reached among professionals concerning infrastructure provision.

The question here is how do we ensure that we “teach value” to professionals and not just techniques?

Ethics is a fundamental issue to be explored in the national and international contexts, and is of key relevance to governments, sponsors of engineering works, consultants, academics and contractors. As individual engineers we ignore it at our peril.

Some key issues for people-centred approaches

Professionals working in infrastructure services provision should:

• Play a significant role in meeting millennium development targets;
• Create a larger pie to share rather than keep on dividing the pie; this is especially true for professional and academic bodies;
• Link infrastructure to people’s lives and the quality of those lives;
• Develop capacity to work in a multi-disciplinary context and to engage with “softer” issues in the context of engineering; for example, health and safety, management of projects, the social dimension of infrastructure provision, quality of processes and products, and operation and maintenance of infrastructure all need more attention;
• Develop capacity to engage with different research methodologies (with developments in management sciences and qualitative methods, we now have a broad range of research methods and techniques available for our professional
pursuits; this has implications for the curriculum and professional training of our engineers); and

- Think how to make infrastructure provision popular.

**Concluding remarks**

It is interesting to note that most physical growth depends on metaphysical values. This forum is an occasion to engage in deliberations to define an agenda for the future and bring together learned scholars and professionals in the field of infrastructure provision. The prime purpose of any forum or organisation such as a university is to act as a learned society. From that base other functions flow, including qualification, membership standards, advocacy, and promotion of the profession, etc. The learned base is the core of a university, and its health dictates the well-being of all other subsidiary activities. A learned society collects, collates and disseminates knowledge, and I see this forum as a way to do the same.

I thank you for your time and wish you very successful deliberations.