



Seven billion people into one planet won't go, unless we learn to harness our better nature, says social psychologist Mark van Vugt

# Triumph of the commons



Overexploiting a shared resource is logical but need not be inevitable

overexploitation of resources is inevitable. His tragedy of the commons referred to the destruction of communal pasture when individual herders act rationally in their own best interests, each putting as many cows as possible onto the land. The same fate, he noted, is likely to befall any shared limited resource, from the atmosphere and oceans to national parks and rivers. Over the years, and with the rise of environmentalism, Hardin's ideas have become hugely influential.

Does this mean we are doomed to plunder the world's resources and trash our planet? Even Hardin wasn't entirely pessimistic. He noted that groups can create institutions to manage their communal resources, although these usually fail because of "free-riders" – individuals who try to reap the benefits of cooperation without paying any of the costs. The solution he came up with was "mutual coercion, mutually agreed upon by the majority of the people affected" (*Science*, vol 162, p 1243). In other words, people must give up their freedom to save the commons. I disagree.

Today we understand human nature and motivation far better than we did in Hardin's day. In particular, we know that individuals do not always act selfishly but also have some regard for the interests of others and the natural environment. Games such as the prisoner's dilemma and the public goods game demonstrate that under certain conditions people do behave altruistically (*New Scientist*, 12 March 2005, p 33). Besides, countless success stories attest to the fact that communities can overcome the tragedy of the commons without a great deal of coercion.

Putting all this together, I have identified four key conditions for the successful management of shared environmental resources: information, identity, institutions and incentives. (*Current Directions in Psychological Science*, vol 18, p 169). I believe we can and should use this 4i framework as the basis for a plan of action to combat local and global environmental catastrophe.

Information, identity, institutions and incentives correspond to what most psychologists believe are the four core motives that influence our decision-making in social dilemmas, respectively understanding, belonging, trusting and self-enhancing. Let's consider them in turn, starting with "institutions" because it is the one that comes closest to Hardin's prescription for overcoming the tragedy of the commons.

In our technologically and culturally complex modern world, many limited resources are

## BACK TO OUR ROOTS

Humans seem to have an affinity for nature. We prefer natural environments to built ones, and built environments with some natural objects, such as trees or water features, over more wholly urban landscapes (*Environment and Behavior*, vol 13, p 523). Across cultures, people are attracted to the savannah-type landscapes in which our ancestors are thought to have evolved, and in both Europe and the US zoos attract more visitors annually than all professional sports events combined. Nature also impacts on our health. Hospital patients in rooms with a window overlooking natural scenes recover more quickly than those in rooms with windows overlooking brick walls (*Science*, vol 224, p 420).

I am involved in the BeWEL network based at the University of Aberdeen, UK, conducting interdisciplinary research into how people interact with nature and how this affects their wellbeing. One study involves asking people to describe their engagements with nature to see how doing this affects their mood. In another, neuroscientists are examining which parts of the brain are involved when people see pictures of natural versus built environments and listen to natural sounds such as birdsong as opposed to artificially created sounds such as a cuckoo clock. Edward Wilson from Harvard University coined the term biophilia to describe the idea that we have a basic need to enjoy and affiliate with nature. If it turns out to be hard-wired, then biophilia could be another strong motivator in persuading people to protect the environment.

**D**O YOU ever get the impression that civilisation has degenerated into an unedifying free-for-all? Like pigs gobbling at their troughs, we all seem to be out to get as much as possible of whatever is on offer. Everyone is at it, from loggers felling the Amazonian rainforest and fishers fighting over the last few cod to SUV drivers running the oil wells dry and politicians on their gravy trains. Science even has a name for the phenomenon – one that seems eerily prescient following the recent revelation about MPs' expense claims in the UK. It is called the Tragedy of the Commons.

Four decades ago, ecologist Garrett Hardin published a ground-breaking paper on this phenomenon, arguing that when personal and communal interests are at odds,

managed by institutions, from private companies distributing water, to governments limiting air pollution through quotas. Hardin believed that such institutions cannot avert the tragedy of the commons without coercion because of the problem of free-riders. In fact, it is worse than that: researchers have since shown that introducing a system of policing simply creates a second-order free-rider problem – raising the issue of who guards the guards. Nevertheless, there are institutions that successfully promote environmental sustainability, so how do they do it?

