

# PLACENESS AND WELL-BEING, THROUGH THE LENS OF INFRASTRUCTURE

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## INTRODUCTION

In the context of the Aga Khan Award for Architecture one could simply characterise infrastructure projects as physical systems that are essential in sustaining an advancing society in a productive way while protecting nature, enhancing societal living conditions and improving the “quality of life”. Infrastructure and urban design are siblings; cities and their buildings are rooted in both. The projects selected in this cycle present an opportunity to give infrastructure more visibility and prominence. Often infrastructure stands in the background, hidden from view, its value apparent only to those intimately involved in designing or commissioning it. More often than not citizens only become aware of its existence when something goes wrong, such as the damage caused by the earthquake in Sichuan province, Hurricane Katrina, the Gulf of Mexico oil spill, or flight delays at snow-bound terminals.

Though the term infrastructure has broader meanings (land-based and institutional), it typically refers to technical systems such as water supply, roads, bridges, tunnels, schools, airports and hospitals. Multidisciplinary design professionals engaged with the built environment including infrastructure therefore play a big part in providing a means of interacting with one’s environment to create places that harness the attributes of a landscape and its resources in an efficient way without ignoring the political, cultural, ecological and economical challenges.

## THE IMPORTANCE OF HISTORY AND CONTEXT

From the dawn of history the roles of civil engineering and architecture have mirrored the development of human beings on this earth, since man sheltered in caves to protect himself from weather and harsh environments and used tree trunks to cross rivers. Such simple references provide an opportunity to assess, in clear and simpler conditions when we were less obscured by specialisation, the role of the built environment, its professionals, its dependence on technology and its direct correlation with cultural and economical prosperity.

The civilisations of the Nile valley 3000 years ago would not have arisen without the intense cultivation of the land and consequential concentration of populations. In Greece there is evidence of early water supply systems, tunnels and Roman aqueducts, and on roads all over the world the effects of Roman engineering still resonate. Throughout ancient history most architectural design and construction was carried out by artisans:<sup>1</sup> structure and

infrastructure were repetitive, simple in scale and incremental. It was not until the 18th century that a scientific approach to physical and mathematical problems arrived. The early 1800s saw the birth of the civil engineer.

The roots of modern planning lie in the industrial cities of the 19th century and their endemic problems of poor sanitation in buildings, coupled with inferior supplies of water, air and light, which affected health and eventually triggered a response; its history can be seen to mirror human development. The discipline's increasing empowerment in the 20th century has caused it in some ways to pay less attention to the ethics of social conditions, political ideologies and theoretical discourse as civil engineers have led infrastructural policy and dominated this area of work. This has often produced quantitative logics,<sup>2</sup> numerical precisions to achieve accuracy and efficiencies, with the softer "design aspects" losing ground through little or no involvement from architects.

To counteract this, an appreciation of how urban environments affect health and can produce health benefits is being researched in some depth under the overarching umbrella of societal "well-being", a phrase somewhat interchangeable with "quality of life". On a practical level, this encompasses an absence of ill health and a growth of prosperity resulting from the physical context within urban environments, including the material fabric of buildings, infrastructure and spatial organisation. Accepted broad definitions for the well-being of a society (the WHO Human Development Index for instance) attempt to measure three dimensions of human development: health, education and income. There is much to say about the interrelationship of the Award and the issues of infrastructure, place-making and well-being, and there are many projects that could be cited from the Aga Khan Award for Architecture's archives that cannot find space in this text. As early as the first cycle, the magnificent Kuwait City Water Towers gained an Award, while more recently in 2010 the Wadi Hanifa Wetlands project in Saudi Arabia, with its impressive bioremediation facility, was awarded. Through the providence of those involved, in 1983 the Hajj Terminal at King Abdul Aziz International Airport in Jeddah (the first "transportation project") received an Award. The consensus was that its concept of providing infrastructure in the form of a "pop-up" village (rather than a terminal) capable of handling large volumes of people in a short period during the Muslim pilgrimage, as well as its unique translucent roof, was well executed. Since then a number of such transportation projects have been shortlisted, including the Kuala Lumpur Light Rail Transit (2007) and the impressive Kuala Lumpur International Airport (2007), born out of the prescient vision of Prime Minister Mahathir bin Mohamad to make Malaysia a fully developed industrial nation by 2020.

Whether we take our bearings from general patterns of political science, social equality or the specifics of design excellence, the success of the Salam

Centre for Cardiac Surgery in Sudan in this cycle of the Award defies all the rules of the game. In sharing the values of the Aga Khan Award for Architecture, this well-accomplished project achieved the objective of excellence at many levels, from a poetic reuse of the shipping containers (symbol of globalisation) that had delivered the medical equipment, to the birth of ANME (African Network for Medical Excellence), a cooperation between many countries in the region to emphasise the importance of high-quality health care. The low-level forms of the Centre successfully play "hide and seek" with nature and artificiality to deliver a hospital in a garden, while being scandalously beautiful, unashamedly functional and rooted in the place, politically and socially. These aspects are crucial in a country of infrastructural constraints, where 66% of the population has no access to sanitation, 43% no access to water and a mere 31% can use available health facilities. This facility has succeeded in treating patients not only from Sudan but also from another 23 countries, acting as an infrastructure hub for a network of outreach clinics. At another extreme, the comprehensive Revitalisation of Birzeit Historic Centre in Palestine and the Rehabilitation of Tabriz Bazaar in Iran both brought about a substantial "mending" of the existing infrastructure that will repair whole communities.

