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PSYCHOLOGY FOR THE SAKE OF THE ENVIRONMENT

Prof Joan Freeman

Abstract

As people begin to take responsibility for the welfare of the earth and no longer see themselves as passive spectators of uncontrollable climatic forces, psychology can offer support and direction. Psychological techniques can help to change both attitudes and behaviour for the benefit of the environment. The greatest influences for positive change usually come from the social and educational psychology of the home, school and workplace.

Children can be educated to see beyond their domestic world, and draw on their learning so as to use it for the community's mutual benefit. Consideration of difficult concepts such as time, space, biodiversity, the troposphere and technology calls for an intelligent and educated population which can read and think scientifically to distinguish genuine evidence from false trails and conspiracy theories. This chapter looks at psychological research evidence and draws practical conclusions from it on changing minds and behaviour for the sake of the environment.

To change habits, we need to know, for example, why people say out loud that they want to stop negative climate change and yet behave recklessly in climate terms in their everyday lives. There are conflicts of interests to be addressed here.

"Humankind cannot bear very much reality." T.S. Elliott

The psychological challenge

Scientific and individual beliefs on global warming, pollution and the loss of natural resources are subjects of heated contention around the world. Every day, the media report catastrophic global climate changes of many kinds to which people react in a variety of ways.

The debates concern events beyond the immediate environment, taking in the whole planet, including the troposphere – the atmosphere that supports all life.

In the more developed parts of the world, concepts such as sustainability and biodiversity along with aiming to be 'green' have become part of everyday conversation, and almost a social norm. But this does not include everyone. In Britain, for example, those most likely to make positive ecological changes to their life-styles are aged over 65, live in rural areas or are of a higher social class (Survey for the Environment Food and Rural Affairs Department, Nov 2007 Tinyurl.com/ypzenk). These data show the need to involve younger people, those in cities and the less well informed.

Scientists generally work at two ends of a spectrum. At one end there are 'hard' scientists (physicists, chemists etc) and at the other end the 'soft' scientists (anthropologists and psychologists etc). Yet workers at the two ends of the spectrum do overlap to work together. The 'hard' scientists investigating climate change in the physical world constantly present overwhelming evidence of the steady destruction of the earth's bounties. They measure what it is happening and offer reasons why. 'Soft' scientists of the psychological world show that if there is to be a positive change people can no longer see themselves as passive spectators of uncontrollable forces, but argue that they must take responsibility for the welfare of the planet. This chapter aims to show how this might be done.

As Ivan Pavlov showed in his classical conditioning experiments in Leningrad in the 1920s, the best way of changing behaviour is to follow any stimulus as quickly as possible with a response, whether reward or punishment. But climate change is more complicated. The problems are in deeply entrenched habits of thought, notably in the concepts of time and space, which are extremely difficult to reach and change. Of itself, longer-term thinking and planning is much harder to do than producing a short term reaction. In climate terms, greenhouse gases have such a long life that to control them means planning for hundreds not tens of years. What is happening to the climate now has come from actions taken by past generations, and the long time-lag ahead means that any benefits of people's current efforts will not be seen until long after the present population is dead.

A time-frame can even be lost altogether. It is strange how so many people are aware of the existence of pressing climate problems, yet seem to put that knowledge in a sealed compartment when they fly frequently or drive alone in a big gas-guzzling car. The cumulative secondary effects in the long term of small individual actions are extremely hard to accept on a daily basis. And making people feel guilty is not a sufficient inducement for them to change the way they live. It is easy to pay a little extra money for a carbon tax and feel better about getting on the plane.

What happens to the global climate is not obvious. We are told that everything we do in the conscience-stricken world – staying too long in the shower, eating foreign vegetables, flying off for a fortnight's holiday, not to mention having too many children, is supposedly making the climate situation worse. Human behaviour is killing endangered species, and it is killing people too. But when we look about us, we cannot see it.

To start changing perceptions and behaviour, it is necessary to understand the old familiar ways, which are as basic as seeing and hearing. For example, you might be very familiar with a field nearby because you have grown up close to its stillness and beauty with only the

sound of the birds, until one day workmen arrive and churn it up, bringing great anxiety, leaving it filled with enormous, white, turning windmills, cutting the air and filling the sky with a terrible noise. What has been a familiar sensual pleasure, knowing and loving that land, has been drastically destroyed and for the rest of your life. Nobody asked you - a faceless bureaucracy did it. Your head knows that the windmills are there to grab energy from the wind, but your heart is angry. Emotionally it is almost impossible to coordinate your love of the natural world with such machinery designed to preserve it.

