

Barriers to and Enablers of Effective Individual and Community Sustainability Communication

Lynne Eagle*, James Cook University, lynne.eagle@jcu.edu.au

David R. Low, James Cook University, daviv.low@jcu.edu.au

Lisa Vandommele, James Cook University, lisa.vandommele@jcu.edu.au

Abstract

The challenges facing those communicating the potential impact of sustainability to individuals and social groups are discussed, including major factors that influence behaviour change decisions. We highlight the complexity of factors impacting on individuals' attitudes, beliefs and actual behaviour adaptation and suggest that current communication strategies could be significantly improved through greater understanding of adaptation decisions and the key barriers to, and enablers, of sustained positive behaviour change for individuals and communities. The paper concludes with recommendations for transdisciplinary research to focus on improvements to message clarity and communication and an understanding of the way messages are accessed and synthesised.

Keywords: Social marketing, sustainability, social capital, community, behaviour adaptation, behaviour change

Track: Social Marketing

1. Introduction

In this paper, we discuss the factors that should be taken into account in designing effective sustainability interventions. We identify deficiencies in extant communication models and suggest ways in which more robust hybrid models can be developed for the communication of sustainability messages, including the need to change behaviours and specific behaviours that are desired. We move from individual factors to focus on potential barriers to, and enablers of sustained behaviour change within group and community-based contexts.

2. Communication of the Need to Adapt

2.1 *The Information Deficit Gap*

Lack of knowledge (i.e. 'information deficit') is held to be an impediment to both attitude and meaningful behavioural change (Semenza et al., 2008) but the concept fails to recognise the complex interaction of values, experience and other factors in achieving (or not achieving) successful and sustained behaviour change (Lorenzoni et al., 2007). