

ADDRESSING BEHAVIOURAL CHANGE ASPECTIN MITIGATING CLIMATE CHANGE

Amelia Limijaya

Fakultas Ekonomi Universitas Katolik Parahyangan Bandung

Abstract

Artikel ini bertujuan untuk menjawab pertanyaan mengapa aspek perubahan perilaku yang merupakan salah satu cara untuk mengatasi perubahan iklim belum mengalami kesuksesan yang besar. Metode yang digunakan dalam penulisan artikel ini adalah tinjauan pustaka dari berbagai sumber, mulai dari artikel jurnal sampai dengan laporan. Dari hasil analisis, dapat diketahui bahwa terdapat beberapa variabel yang dapat menjelaskan kurang efektifnya program-program perubahan perilaku: pesan yang bersifat kontradiksi dari pemerintah, ketidakpastian masa depan, terlewatnya aspek “mengapa” yang merupakan dasar perubahan perilaku, program-program yang kurang tepat sasaran, serta adanya penghalang (hambatan) untuk terlibat dalam isu perubahan iklim. Hal ini menunjukkan bahwa program-program atau kampanye terkait perubahan perilaku perlu disusun secara saksama. Dengan demikian, manfaat-manfaat yang dihasilkan dari perubahan perilaku dalam upaya mengurangi dampak perubahan iklim dapat dirasakan dan dikombinasikan dengan solusi jangka panjang untuk mengatasi masalah tersebut, yaitu solusi di bidang teknologi dan ekonomi.

Kata kunci: perubahan perilaku, perubahan iklim.

Introduction

Everyone would probably agree that climate change has become an important issue in the present days. Based on the literature, there are three approaches that could be considered in managing climate change: technological (Pacala & Socolow 2004; Weizsacker, V.E, et al. 2010), economic (Stern, N & Treasury, G 2007), and behavioural (Dietz, et al. 2009). With regards to the third approach, there is a well-accepted common theme which states that managing climate change is none but a matter of addressing behavioural and social issues (Pike, et al. 2010; Spence & Pidgeon 2009). However, despite the importance of behavioural factors on climate change, it appears that there has been a lack of attention given to this area compared to those of technological and economic discussions in tackling climate change problems (Spence & Pidgeon 2009; Dietz, et al. 2009).

Efforts in encouraging behavioural change as one of the solutions to alleviate climate change have not gained much success for several reasons.

Nonetheless, although might not be regarded as panaceas, there exist several ways to mitigate this problem, which will also be discussed. Therefore, this article aims to answer the following questions:

1. What is the importance of behavioural change aspect in mitigating climate change?
2. Why has the behavioural change aspect not been that effective in mitigating climate change?
3. What can be done to improve the effectiveness of behavioural change aspect in mitigating climate change?

To limit the scope, this article focuses on the behaviour of individuals, instead of organisations or businesses as a whole.

The importance of behavioural change aspect in mitigating climate change

There are four, non-exhaustive, factors that can explain the importance of behavioural issue. Firstly, household's contribution to greenhouse gasses (GHG) emissions is quite significant, if not staggering; therefore actions targeted towards achieving household savings can bring a large impact in reducing the level of GHG emissions (Webb 2012; Palmer 2010; Dietz, et al. 2009). The success of household savings itself relies on behavioural change (Webb 2012). Put it another way, household savings cannot be accomplished without a change in behaviour. Therefore, it is apparent that behavioural change is crucial in managing climate change.

Secondly, behavioural change is dominated by simple and practical actions that are readily adopted by individuals (household), hence the effect that it brings on reducing emissions can be felt quickly (Price 2009; Pike, et al. 2010). Thus, it will allow us to buy time while waiting for a more comprehensive and long-term oriented solutions in dealing with climate change (Pike, et al. 2010; Dietz, et al. 2009). As also mentioned by Dietz, et al. (2009), behavioural change is an essential part of a long-term framework in climate change mitigation strategies, which involve technological and economic solutions. In other words, although the domain of behavioural change is mainly on short-run framework, nevertheless it is an integral part of a long-run perspective. It is therefore a complementary aspect to long-term solutions.

The third reason as to why behavioural change is important relates closely to the second factor. As mentioned above, behavioural change is mainly to do with simple and practical actions. People will most likely underestimate the impact of these simple yet effective actions; probably they think that the scale of these actions is too small, if any, to bring any contributions towards alleviating climate change. Yet, the impact that these actions have on reducing emissions can be significant (Lingl, et al. 2010, p.28; Dietz, et al. 2009; Pike, et al. 2010).