One major problem in the everyday world is the difficulty most people have in understanding what the scientists are telling them about climate change. They are too often, it seems, talking from another planet! If people are to adopt a different way of living, it is important that information is presented in an understandable way, and that instructions are not only clear and easy to follow but also visually easy to read. Without that clarity and the possibility of a real understanding of what is needed, it may all seem too difficult and pointless.

David McKay, a physicist at Cambridge University, has attempted to explain things in normal language (McKay, 2009). He points out, for example, how well-meaning media which urge the public to change their behaviour can even be misleading -

> "... the idea that one of the top ten things you should do to make a difference to your energy consumption is to switch off the phone-charger when you are not using it. The truth is that leaving the phone charger switched on uses about 0.01 kWh per day. This means that switching the phone charger off for a whole day saves the same energy as is used in driving an average car for one second. Switching off phone chargers is like bailing the Titanic with a teaspoon.
>
> ... all hydrogen-powered transport prototypes increase energy consumption compared to ordinary fossil-cars; whereas electric vehicles are significantly more energy efficient than fossil-cars. So hydrogen vehicles make our energy problem worse, and electric vehicles make it better."

Although, as McKay says, the effect of a single individual's actions in saving energy will not make any difference to the whole world, the effect of many millions saving energy could be significantly effective. For example, switching from gas-guzzling to fuel-efficient cars in the US alone would nearly offset the emissions generated in providing electricity to 1.6 billion people.

The Swiss psychoanalyst C.G. Jung (1964) described how people often erect psychological barriers to protect themselves from "the shock of facing something new", due to a "deep and suspicious fear of novelty". To preserve the warm feelings of familiarity, most of us naturally aim at finding cracks in evidence that suggests we should do something we don't want to do.

Psychologists know that simply telling people to do the right thing is unlikely to change their behaviour. It is much more effective to change administrative policy. An example is the current attempts in the over-eating Western world to change school-children's diets to diminish the growing epidemic of obesity and ill-health. Simply telling children not eat junk food has been found to be generally a waste of time, but if the school administration bans it

from schools and replaces it with healthy food, the children's quality of eating significantly improves.

The psychological key is in changing attitudes which in turn changes behaviour. It is to do with moving away from relying on personal experiences toward the acceptance of scientific evidence. The aim is to change the action of each individual by their acceptance of the evidence. Acceptance is typically a three stage process. Denial and apathy come before acceptance.

Stages of acceptance

1. Denial of the problem. Initial denial is driven by a mental phenomenon which psychologists call 'normalcy bias'. Denial comes from both lack of knowledge and more importantly experience. For example, people who have never experienced a catastrophe have difficulty recognising the signs that something awful is about to take place. Survivors of catastrophes very often tell how the non-survivors could not believe what was happening, were not flexible enough to adapt to the new situation, and so did not act appropriately to save themselves.

Ben Goldacre, the popular British science writer, refers to "zombie arguments" (Goldacre, 2007). These are arguments which should have been killed off by the evidence against them, but they survive and are raised again. Zombie arguments are resistant to death because they neither live nor die by the normal standards of human rationality. Typical undead arguments in climate change are that "CO_2 is not an important greenhouse gas", "Global warming is down to the sun", and "Climate has always changed over the centuries, so there is nothing new".

2. Apathy in the face of challenge. Psychologically, when facing challenge, it is much more effective to be part of the solution rather than a bystander. Accepting the situation and going along with it does not change anything. There is plenty of evidence that the most stressful part of a challenge is anticipation, uncertainly and the fear of what is likely to happen. The best way to start moving out of a fearful situation, such as the threat of climate change, is to know as much as possible about the threat, and accept it as reality. For both children and adults, it is possible to release anxiety in the face of change by using strategies of analogy - making the unfamiliar familiar. In children, this is called play; in adults, it is called rehearsal.

3, Taking action. The most difficult part of being in a threatening situation, such as the drying up of natural resources, means making an effort to relieve the anxiety and possibly stop the threat. The reward is that taking action resolves tension and brings relief – a very positive feeling. Taking action also means that it's easier to stop thinking about your internal experience of fear and instead focus usefully on external things, such as improving your situation. The psychological challenge is to move people from denial, and apathy to being in a state of willingness to take action and then to act.