The key is trust – and the cornerstone for building trust is fairness. In the 1991 California water shortage, the local water authorities tried to implement drastic water-saving measures but only with partial success. ➤

## "I would like ingenious conservationists, policy-makers, marketers and others to start using the 4i framework to influence the way people behave"

Residents were most likely to comply with authorities if they felt their concerns were taken seriously and they got accurate, unbiased information about the severity of the drought (*Journal of Personality and Social Psychology*, vol 69, p 482). Likewise, in my research I discovered that following the privatisation of the British railway network in 1994, railway passengers who did not trust the private companies to run the system efficiently and fairly were more likely to switch from trains to cars (*Social Psychology Quarterly*, vol 63, p 355).

Next up is information. People want to make sense of their natural environment – and their impact on it – but we seldom have enough information to evaluate questions such as: Should I recycle? Is it really worth turning those lights off? Would it be better to buy a new eco-friendly car or hang onto my old one for a while longer? And it turns out that the more uncertain we are the more likely we are to bias our decisions in our own narrow self-interest. In a lab study where a group of

people were asked to manage a communal resource, they were far more successful when the resource was fixed in size than when its size fluctuated (*European Journal of Social Psychology*, vol 20, p 475). The researchers concluded that the environmental uncertainty caused by a fluctuating resource led individuals to underestimate the damage of their actions and exploit the resource to the point of collapse.

Equipped with better information, we face less environmental uncertainty and can therefore make more sustainable choices. But how can we improve the quality of environmental information available? First we must recognise that many aspects of environmental decision-making are intrinsically uncertain. That is especially true at the global level, where there is often a bewildering array of complex interacting factors. This is why local information, relevant to specific individuals in their particular circumstances, is far more effective at persuading people to change their behaviour. We are much more likely, for example, to act on information about local flood risks than on general data about the dangers of global climate change.

The best information systems are simple but accurate. The ABC rating system used throughout Europe for labelling household electrical appliances is a good example because it allows customers to compare at a glance complex information about energy use and emissions between different products. Research designed to evaluate this system also highlights the obvious but important point

that information is most likely to promote sustainable behaviour when given to people who are already committed to the environment but lack the technical know-how to make a green choice.

### Just connect

Targeted environmental education programmes are a good idea and they work particularly well in situations where people share a common social identity, because we are more likely to exchange environmentally relevant information when we identify more with our community. This effect is borne out in a classic example of triumph over tragedy of the commons among the lobster fishers of Maine. Over many decades they have developed a self-policing system to maintain the limited resource upon which their livelihood depends. Research shows that the system is most sustainable in small communities with dense social networks because fishers exchanged catch information more freely than in those with fewer connections (*Ethology and Sociobiology*, vol 12, p 221).

Social identity, a feeling of belonging to a social group, influences our behaviour in other ways too. My colleagues and I found that the more connected people felt to their community, the more willing they were to act in the group's interests by conserving water during a shortage (*Personality and Social Psychology Bulletin*, vol 27, p 1440). Since we all identify most strongly with our primary groups – family, friends and neighbours – environmental messages that appeal to these relationships, such as “think of your children's future”, can be highly effective.

People who identify with a group are also more concerned about upholding a green reputation. In another study we found that when people harvested from a common resource – a shared pot of money – and their decisions were made public they behaved more responsibly (*Personality and Social Psychology Bulletin*, vol 32, p 1402).

