Tourism and the Sustainability of Human Societies

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The Brundtland definition of sustainable development, as cited by McCool in his lead probe Sustainable Tourism: Guiding Fiction, Social Trap or Path to Resilience? was a political one. In political terms it did serve a useful purpose, directing public attention to increasing shortages of natural resources. At the same time, however, it created continuing problems through its vagueness. As noted by McCool, it rallied social discourse but failed the specifics of implementation.

From a scientific perspective, the Brundtland formulation is paradoxical, and ultimately either meaningless or impossible. One of the most strongly felt ‘needs’ of the current generation is to produce children, and one of the ‘needs’ of future generations is to produce even more children, and so the planet’s human population increases, and its ability to meet other human needs such as food, water and air supplies decreases. By expressing sustainability in terms of what humans think they need, rather than how the planet actually works, the Brundtland definition gained political acceptability, but at the cost of technical feasibility.

Therefore there have been many attempts to translate sustainability into more useful technical terms. Economists speak of weak and strong sustainability, natural and human capital; but these ignore fundamentals. It is easy to buy and sell components of nature whilst they exist; but expensive, difficult or impossible to replace them, and their functions, when they are gone. Social scientists aim to express sustainability in terms of human rights and equity. These are indeed important to the individual people concerned, but not fundamental to the functioning of planetary ecosystems.

A sustainable future is technically possible, because individual people have limited life spans. If everyone were to have fewer children, use less stuff and make less mess, we could hope for a soft landing from our current unsustainable path. But this would require simultaneous individual decisions by billions of people, to sacrifice their personal interests to the general good. This is vanishingly improbable. Therefore, there are two principal possibilities
(Buckley 2012a). The more optimistic is that current political, economic and social system will very quickly be able to develop suitable incentives, whether carrots or sticks, to persuade people to make these sacrifices nonetheless. The more pessimistic is that human population, consumption and waste generation will continue to increase until catastrophic famine, disease and associated wars cause a sudden massive collapse. Neither path is likely to be easy.

This provides the context for considering the sustainability of tourism specifically. Right now, tourism is a global industry worth somewhere up to seven trillion dollars a year, depending what you count and whose statistics you believe. That’s a thousand dollars for everyone on earth, so it is not negligible. But it depends on people taking holidays and travelling. Those things may both disappear. In a more heavily populated and resource-consuming future, tourism is still likely to be a rather weak player relative to the primary industries, manufacturing, health and military sectors.

I have argued elsewhere (Buckley 2012a) that we can assess the sustainability (or otherwise) of tourism through its contributions to five global-scale social processes, summarized as: population, peace, prosperity, pollution and protection. Population effects are apparently negligible. We hope that tourism contributes to peace, but nobody knows for sure. It does often contribute to local and national prosperity, with consequent secondary impacts, both good and bad, on both natural and social environments. It generates pollution, ranging from local waste and wastewater to global atmospheric effects (Gössling 2010; Gössling et al. 2012). Much of the technical practicality of sustainability at the scale of individual tourism enterprises is about managing pollution and other environmental impacts (Buckley 2009a, 2011).

There are indeed many commercial tourism enterprises which have taken steps to minimize their environmental impacts. The reasons may range from simple compliance with enforceable legislation, to personal concern and convictions on the part of owners and managers. Between these lie a wide range of mixed motivations, considered broadly under the heading of CSR, corporate social responsibility (Buckley and Pegas 2012). The scales, types and intensities, of environmental impacts, as well as the potential mechanisms to reduce them, differ greatly between subsectors and individual enterprises, and also depend upon the timescale considered.
In the longer-term, for example, an airline might replace its aircraft with more fuel-efficient designs, as these become available through advances in engineering. In the medium-term, it might change its routes, but these depend on negotiation of landing rights and airline partnerships. In the short-term it can reduce impacts per passenger by keeping its planes full. If this involves getting more people to fly as a result of successful marketing strategies, however, then that actually increases aggregate impacts and reduces sustainability. Similar considerations apply for hotels. In the long-term the most critical question for sustainability is when, where and whether new hotels are built. In the medium-term, existing hotels can use both technological and management measures to achieve limited reductions in water, energy and resource consumption, and generation of wastes. If these are measured per bed night, however, then they can claim improvements simply by filling more beds on more nights, through pricing and marketing strategies. This is good for business, but in terms of global sustainability, more business means more impacts. Prosperity brings improved human material wellbeing, but at the cost of consuming and degrading natural resources and environment (Buckley 2012a).