Psychology for climate change

Environmental psychology has moved fast from a focus on the built environment at the end of the 20th century to that of the natural environment (Nickerson, 2002). Most particularly, it

is attempting to understand the way we live socially, which affects who we believe we are and what we are entitled to. The work-place adds to the influences of other human factors involved in the development and use of technology for energy-efficiency and recycling. Then there is consumerism, risk assessment and cost-benefit analysis. It is impossible to live an entirely green life. This means that people who are concerned for the environment face never-ending, unsolvable dilemmas and restrictions on their basic wish to live a happy stress-free life.

Some pertinent questions for psychology

- How can we hold two or more inconsistent ideas in our heads at the same time?
- Why do people say one thing and do another?
- Why do people behave inconsistently from one situation to another?
- How do people translate their feelings and beliefs into actions?

The constant problem for all psychology is that because it is concerned with human beings it is far from being an exact science. Psychological problems are rarely clear-cut with only one right solution: sometimes several seem equally right. Solutions may even demand an intuitive approach with a mixture of information and feelings. Choices in everyday dilemmas, like who you marry or where you choose to live, will change your life and happiness and are often based largely on intuition. In fact, just identifying the cause of an everyday problem, let alone the solution, is difficult because it is part of the way you live. Everyday dilemmas are also persistent; one decision sometimes only seems to pave the way for a new one. Furthermore, solving a life problem is one thing, but convincing other people of the rightness of your solution is another.

Cognitive Dissonance and reward

The idea of holding clashing ideas in one's head at the same time was first presented by Leon Festinger in his theory, "Cognitive Dissonance" (Festinger, 1951). The dissonance part, he said, "is experienced as uncomfortable tension", in spite of which we all hang on to that tension by acting against our beliefs at times. Perhaps as you put a cigarette to your lips, you have decided to live with the idea that smoking is bad for you. Or maybe, as you reach for one more cream cake, you push aside thoughts of your high cholesterol level. Everyone understands the meaning of Cognitive Dissonance because we all do it (Cooper, 2007).

The way out of that tension is in making a decision to release it. You decide not to eat the cream cake. With that decision, the tension of Cognitive Dissonance, of knowing the facts about cholesterol yet anticipating the taste, is removed (if only for the time being). Your reward of emotional satisfaction supports your decision. In fact, some people may deliberately create that tension to get the emotional reward that follows. Playing with tension is a human trait and may, in fact, be at the roots of curiosity and the need for variety.

Another reward route to change is incentive-driven strategies. Countries such as Mexico and Brazil and trials by the Mayor of New York, Michael Bloomberg, are experimenting with them. These conditional transfers, as they are called, pay or reward individuals to change

their ways. This might be rewarding children with cash for getting to school on time or parents for getting their children immunised.

But others find that the conflict of choosing is too painful. They do their best to avoid it, closing their minds to questioning and doubt. The simplest way of dealing with what we do not want to see is to deny it. Many do not see, for example, that current climate changes may be increasing to dangerous levels because of human behaviour. No, they argue, climate has always changed across the millennia. They deny responsibility, claiming that there is nothing we can do about it. Anna Freud called such attitudes "defence mechanisms" (Freud, 1937). She wrote that defensive emotional strategies are created when people are confronted by an anxiety-provoking situation and unconsciously avoid dealing with it.

A psychological defence may be seen simply as *mañana*, putting things off, or refusing to face change by arguing that it has always been done that way. Then along come the scientists who show the need for a change in behaviour and challenge the way things are. A defence could be, for example, by the owners of water companies which have many big leaks in the system, but who fear the financial cost of stopping them. It is so much easier for the company to deny what is happening and its wasteful effects on natural resources. Psychological understanding aims to recognise the reasons for such defensive barriers to change and point to ways in which they may be overcome.

These deep barriers are in addition to those of apathy and inertia. On the whole, humans prefer do nothing. One way out of this is further administration, such as making consent the default-option. So, for example, instead of asking people to volunteer their organs for donation to others on death, some countries and several American states are making organ donation the default option. People have to make the effort to state specifically in writing that they do not want their organs used for others when they die. Without their effort to make that statement, their inertia can be used for the good of others.

Psychological capital – intuition and culture

Feelings guide our actions, perhaps more than we would like to think, because none of us can be experts in every decision we make (Hogarth, 2001). We make daily intuitive choices of what feels right in the situation, though we cannot explain why. How, for example, did you decide what to wear today? Which garment, and why? Why did you automatically greet one person but hesitate before speaking to another? The trouble is that intuition is unreliable: the fact that some decisions are right in one situation does not guarantee they will be right in another.