Showing people how their behaviour compares with that of others produces a similar effect. When a US energy company started issuing its customers with smiley and frowney faces to indicate whether their bills were more or less than the neighbourhood average, energy consumption went down dramatically (*Psychological Science*, vol 18, p 429). Various environmental pressure groups use the power of social norms to

## Better natured

Sharing a limited environmental resource can lead to overexploitation. According to Mark van Vugt people are more likely to act in the common good in situations where there are appropriate institutions, information, appeals to identity and incentives

Focus of intervention	Core motive	Description	Aim of intervention	Potential constraint
Institutions	Trust	The need to build trusting relationships	Increasing acceptance of commons rules and institutions	Authorities must employ fair procedures
Information	Understanding	The need to understand the physical and social environment	Reducing environmental and social uncertainty	Global environmental problems are inherently uncertain
Identity	Belonging	The need for positive social identity	Improving and broadening one's sense of community	Resource competition between communities increases overuse
Incentives	Self-enhancement	The need to improve oneself and increase one's resources	Punishing overuse and rewarding responsible use	Economic incentives could undermine trust in authorities or moral duty to conserve



Identifying with your community makes you more likely to recycle

## FOLLOW THAT GREEN CELEBRITY

Like any other social animal, humans compete for status, because high status brings privileges. We do this with conspicuous “handicap” displays which, like the peacock’s tail, are personally costly and so only affordable to high-quality individuals. These displays can take the form of “competitive altruism” – showy generosity such as public charity campaigns where rich people advertise their wealth by competing to be the biggest donor. My colleagues and I have found that people become more generous when their donations are made public and that generous people get more status than their stingier counterparts (*Personality and Social Psychology Bulletin*, vol 32, p 1402) Men – though not women – are more generous when a person of the opposite sex is present (*Evolutionary Psychology*, vol 6, p 386).

All this helps explain why celebrity endorsements can benefit the environment. People look to celebrities and other high-profile figures for clues about what costly displays gain the most status. So by associating themselves with green causes and products celebrities can influence the domains in which individuals compete for status. Take the Toyota Prius. It is expensive – so not everyone can afford it – and green, so driving it is altruistic because it benefits others. And the fact that Leonardo DiCaprio owns one makes it a highly desirable status symbol.

“name and shame” polluting companies into changing their policies, and with success (*Quarterly Review of Biology*, vol 78, p 275).

One way to connect a group of strangers is through inducing competition with other groups. David De Cremer from Erasmus University in Rotterdam, the Netherlands, and I showed that students cooperated more with each other when they believed they were being compared with groups from other universities (*European Journal of Social Psychology*, vol 29, p 871). Creating competition between communities does not always promote environmental welfare, however. When a resource is the shared responsibility of several communities – such as the North Sea fish stocks – it is at even greater risk of depletion. That is why it is important to think of ways to blur group boundaries, for instance, by generating a superordinate social identity, such as, “we are all Europeans”.

The fourth great motivator is incentives – appeals to people’s desire to enhance themselves through seeking pleasure and avoiding pain. Government subsidies encourage people to adopt green technologies.

Fines persuade individuals and companies to comply with environmental regulations. However, some incentive schemes are more effective than others. My own research on domestic water use indicates that economic incentives make little difference when people are already prepared to do their bit for the environment (*Personality and Social Psychology Bulletin*, vol 27, p 1440). Sanctions can even be counterproductive if they are considered unfair and distort people’s understanding of an environmental problem as essentially an economic one. For example, if people feel that they pay through the nose to run a car, they may be more likely to believe that they should be able to drive as much as they like.

The most effective strategies to protect our shared environment are likely to combine several of the 4Is. For example, when my colleagues and I conducted a survey of 120 households in the UK during the drought of 1997 we found that those with a water meter made the most efforts to conserve water. Because they were paying only for the water they used, not a flat rate, they had a financial incentive to save. The meter also allowed them

to see more clearly where the most water was being wasted, so giving them a greater understanding of the situation (*Personality and Social Psychology Bulletin*, vol 25, p 731).

All this shows that with a good understanding of human nature, a destructive global free-for-all is not inevitable. Of course we don’t yet have all the answers, but while social psychologists like myself continue to probe human behaviour and motivation, we already know enough to make a difference. I would like ingenious conservationists, policy-makers, marketers and others to start using the 4i framework to influence the way people behave. We only have one planet and as the human population grows its limited resources are increasingly stretched. To avoid a commons tragedy we need to act decisively and we need to act now. ■

Mark van Vugt is at the VU University of Amsterdam in the Netherlands and the Universities of Kent and Oxford, both in the UK. He is currently running a series of seminars called “Darwin’s medicine: Evolutionary psychology and its applications”, which aims to bridge the gap between Darwinian psychology research and policy-making