The final reason relates with the fact that humans largely affect the environment, especially in the way that they use resources (Hardin cited in Dietz, et al. 2003). The use of resources will in turn affect the

climate. Natural resources can be regarded as public goods, hence there exists free-riders problem (Henrich 2006). Ostrom (1998) discusses this behavioural topic, specifically in relation to collective action in social-dilemma settings. All these three sources converge to a point whereby human behaviour plays a critical role in the issue of public goods.

Having discussed the importance of behavioural factors, the next section will try to answer the second research question, that is, why the behavioural change solutions to climate change have not been as effective as expected.

Behavioural change in mitigating climate change: the missing link

There are several factors that can cause behavioural change programs in mitigating climate change to be ineffective. Although they are not exhaustive, the following factors as explained below might give a clearer picture as to why such programs are less successful than they were intended to be.

Each of us probably has heard many times about the campaigns initiated by the government regarding climate change mitigation. Unfortunately, to some extent there has been a conflict or contradiction in what the government is promoting and what is actually done (Webb 2012). Xenias and Whitmarsh (2011) gave an example of this contradiction, whereby a cycling campaign initiated by the government was not supported with the facilities needed; instead the expansion for road and airport were more prioritised. It could be said that the government only “talk the talk” but not “walk the walk”. The contradiction might be caused by the disproportionate nature of policy formulation, in which almost all efforts are put in the implementation phase, leaving only a small portion for modelling and information, and even almost no room for establishment of goals, which should precede the other two steps (Meadows 1994). This inconsistency of message might cause public to perceive that there is a lack of willingness from government to address climate change; as a result, public may put low trust on government and regard the issue as not urgent or serious (Webb 2012; Bachrach 2010). Therefore, inconsistent or contradictory message from government may cause behavioural change programs ended up not as successful as expected.

The second factor that impedes behavioural change has its source from uncertainty of the future. This uncertainty might result in people’s attitudes to discount the future, in other words to have everything now and do not consider the future generation (Price 2009; Bachrach 2010).

Also, since the future is regarded as abstract, distant, or beyond imagination, any actions intended to save the future by means of changing behaviour will not yield significant impact as the scale of the problem is considered too big; thus short-term focus dominates a long-

term one (Webb 2012; Bachrach 2010; Nicholas 2012). In addition, Sterman and Sweeney (2007) found that there is also a lack of public knowledge and awareness regarding science and climate change, which results in misconceptions of the issue. In short, the ineffectiveness of behavioural change programs is caused by the combination of uncertainty of the future and the out-of-reach scale of climate change perceived by many individuals.

As would be agreed by most people, the majority of behavioural change campaigns involve simple and practical actions that tell (instruct) people about what they should do in order to reduce GHG emissions arising from household. Although it seems that this approach is handy, simple, and easy to implement, merely telling people what to do can produce negative reactions from them (Genovese 2008). In addition, the campaigns tend to overlook the most important aspect in telling people what to do, which is the reason behind that, or the “why” aspect (Webb 2012). Simply asking people to alter their behaviour can be associated with single-loop feedback, and there needs to be an advancement towards double-loop feedback that can be achieved by explaining the reasons behind the change; thereby engaging people to change their action-logic (Torbert 2004, pp. 18-19). Without unfolding the basic reasons as to why people need to alter their behaviour as part of climate change management, behavioural change campaigns will not likely to be effective.

Moving on to the next factor, audience-related issue also contributes to the lower-than-expected level of success in behavioural change programs. Genovese (2008) pointed out that programs which are not well-targeted to appropriate audience will not gain much success. It can be deduced that to some extent, the campaigns tend to omit the fact that different audience needs different treatment. Fortunately, there are some steps that can be undertaken to deal with this matter; they are to be explained later in the next section of the discussion.

The existence of barriers that can impede people to engage with climate change is another source of the ineffectiveness of behavioural change programs. It has to be admitted that humans are creatures of habit, “... people rely on simplifying strategies in the form of cognitive heuristics or habitual routines in order to function” (Hoffman 2010, p. 3). This is not to say that habit is bad, it is actually accommodating people in performing their daily tasks. However, on the other side of the coin, habit can also become an obstacle once a change is needed (Hoffman 2010).

Spence and Pidgeon (2009) also pointed out some barriers perceived by people in relation to climate change, in individual as well as social levels. Among them are lack of knowledge in the individual level and free-riders effect in the social level. As a consequence, these barriers cause difficulties in behavioural change.

