

Credible Ethics and the Environment

By R. Max Wideman, FICE, FEIC, FCSCE, FPMI

In recent months there has been much discussion about project management ethics. And in engineering circles, at least in Canada, also much discussion about sustainable development. In our simple view there is no such thing as truly sustainable development because all "development", in the real-asset sense, involves some degree of environmental degradation. So, the issue becomes one of judgment: How much can we tolerate and for how long? Since both ethics and development in this case are the objects of projects, the subject is a valid one for discussion here.

The occasion that triggered the following thoughts was an article by two authors: Robert M. Korol Ph.D., P.Eng, and Catherine N. Mulligan Ph.D., Eng., published in the house magazine of the Canadian Society of Civil Engineers (CSCE), of which I am a member. The article was titled "Consumption and Waste, the road towards sustainable development".¹ In it, under the heading "Introduction" the authors stated: "A recent study sponsored by the World Bank and the United Nations which ascertained the opinions of 1,360 scientists from 95 countries and known collectively as the Millennium Assessment Reports (2005), concluded that 'Human activity is putting such a strain on the function of Earth that the ability of the planet's ecosystems to sustain future generations can no longer be taken for granted' ".

The authors went on to observe that: "As professionals who have a great deal of collective wisdom about the consequences of the material and product needs and wants of society, civil engineers have a particular obligation to provide the necessary leadership that must be given to steer us towards a sustainable future. As an aside, all project people involved in civil works projects may well question themselves on the same issue.

The authors then asked: "How can civil engineers contribute towards reversing such consumption patterns? In the workplace, we need to promote forms of transportation which are sustainable, and be able to cite examples where public transit and cycling work effectively and in tandem with each other. We need to help instill a conservation ethic – one that will reduce demands on our clean water resources, on our use of energy, and on ecosystem integrity. Green building design, sustainable community design, and implementation of alternative energy technologies will all help to redirect wastefulness into safeguarding what remains of our natural world and its life support systems. Learned societies like CSCE and our entire educational system need to participate in re-shaping our value system from one of consumption to one which emphasizes quality of life and well-being of future generations."

Brave words indeed that are to be greatly commended. The authors even reference the vital research work by Professors Wackernagel and Rees on "Our Ecological Footprint". In this study these researchers found that "If everyone lived like today's North Americans, it would take at least two additional planet Earths to produce the resources, absorb the wastes, and otherwise maintain life-support."² Since 1996, when the Footprint book was published, the situation has, of course, deteriorated still further.

The authors of the CSCE "Consumption and Waste" article take the definition of "sustainable development" for granted. There are perhaps over 100 definitions of sustainability and sustainable development, but the best known is by the World Commission on Environment and Development. This suggests that development is sustainable where it "meets the needs of the present without compromising the ability of future generations to meet their own needs."

If, as the authors suggest, "civil engineers have a particular obligation to provide the necessary leadership" and "As professionals [we] have a great deal of collective wisdom", how is it that we cannot bring ourselves to recognize the futility of this dream? Every person living, in whatever part of the world, consumes resources that they convert into waste. If they are in any way engaged in economic activity to support an enhanced lifestyle (and who does not have that goal?) then this process results in a degradation of the earth's resources. As I suggested at the beginning, the only variable is how fast?

Advocating for conservation and reduced consumption and waste, especially in the western world, is all well and good and is to be commended. But the developing world is just as guilty, it's only a matter of degree, especially as they benefit from the western world's economic activity to a degree greater than most are prepared to admit. Therefore, reducing consumption and waste can only have a limited, even marginal effect. The underlying cause, however, is simple. It is a question of the size of the world's population.

Interestingly, throughout the authors' article there appeared not a single mention of the issue of population size, let alone any suggestion of reduced population growth. Are we still in denial? Are we still so hidebound by "political correctness"?

More interestingly, an article was published in the proceedings of the Institution of Civil Engineers, UK, of which I am also a member. It was entitled "Water for the world – why is it so difficult?" by John Banyard OBE, FEng., FICE.³ The article starts out with a clear statement of where the problem lies by observing: "The world's population is currently estimated to be in excess of 6 billion human beings. Of these, governments estimate that 1.1 billion lack access to improved water supply and 2.4 billion to improved sanitation."

This author goes on to note that: The Hague ministerial declaration of March 2000 included seven water-based targets, but perhaps the most important is meeting the basic needs for safe and sufficient water and sanitation. These targets were agreed by the UN General Assembly, which meant that there was political commitment from all governments to this target. The UN summit of September 2000 set a number of Millennium Development Goals for 2015, which included: 'to halve the proportion of people who are unable to reach or to afford safe drinking water'. At the Johannesburg summit in 2002, many countries committed themselves to this and: 'to halve . . . the proportion of people without access to basic sanitation' by 2015.

The implication is that civil engineers around the world will build great facilities to solve the problem. But, even assuming that progress could be measured towards these fine aspirations; it is unlikely that these goals will be met, given the lack luster progress to date and the obvious natural resource constraints. However, one solution does become self-evident in all of this and that would be to tackle the other side of the equation by proposing a reduction in population.