Cultural influences on individuals have deep historical origins along with mythology and religion. These effects can be seen, for example, in divisions of work in roles prescribed for social-classes or gender. Culture filters through generations when parents teach their children how to behave, but it also spreads horizontally, as when a dominant culture will affect others, such as the current world-wide American influence. Cultural influences also come from creative endeavour, for example the psychological ideas of Sigmund Freud or Pablo Picasso's concepts of art. With all these currents and cross-currents, the culture inherited by a particular generation is never the same as the one it passes on.

Cultural beliefs strongly influence a major environmental problem - over-population – too many mouths to feed. Maybe condoms are the greenest technology of all. If the population keeps increasing as it is today, we will need a second earth to sustain the coming generations. But this rarely features on the agenda of any agency aiming for climate control. Only in China, where the one-child policy may have led to 300 to 400 million fewer people being born, is population control seen as crucial to curbing emissions. China's population is expected to peak at around 1.4 billion in 2020, whilst that of India continues to grow swiftly. Mrs Gandhi's idea of transistors for every man who was sterilised was good in its time, but that project had problems of implementation and there has not been any follow up to it.

Birth rate, gender equality, education and poverty are inextricably linked. More than 200m women worldwide have no access to contraception. It is widely accepted that women's education is the key to a lower birth rate, improved child health and a higher standard of family living; the more girls go to school and the more women who are employed, the fewer children there will be.

Our personal psychological capital emerges in our intuitions which, along with our personalities, work within our culture. The Russian, Lev Vigotsky, was the first to recognise this effect in his 'socio-historical' approach (Vigotsky, 1978). He pointed out that while children are learning to speak, they are also taking in 'ready made' parcels of culture which affect all their communicating and thinking. The system works, he wrote, because adults in the culture have learned it and share the cultural assumptions. To change people's attitudes for the sake of the environment, psychology has to recognise and deal with this deep and powerful cultural influence – both within each individual and in the society.

Family and environmental cultural influences were clear in data from research I started in 1974 in Britain. I was investigating the experiences and outlooks of bright young people (N=169, mean IQ 135, mean age 18) and their parents (Freeman, 1991, Freeman, 2010). I asked them about the prospect of a nuclear holocaust, how it might start and what might happen. The question produced impassioned responses which were analysed in terms of their measured IQs, education, upbringing and personalities. Strikingly, their IQ scores were associated with their attitudes at a very high level of significance (0.01). Those with the highest IQs were more inclined to believe in possible man-made destruction than the lower scorers who were more likely to believe that some outside entity, or god, would save them.

There were no differences in responses, though, in terms of age or gender, sensitivity to their fellow humans, or whether they had more troubled personal lives. Those who anticipated disaster were more likely to come from higher social-class, better educated families, right back through to grandparents, though there were no differences in their physical home and neighbourhood circumstances. The family differences were clearly not to do with money, but with behaviour and outlook. It is parents who teach their children that they are effective and competent in dealing with life.

The brightest and most highly educated young people were the liveliest thinkers and the ones most likely to take action. But they were also the pessimists who had a more heightened awareness and concern for the society they lived in. They were also twice as likely to be first-borns. The optimists protected themselves with psychological defence mechanisms, notably of two types - either the some higher authority would come to their aid and prevent destruction, or there really was no nuclear threat.

SMOKING - AN EXAMPLE OF SUCCESSFUL CHANGES OF MIND AND BEHAVIOUR

The rise of anti-smoking feeling and widespread action against smoking provides an excellent example of how attitudes and behaviour can be changed. The highly successful key has been in efforts to approach people's psychological capital. In the middle of the twentieth century, such a change in behaviour seemed an impossible goal. The tobacco industry had infinitely more resources than the tiny sums the health education campaigners could raise. Smoking advertisements were everywhere - in the media and on the streets - while their advertising jingles rattled on in the mind. Today, it is the same for ecology. For example, the estimated budget for Greenpeace is about $20 million a year, while that for advertisers of consumables worldwide is probably around $400 billion.

But in addition to lack of means, the health educator's major thrust for many years was simply to tell people how bad smoking was for them. Psychologically, like the notices in the doctor's waiting room, it had no recogniseable effect. The assumptions of the time about the nature of smoking: that it was normal, sophisticated – and a human right - seemed unchallengeable. When news of the ill-effects of tobacco began to be made public in the 1960s, there was a famous quote by an American tobacco executive. He said that "doubt is our product", meaning that they were no longer only selling tobacco, but also uncertainty, promoting the thought that maybe tobacco was not really poisonous, in spite of the scientific evidence. In the same way today, some still refer to climate change as though it were merely a possibility.