Behavioural change in mitigating climate change: connecting the dots

There are several factors that could facilitate the success of behavioural change campaigns in mitigating climate change. Many of us would agree that people's past behaviour determines future behaviour, shaping people into creatures of habit (Spence & Pidgeon 2009). To overcome this habitual barrier in behavioural change settings, "... requires deliberate intention and, as a result, interventions that encourage people to be more conscious of their behavioural choices increase an individual's capacity to change" (Spence & Pidgeon 2009). In other words, people need a shift in awareness of the choices that they make and the resulting consequences. Torbert (2004) uses the term action inquiry to describe this process. The past-determines-future aspect of human's behaviour also can be analysed further to understand the process of behavioural change which occurred in the past, such as the social transformation of smoking cessation, so that it can be applied in the current setting of climate change (Palmer 2010).

The second approach to be discussed deals with the audience-related issue mentioned previously. Before promoting behavioural change campaigns, government or other initiators need to know who they are dealing with; they must know their audience. While knowing the audience is the first and foremost rule in conveying any information, it is not enough. Understanding and engaging with the audience are also essential, especially within the context of behavioural change (Genovese 2008; Spence & Pidgeon 2009; Xenias & Whitmarsh 2011). There is no such thing as single public or audience (Lingl, et al. 2010, pp. 61-62), therefore segregating them into several levels can be very helpful in communicating effectively (Xenias & Whitmarsh 2011; Spence & Pidgeon 2009). For example, Pike, et al. (2010, p. 29) divide the audience into 5D staged approach to change: disinterest (I will not change stage), deliberation (I might change), design (I will change), doing (I am changing), and defending (I have changed). Alternatively, the audience can also be classified into different action-logics stages: opportunist, diplomat, expert, achiever, individualist, strategist, and alchemist (Torbert 2004). Each of this stage requires different approach. By classifying the audience into the stages where they are sitting at in the behavioural change process, the approach employed to encourage or motivate individuals to alter their behaviour can be adjusted to accommodate the different treatments that are needed on each layer.

Based on this discussion, it is evident that knowing, understanding, and engaging with the audience are essential in designing communication strategies that are tailor-made to satisfy different types of audience. As a result, behavioural change campaigns in managing climate change can be made more effective.

Most people, if not all, are resistant to change. Therefore, the next approach that can motivate people in altering their behaviour is by aligning behavioural change campaigns with three elements of change (Pike, et al. 2010). In order to change, people firstly need tension, which basically means a condition whereby the reality (present situation) is in conflict with the desired goals or values, in other words there is a gap between reality and expectation. This tension must be sufficient enough to trigger people to change their behaviour towards mitigating climate change. In particular, the more relevant the tension is to their lives (directly impacts their lives or something that concerns them), the more likely people will be willing to take actions. The urgency of climate change must be made real and connected to one's life to motivate them in changing their behaviour. This tension element is referred to as cognitive dissonance (Spence & Pidgeon 2009), which will cause people to feel not comfortable with the gap. Consequently, people will try to reduce the gap by changing either one. In the context of climate change, the ideal is undoubtedly towards adjusting the behaviour and not the other way around. Next, the second element of change is building efficacy in people's mind to address climate change. In essence, this means encouraging and building people's confidence that they actually have the capabilities to lessen the tension as explained above; that they do have a role in managing climate change problems. The key is to motivate people that the adoption of new practices through behavioural change will have a contribution in mitigating climate change problems. The third element of change relates with the way the information is conveyed to people. Information can be carried in a positive or negative ways. To motivate people in altering their behaviour, emphasising the positive side is encouraged. People need to be informed with the benefits that they can enjoy by adjusting their behaviour in managing climate change. Focusing on the negative side will not be effective, as people are more likely to be receptive to change their behaviour if it will give them benefits or advantages (Xenias & Whitmarsh 2011).

The approaches that have just been discussed are not exhaustive, the list can continue on. Nonetheless, they can be used as guidance in designing behavioural change programs in order to be more effective in mitigating climate change.

Conclusion

Based on the discussion above, it is apparent that behavioural aspect plays an important role in mitigating climate change problems. Several factors causing the lack of effectiveness in behavioural change programs or campaigns have been discussed, as well as the approaches that could be undertaken to improve the success rate of the programs. As

climate change is getting more urgent, behavioural change aspect must be reinforced continuously; we can no longer employ the wait-and-see attitude (Price 2009; Webb 2012). As with any risk management issue, the longer we respond to climate change problems, the higher the risk exposure is (Raupach & Fraser 2011). Behavioural aspect is an integral part of the strategic framework in addressing climate change (Pike, et al. 2010), hence it cannot be neglected in preference to longer-term solutions. Behavioural aspect should be incorporated into policy making process. Since human's behaviour is largely responsible for many of the world's problems, including climate change, the remedies must be behavioural in nature as well (Price 2009).