I suggest that it is time that we put that "great deal of collective wisdom" and "particular obligation to provide the necessary leadership" to better use. I suggest that until we, as professional civil engineers, or "professional" project managers for that matter, are prepared to examine and articulate all possible solutions, and that includes actively tackling the "population problem", we shall be neither credible nor ethical.

Author Robert Korol responds

Author Robert Korol was gracious enough to respond to my draft Musings as follows.⁴

Dear Max,

I volunteered to write a response to your reasoned comments to the editor of CCE on our article "Consumption and Waste", published in the May '06 issue of the CSCE magazine. You correctly point out that the size of the world's population is a major impediment to our being able to attain a sustainable future. My co-author and I do not disagree - however, we cannot accept your conclusion pertaining to western society that "reducing consumption and waste can only have a limited, even marginal effect."

Indeed, your description of the Wackernagel/Rees text as a "vital work" suggests that you are familiar with it, and may even agree with some of their analyses! May I remind you of one section in the book that deals with ecological footprints of average individuals in different countries. Back in the 90's, the authors of the book computed the footprint of an east Indian as being 0.38 ha.(page 98), while a Canadian's was 4.3 ha. The numbers are clearly higher now, but a magnitude difference remains.

It is clear that we are hogging the world's resources and, in our opinion, have an ethical obligation to share the wealth. In my own personal view, the poor in most of the developing world are not the beneficiaries of international trade. Indeed, some have argued that the rich are getting richer and the poor are getting poorer because of it. However, such is not an area of expertise of Catherine or myself.

Our intention, in writing the article, was to identify where our profession can make effective contributions to a problem area over which we have some control. We wanted to create an awareness of the situation facing humankind, to generate discussion and evoke interest in finding engineering solutions as needed, i.e. where can civil engineers make a difference?

When it comes to population size - sure we can make assertions! But - I do not feel competent in the areas of family planning and birth control to speak authoritatively on those subjects! Others who are more knowledgeable in these realms need to do their part. Civil engineers can contribute in their own areas of expertise - and I do not want to give the impression that we should sit back and cast blame elsewhere.

With respect, I get the impression from your comments that we should tackle the population problem only, and continue to run down our resource base, further burden our planet with wastes from lifestyles that add little if anything to quality of life, and carry on in a "business as usual" mode.

Clearly, we differ in this regard, but having a debate about important questions like this is essential as a first step to changing our collective ways if we are to have any hope of survival as a species on planet Earth.

Yours sincerely, Robert Korol

Footnote

The authors make a valid point. However, I suspect that we have a different view as to what constitutes "limited" and "marginal". Let us suppose that by some action we could reduce the average person's "consumption and waste" in the western world by 50%, an optimistic target at best. Logically that might reduce the Canadian "footprint" from 4.3 ha to 2.15 ha. That is still more than five times that of the East Indian footprint of 0.38 ha.

That is, if we are to really create a "sustainable" society *we have to tackle the problem by orders of magnitude* and not just percentage fractions.

As a point of interest, the Wackernagel and Rees book was published in 1996. In 2002, I received an update from Professor Rees in which he stated that "more recent estimates put the Canadian eco-footprint at about 7.6 to 8.0 ha/capita". This suggests that the problem today is not only substantially worse but that we are rapidly losing ground (literally!)

Data published in a booklet entitled *Canada and the State of THE PLANET*, indicated that in 1994 only one fifth of the world enjoyed the high level of economic activity while all the rest existed in poverty.⁵ If this relationship holds true for our respective economic footprints, then it means that if every one on earth had an equal consumption level, it would be around 2 ha per person. That is to say, the poorest people in the world would be elevated by 4 times, but the "standard of living" of the western world would be reduced to 25% of its present level.

Can anyone in the West seriously imagine what that would be like? Or can anyone imagine any political party receiving a mandate from the popular vote to implement such change? I rather think not. So much for our "ethical obligation to share the wealth". But let me hasten to add, no one should decry any effort to reduce unnecessary consumption and waste - of which there is plenty. Indeed, we should all be making every effort to do so. But the point is, that alone simply does not solve the problem.

If civil engineers can discuss the substantial social changes implied by the subject of "Consumption and Waste" reduction, why should they feel obliged to ignore the much more damaging variable of population size? After all, both are subjects of social behavior and not of professional engineering.

Indeed, I suspect that we could be doing more harm than good by implying that people should not worry because we civil engineers have a solution: building even more infrastructure works that occupy even more land of which the world is already far too short.

A simple case of Emperor Nero fiddling [around] while Rome burns.

Max Wideman

¹ Korol, Robert M., Ph.D., P.Eng., & Catherine N. Mulligan Ph.D., Eng., *Consumption and Waste, the road towards sustainable development*, Canadian Civil Engineer, May 2006, pp 10-12

² Wackernagel, Mathis & William Rees, *Our Ecological Footprint*, New Society Publishers, BC, 1996, page 15

³ Banyard, John OBE, FEng., FICE, *Water for the world - why is it so difficult?* Civil Engineering 159, Paper 14444, Telford, UK, May 2006, pp4-10

⁴ Author Robert Korol by Email 7/7/06

⁵ Keating, M., *Canada and the State of THE PLANET: The Social, economic and environmental trends that are shaping our lives*, Oxford University Press, 1997, p65