Although study after study published by scientists showed the benefits of cutting out smoking, there was no change of minds or fashion until there was real leadership in the form of government edicts. To start with, cigarette advertising was banned. Now, as countries rush to ban smoking in enclosed public places (and some in the open air) the positive effects can be seen in quality of life.

The increasing enactment of a smoking ban is possible because of the steep rise in public understanding of the effects of smoking. And smoking levels continue to go down (Office of National Statistics, 2008). In 2008 only 22 per cent of Britons aged over 16 smoked, down from 24 per cent the year before and from 45 per cent in 1974. Strangely, more girls are now smoking (10%) than boys (7%), for which there is no explanation. Looking back over half a century there has almost been a reversal of belief in the social value of smoking. What lessons from that successful campaign could be applied to the much less personal effects of world climate control?

Four lessons for climate control from the anti-smoking campaign

Lesson 1. **Challenge**
It is possible to challenge deep assumptions - the psychological capital - of vast populations of all ages and from many cultures. Challenge to beliefs can open the possibility of change. As with smoking, concern about climate change raises three challenging questions which need resolving before many would be prepared to change their assumptions and habits.

i. What is true and what is not true?
ii. What are the immediate benefits to the individual as well as to the wider world?
iii. What can each individual do about it?

Evidence must be offered in a language which is easily understood and persuasive, and from a trustworthy source. Sometimes the information does not always clarify the issues and may lack conviction. Television and films are easily accessible, as is the internet, notably in the world-wide interactives such as Facebook, Myspace or personal blogs.

Psychology can help to get messages through, and there is considerable experimental evidence as to how this might be achieved. For example, attempts should be made to make the message as fluent and familiar as possible, taking advantage of variables like repetition, rhyme and easy readability. Statements that sound familiar, as though they have been heard before, invite less scrutiny than unfamiliar statements. Information processing is an individual thing which brings people feelings of ease or difficulty. Any influence that either helps or gets in the way of easy information processing can have a serious effect on how people judge it and the consequent decisions. Easy processing is the aim. And to do that means thinking through and using evidence about the best form of presentation. If it's easy to read, it seems easy to do.

Lesson 2. **Decision making**
The most powerful mind-changing influence in decision-making is social–consensus. Social psychologists (and advertisers) have long been aware that people often rely on social-consensus to determine whether something is true or not - if so many people believe it, there's probably something to it. But a consensus can only be built on the base of what people already believe. Psychologically, people are more likely to follow the lead of others like themselves, or of others they would like to be like - the current celebrity 'Hello' culture is an underused force for good.

It has been said that 'Nobody cleans a rented car', the reason being no sense of ownership. The massive global arguments can seem to be way outside the individual's ownership and control, their incomprehensibility being counterproductive. It would be sensible to teach responsibility for the environment on the assumption (justified or not) of climate change already germinating in the public mind.

In Sweden, for example, psychologists asked 621 participants aged from 18 to 75 whether 44 statements about climate change were true or false (Sundblad, Biel & Garling, 2007). The big global facts on climate changes, the causes and the consequences for the weather, sea and glaciers, produced little notable response or concern. But in the more personal health statements here appeared to be a sense of ownership which affected responses. When told, 'It is probable that mortality by lung oedema and heart problems during heat waves in Sweden will increase in the next 50 years', that statement produced the strongest reaction.

Influential experimental work by Kurt Lewin in America showed how people's outlooks and productivity could be changed by understanding them in their life-space (Lewin, 1948). He pointed out that individuals make decisions within a group, especially when they share a common goal. He used three groups in a famous experiment. The group that was democratically led, where everyone felt they had a part, motivated its members far more than

either the autocratic group where members were told what to do, or the laissez faire group without any leadership. To change behaviour, he concluded, the approach should be persuasive and involving rather than either didactic or no leadership.

Schools, apartment blocks, factories, and other institutions act as social groups. It is these social networks which can make 'green' behaviour seem like the normal thing. But not everyone is altruistic: propaganda without action may simply produce eco-fatigue. People want to see the benefits to themselves. When taxes increased on cigarettes, consumption fell. Other financial incentives, such as tax breaks or rebates for solar panels appear to initiate action. In Germany, for example, there is financial help for solar power, whereas there is no such help in the UK. Solar panels on houses in Germany are growing in number, whereas there are few in the UK. But in London, the use of electric cars is increasing rapidly possibly because they are not subject to the congestion charge to enter the city centre and for them parking is free.