References:

- Bachrach, D 2010, *Human Behavior*, Psychologists for Social Responsibility's, accessed 12/3/2013, <http://psysr-climatetoolkit.org/behavior/>
- Dietz, T, et al. 2003, 'The struggle to govern the commons', *Science*, vol. 302, pp. 1907-1912.
- Dietz, T, et al. 2009, 'Household actions can provide a behavioral wedge to rapidly reduce US carbon emissions', *PNAS*, vol. 106, no. 44, pp. 18452-18456, <http://www.pnas.org/content/106/44/18452.full>
- Genovese, J 2008, *Behaviour Change for Combating Climate Change*, DEC Community Education Branch, accessed 12/3/2013, <http://learningfundamentals.com.au/wp-content/uploads/behaviour-change-for-combating-climate-change.pdf>
- Henrich, J 2006, 'Cooperation, punishment, and the evolution of human institutions', *Science*, vol. 312, pp. 60-61.
- Hoffman, A.J 2010, 'Climate change as a cultural and behavioural issue: addressing barriers and implementing solutions', *Organizational Dynamics*, accessed 12/3/2013, <http://www.erb.umich.edu/Research/Faculty-Research/AJHclimateChangeCulturalBehavior.pdf>
- Lingl, P, Carlson, D & the David Suzuki Foundation 2010, *Doing Business in a New Climate: A Guide to Measuring, Reducing and Offsetting Greenhouse Gas Emissions*, Earthscan, London.
- Meadows, D.H 1994, *Envisioning a Sustainable World*, a paper presented at Third Biennial Meeting of the International Society for Ecological Economics, San Jose, Costa Rica, <http://www.sustainabilityinstitute.org/pubs/Envisioning.DMeadows.pdf>
- Nicholas, E 2012, *The Effect of Individual Behavior on Climate Change*, The Aspen Institute, accessed 12/3/2013, <http://www.aspeninstitute.org/about/blog/effect-individual-behavior-climate-change>
- Ostrom, E 1998, 'A behavioural approach to the rational choice theory of collective action', *American Political Sciences Review*, vol. 92, no. 1, pp. 1-22.

- Pacala, S & Socolow, R 2004, 'Stabilization wedges: solving the climate problem for the next 50 years with current technologies', *Science*, vol. 305, no. 5686, pp. 968-972, <http://www.sciencemag.org/content/305/5686/968.full>
- Palmer, L 2010, 'Behavior frontiers: can social science combat climate change?', *Scientific American*, accessed 12/3/2013, <http://www.scientificamerican.com/article.cfm?id=can-social-science-help-combat-climate-change>
- Pike, C, Doppelt, B, Herr, M 2010, *Climate Communications and Behavior Change: A Guide for Practitioners*, The Climate Leadership Initiative, accessed 12/3/2013, <http://www.theresourceinnovationgroup.org/storage/Climate%20Communications%20and%20Behavior%20Change.pdf>
- Price, M 2009, *Changing Minds to Prevent Climate Change*, accessed 12/3/2013, <http://www.apa.org/monitor/2009/10/climate-change.aspx>
- Raupach, M & Fraser, P 2011, *Climate Change: Science and Solutions for Australia*, CSIRO, Australia, <http://www.publish.csiro.au/Books/download.cfm?ID=6558>
- Spence, A & Pidgeon, N 2009, 'Psychology, climate change & sustainable behaviour', *Environment*, accessed 14/3/2013, <http://www.environmentmagazine.org/Archives/Back%20Issues/November-December%202009/Psych-Climate-full.html>
- Sterman, J.D & Sweeney, L.B 2007, 'Understanding public complacency about climate change: adults' mental models of climate change violate conservation of matter', *Climatic Change*, vol. 80, pp. 213-238.
- Stern, N & Treasury, G 2007, *Stern Review: The Economics of Climate Change*, Cambridge University Press, pp. 347- 376.
- Torbert, B & Associates 2004, *Action Inquiry*, Berrett-Koehler, California.
- Webb, J 2012, 'Climate change and society: the chimera of behaviour change technologies', *Sociology*, vol. 46, no. 1, pp. 109-125, SAGE Premier 2013.
- Weizsacker, V.E, et al. 2010, 'A Framework for Factor 5', in *Factor Five*, Earthscan, <http://www.naturaledgeproject.net/Documents/F5CH1SectorStudyIntroduction.pdf>
- Xenias, D & Whitmarsh, L 2011, *Psychological Aspects of Behaviour Change and Climate Change Communication*, accessed 14/3/2013, [http://www.nienvironmentlink.org/cmsfiles/files/Publications/BelfastNIEL07Mar2011XeniasForDissemination-\(2\).pdf](http://www.nienvironmentlink.org/cmsfiles/files/Publications/BelfastNIEL07Mar2011XeniasForDissemination-(2).pdf)