At a global scale, economic growth has always been associated with reduced sustainability. We have very few historical examples of economic slowdowns in the modern economy with its highly mechanized primary, secondary and tertiary industry sectors. The only examples we have are those of global recessions, and these have indeed slowed the otherwise relentless growth in resource consumption. At regional scale, economic growth can sometimes improve regional sustainability, if it occurs through a transition between different industry sectors (Buckley 2012a); but such transitions occur through geographical shifts in concentrations of highest-impact sectors, so this improvement is regional, not global. There are also examples where regional economic contractions have reduced sustainability, through abandonment of highly-polluting mines and manufacturing enterprises without rehabilitation. Technologies to reduce so-called environmental intensity, the environmental impacts per unit value of production, can indeed show continual improvements; but such improvements are only adopted by some enterprises in some countries, and they are swamped by the overall growth in the aggregate scale of production.

Trends in greenhouse gas emissions by the airline industry, or water consumption by the global hotel industry, provide excellent examples (Gössling 2010; Gössling et al. 2012). There have been significant improvements in the energy efficiency of aircraft engines and
fuselages, but at aggregate global scale, such savings are dwarfed by the continuing growth in air travel; and attempts to mitigate climate change impacts of air travel through voluntary customer purchases of carbon offsets are ineffective because of low take-up and dubious validity (Gössling 2010; Buckley 2012a). Similar considerations apply for energy- and water-saving appliances in hotels. These can indeed reduce consumption of resources per bed night, but the global growth in bed nights associated with the overall growth in tourism means that aggregate consumption and impacts continue to climb.

At the scale of individual enterprises, irrespective of motivations (Buckley and Pegas 2012), installing resource-efficient and low-waste technologies can indeed reduce impacts. As long as a hotel continues operating in the same place, with the same number of beds and the same occupancy rate, then such technologies can indeed reduce its aggregate on-site impacts. If every other aspect of its customer and resource supply chains remain unaltered, then such improvements may contribute to improved global sustainability. If its markets change, however, so that customers arrive from new source areas, or use different modes of transport, or stay a different number of nights, then at global scale, these customer supply-chain effects can outweigh any on-site improvements calculated per bed night. Similar effects apply if its resource supply chains alter.

For individual tourism enterprises, different aspects of impacts on global sustainability are under very different levels of control. For any fixed-site tourist accommodation or attraction, as noted above, one of the single largest overall impacts is travel to the site by customers. This is under a certain degree of control by the destination enterprise, since it is influenced by marketing. Few tourism enterprises, however, can afford to target their marketing to local sources solely to reduce travel impacts. They are competing with other enterprises, and they have to maintain demand in order to keep prices above costs and maintain financial viability. This paradox is rarely even mentioned within the tourism industry. Even those destinations and enterprises which market themselves as ecotourism, rarely refer to the environmental costs of travel (Gössling 2002; Simmons and Becken 2004). Indeed, very few commercial tourism enterprises are prepared to reveal the origins of their clienteles (Folke et al. 2006). The same applies for those which market themselves as slow or responsible tourism (Leslie 2012). Similar considerations apply to material supply chains. Tourism enterprises, like any other business, buy most of what they need as cheaply as they can. They may feature locally
sourced food, for example, but only if it is cheaper, or they think that it will attract more customers or support higher prices; and only if they have a consistent and reliable supply.