We cannot see or feel the effects on global health from what each of us does, so we have to take it on trust that if we recycle paper it is going to make a positive difference to the world. Yet to keep change moving, individuals need clear positive feedback, at very least a pat on the back. Psychologically, we know that when rewards are immediate they are more valued and effective than when they are a long time away. It is often easier to reward the results of the behaviour, rather than the behaviour itself (Winter & Koger, 2003). Using green forms forms of energy should be the cheapest. But whether of money or time, the perceived cost to the individual cannot be higher than they are prepared to give.

Lesson 3. **Education**

Education is an environment set within a greater culture. Children who fail to learn about their role as part of a world perspective, to understand and think about life outside their own lives are intellectually restricted. In fact, there is evidence that when children are better educated they are more intelligent and more understanding they are of the outcomes of human action.

There are two ways to help children become more aware of the world. The first is from the more usual direction, 'top-down', when teachers tell pupils what to think and how to behave. But this kind of didactic instruction ignores social-consensus and so may be rejected or swiftly forgotten by the pupil. The alternative is the slower but more effective 'bottom up' approach where learning and attitude change is a more democratic process, involving teachers and pupils learning and thinking together.

To have the greatest effect, education should be of both kinds. A 'top-down' approach could start with coordinating and expanding on what pupils already know and the ideas they have about it. Alternatively, in the 'bottom-up' approach, teachers could organise workshops in schools to start an involving awareness campaign about the energy use of local facilities. Promoting awareness enables every child to expand knowledge in a meaningful way; knowledge which can be used flexibly and creatively in many situations. It is the original meaning of education - bringing out the best from young minds, rather than attempting to fill empty vessels.

The best education encourages children to develop curiosity, problem-solving attitudes and a true love of learning to last them for life. To be useful and useable, knowledge must be

gained in a way that is meaningful to the child in his or her world. Children will act most positively and creatively when they have enough self-confidence and courage to experiment with what they know and understand.

Writing from Australia, Volk (2008) says that gifted students, more than others, show interest in the future of the world, in that they want to take action for global interdependence. She sees the gifted as "potential future leaders". I certainly found that in my own research (three decades of follow up on the sample described above), that the gifted they were indeed more interested in world events and had much stronger opinions than the average ability youngster, but their outlooks also correlated very highly with those of their parents and their socio-economic status (Freeman, 2010). Briefly, the more intellectual the home, the more the children in it would be involved in thought and consideration of non-domestic happenings. For sure, the gifted have a greater potential to deal with issues of change and morality, though this does not mean that they will certainly take up these matters. I argue that to have their greatest positive effect, global concerns should be a matter for all young people.

Developing a concern for the environment in school pupils is essentially concerned with intercultural understanding and collaboration with regard for cultural viewpoints. It involves, of course, the use of natural resources and what each individual can do for our joint benefit, but also includes concern for peace, international trade, poverty and the availability of clean water and medicine. In much of the developed world such matters are more frequently becoming part of school curriculum from the start.

International communication about the environment is affected by the following:

- *Language and literacy*. English is the primary technological language, but in all languages, literacy is the sure route to flexible thinking and openness to change (Freeman, 2008).
- *Cultural approaches*. For example, if one culture sees interference with what they see as natural and interference with God's will, they will refuse to seek change. This could be, for example, a refusal to limit the number of children in a family.
- *Geography*. This includes not only the home area but also distance. Being directly involved with the home district is more effective than secondary information about places a long way away.
- *Technology*. This is a two-edged sword. It can be used for good in raising awareness of climate change, or ill in coordinating terrorist activities. The areas of the world which have access to information technology are already greatly further ahead in communication than those who do not have it.

Lesson 4. **Government legislation**

It is not only ordinary people who need convincing, but more importantly - politicians. The final stage in the smoking ban came through legislation. The law is the final decider. But even so, the idea that smoking in public places is wrong could not have become fact as smoothly as it did without the considerable backing of social-consensus.

Legislation has brought immense changes for the benefit of the environment, though this could be speeded further with penalties for polluters, as in the taxes on cigarettes. Forward-thinking legislators have taken brave steps, such as banning smoking in Irish pubs, and now banning free flimsy plastic bags in China. Even greater effects could come from obliging car

manufacturers to modify engines and use more environmentally friendly fuel. Legislation also implies monitoring and evaluating its possible effects. But it can only function well if there is a basis of consensus, whether conscious or unconscious. Legislation is perhaps the ultimate psychological action.

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