The Hassan II Bridge in Morocco, on the other hand, is born out of a wide-ranging study of the Bouregreg Valley that identified the need to connect the two cities of Rabat and Salé with its key urban drivers: the protection of the two historic medinas; the repair of the natural estuary and its landscape; and the decontamination of the Bouregreg River, while making provision for the impact of flooding as a result of climate change. The design of the Bridge blends with the surrounding landscape and medinas, as it grows out of the ground rather than crowds the sky, as would be the case with most bridges. As a symbol of the new capital and the physical infrastructure it provides, the Bridge will unite communities and thus improve the quality of life, as well as provide new jobs that complement the local cultures and context. Most of all, it will become pivotal in encouraging new developments, including urban space planned for beneath the Bridge. The architect deliberately expanded the brief for a purely structural solution for spanning the river and chose to tackle the more difficult urban challenges posed by truly connecting the urban fabric on either bank. As a connector of two communities and a symbol of progress in modern construction in this part of the world, this Bridge sets a new benchmark.

#### THE IMMEDIATE FUTURE

Sustaining current and future lifestyles has become an increasingly prominent issue among academics, in legislation and practice, particularly since the 1992 Rio Declaration. Amidst this host of economic and environmental challenges, what the winning projects highlight above all is the role that intuitive, carefully conceived high-quality design can play in targeting the needs of both the structure and the people it serves, in a way that is entirely specific

to its context. Each of the winning schemes offers more than just a well-considered form; the infrastructures and buildings are used as a means of connecting cities, renewing communities or providing much-needed health facilities in remote locations. What is apparent in the awarded projects is the benefit of a deeper application of interdisciplinary consideration that is “quality centred” and takes a more integrative lens to synthesise technological, spatial and biophysical conditions with political, cultural, social and economic concerns in place-making through infrastructure.

One approach to encourage this further could be to apply “design thinking”, a term used by Tim Brown<sup>3</sup> and others, to effect a change in attitude and bring “design” upstream in the process. In recent times society has been stuck in a culture of consumption, incessant production and prodigious waste. Since the economic crash of 2008 there has been some aggressive belt-tightening, and both the private and public sector have changed their approach to infrastructure. Reduced economic productivity, real-estate demands and global competitive processes are reawakening the importance of infrastructure, as society, both in the developed and less developed world, recognises the need to fund infrastructures together with the need for an “economy centred” approach that requires not only more imagination from designers but also “design thinking”.

King Mohammed VI of Morocco will be considered a formidable “design thinker” when his full vision for the redevelopment of the Bouregreg Valley and desire to unite two adjacent cities is realised. His well-conceived intention at policy level recognises that the appointment of “good designers” would, on the one hand, maximise the united cities’ productive power and regional influence, and, in parallel, encourage private finance initiatives to assist development of housing and cultural institutions along the river. The Hassan II Bridge in Rabat-Salé would not then be considered in isolation but as a pivotal urban intervention that secures well-being for the community it serves.

The novel vision of NGO Emergency’s altruistic leader Gino Strada to prescribe a “scandalously beautiful centre of excellence for cardiac surgery” at the Salam Centre in Sudan, which would not only bring health to an area of deprivation but also act as a driving force in fostering cooperation between 23 countries, makes him a “design thinker” too.

At a time in history when, once again, everybody is in the business of austerity and stability is the new growth, the Jury’s selections in this cycle of the Award serve to draw the attention of the wider constituencies of the Aga Khan Award for Architecture to a more optimistic future based on high-quality “design”, “design thinking” and investment in infrastructure. For the “search masters” of today and the professional community (and here I am throwing down the gauntlet to engineers and architects), we must post-rationalise

these schemes, since, for the most part, infrastructure projects appear to be driving architects and engineers apart again, introducing a tension between art and science; the best projects demonstrate that a “bottom-up” approach with a focus on ethics and compassion can still be used to enrich our work. For scholars, the cornucopia of ideas (technical and beyond) paraded by this cycle, some old and some new, deserves a closer examination that may foster learning from the grassroots of successfully tried and tested places.

1 The Civil Engg Site, (2012) *History of Civil Engineering*. Available at <http://www.thecivilengg.com/History.php> (accessed on 21 June 2013).

2 Pierre Bélanger, “Landscape Infrastructure: Urbanism beyond Engineering”, in N. Spiro (et al.), *Infrastructure Sustainability and Design*, New York: Routledge, 2012, p. 276.

3 Tim Brown, *Change by Design: How Design Thinking Creates New Alternatives for Business and Society: How Design Thinking Transforms Organizations and Inspires Innovation*, New York: Harper Collins, 2009.