At the on-site scale, i.e., once customers and supplies have arrived, there are indeed many measures which commercial tourism enterprises can and do take to reduce their local environmental impacts (Buckley 2011, 2012a). In Africa, for example, a number of remote wildlife lodges in Botswana have replaced diesel generators with large-scale banks of solar panels. At the luxurious Zarafa Lodge operated by Great Plains Conservation (2012), for example, the entire power supply is produced from a bank of 136 x 205W solar panels, with a battery bank, inverters, and a high-tech monitoring and control systems operated remotely from South Africa, over an internet connection. There are similar systems at several Wilderness Safaris lodges, notably Kalahari Plains (Ives 2010).

In Chilean Patagonia in South America, the upmarket hotel at Explora Salto Chico (Explora 2012) provides its entire hot water supply using a high-tech furnace fuelled by sawmill waste. The furnace operates at 680°C and consumes 3.5 tonnes of woodchips daily, producing hot water at 80°C and ~350 kPa pressure. Of course, as acknowledged by Explora, the trucks transporting the woodchips from the sawmills run on diesel; and of course, the sawmills consume forest of native Nothofagus species. The forest is being logged irrespective of tourism, however; the sawmill waste is burnt in kilns on-site if not used elsewhere; the trucks use a lot less diesel than a large furnace; and fuel oil for a furnace would also have to be trucked it. So the net outcome is positive for the natural environment, relative to other practicable options available to Explora. Many more examples such as these have been documented in textbooks and case-study compendia (Buckley 2009a, 2010a). Greenwash is widespread, however, and environmental awards and ecocertificates are not always reliable (Buckley 2012d). There seems to be no substitute for on-site audit in person, by experienced independent researchers.

In addition to reducing local impacts, tourism enterprises can in some cases also make net positive contributions to the conservation of ecosystems and biodiversity, including threatened plant and animal species. We live in a world where powerful industrial organizations want more and more natural resources, to provide to more and more consumers; where governments are increasingly strapped for cash and beholden to political interests; where the most fundamental of human life support systems are increasingly
commoditized (Kaufman 2012); and where conservation funding is an order of magnitude less than needed (McCarthy et al. 2012). In such a world, tourism is one of the few practical tools available to lessen the shortfall in funding for parks and conservation (Buckley 2009b, 2010a, b, 2012b; Buckley and Pabla 2012; Buckley et al. 2012; Morrison et al. 2012).

With few exceptions, however, the tourism industry does not see itself in such a role. In general, tourism contributes to conservation only where it is harnessed by government legal systems, including fee and tax arrangements (Buckley 2009a,b). Even for those exceptional enterprises which voluntarily practice conservation tourism (Buckley 2010a, 2012a, b), commercial viability is a prerequisite for conservation measures, and this depends on successfully outcompeting other enterprises which lack such interests. In addition, even enterprises which make major local contributions to conservation still rely largely on international clients, who generate impacts during their travel to the site.

As pointed out by McCool in his lead probe, therefore, the world is indeed highly complicated and highly interconnected. Whether it is adaptive depends on what one means by that term. To call it a social-ecological system is perhaps an oversimplification. Certainly, what people do to each other and the rest of the world, depends on social structures as well as individual interests. But the same applies for mosquitoes and nematodes, which far outnumber humans. Human social structures have changed throughout history, and they can change again. Currently, they differ enormously between countries and cultures, and those differences affect the rest of the world. A person who pays to see live rhinos, tigers or pangolins in the wild has very different impacts from one who pays to consume ground-up rhino horn, tiger penis bone or pangolin soup. And the differences between those persons are social, not physiological.

As noted by McCool, we are indeed living in an era of integration and globalization, and sustainability in tourism needs large as well as local-scale approaches. As outlined for a few examples above, there are thousands of such practical technicalities in every aspect of tourism, and it is these technical issues which determine how sustainable, or otherwise, the tourism sector may be or become. As noted by McCool in his essay and Buckley (2012a), a number of academics, consultants and industry associations have proposed alternative terminologies or paradigms for sustainable tourism. It is not clear what this achieves. Unless some conceptual insight can reduce the number of people, the amount of stuff they use, or the
mess they make, then it does not make human society, including tourism components, any less unsustainable. The same applies to terms such as adaptive management, which are academic jargon for what people have always done anyway.

Even a term such as community resilience, suggested by McCool as a key attribute of sustainable tourism, is perhaps overworked. Historically, some human communities and civilizations have proved resilient, in the sense of surviving for a long time in a single place. Many others, however, have vanished. Often this has occurred when they exhausted local natural resources, either through subsistence use or industrial exploitation. In other cases, they were destroyed or displaced through wars and invasions. There are also examples of nomadic communities which have proved more resilient than fixed-site counterparts, because of a greater ability to adapt to changing environmental conditions. The conclusion reached by McCool, therefore, that ‘the principal question facing tourism in the 21st century is the extent to which it can contribute to the resilience of communities’ deserves close examination. I would argue that it is not the principal question for the tourism industry, but it indeed is an important question for sustainability.

To me, the principal questions for the tourism industry seem to be at much larger scales. The overriding question, surely, is for how much longer people will have the discretionary time and resources to travel for pleasure. In the longer-term, if wars, disease, thirst and famine overtake the planet, people may just stay home and buy guns. If by some miracle we avoid that outcome, it will require major changes to human behaviour, and mass-scale holiday travel is likely to be one of the first casualties. If it does happen, then there will be much larger-scale concerns for sustainability than those associated with tourism. At shorter time scales, whilst human societies are still functioning much as currently, we are likely to see changes to travel patterns due to increasing fuel costs, initially incremental and ultimately a large-scale mode change as air travel becomes largely unaffordable (Buckley 2012c). If fuel costs reduce travel, that will improve sustainability, though not in a way which the travel industry would like.

At more immediate time scales, the biggest changes to global tourism are perhaps those due to shifts in the relative wealth of nations, with reduced discretionary expenditure in Europe and North America, and greatly increased travel by newly wealthy citizens of the BRICS nations, most notably those of China, India and Brazil. If more and more tourism involves
Indian, Chinese and Brazilian tourists, then one new key issue for sustainability will be the rather large differences, as regards attitudes and behaviour towards both natural and human environments, between these cultures and those of Europe and North America.

The role of tourism in contributing to the resilience of communities as cited by McCool is indeed significant to sustainability, largely because local community attitudes are commonly critical in conservation. From the perspective of global sustainability, the single most important link between tourism and environment is surely the use of tourism as a tool to provide financial and political support for conservation of biodiversity. This comes at an environmental cost, largely that of international air travel and we need to develop better environmental accounting techniques so as to compare these costs and benefits in ecological rather than economic terms (Buckley 2012a). But it seems to play a critical and increasing role, and one that gives tourism its greatest claim to contribute to sustainability. Currently, that contribution is derived only from a very few commercial tourism enterprises. But perhaps part of our hoped-for progress towards sustainability might be a broader adoption of tourism-funded conservation endeavours.

The bottom line for sustainable tourism is this that some tourism businesses do indeed take many commendable steps to minimize negative impacts on both natural and human environments, and a substantially smaller number take even more commendable steps to create net positive outcomes for both (Buckley 2010a; Ives 2010; Great Plains Conservation 2012; Explora 2012). These enterprises do indeed deserve recognition. In addition, in some countries tourism makes significant funding contributions to public protected area agencies, with consequent gains for conservation of some threatened species (Buckley et al. 2012; Morrison et al. 2012). The tourism industry as a whole, however, is concerned with growth, not sustainability. This is unsurprising: the same applies for businesses in all industry sectors. As academics, however, we have a responsibility to observe, analyse and report accurately. Therefore, we cannot pretend that mainstream tourism is in any way sustainable (Buckley 2012a). That would be not only a delusion, but a collusion.
References


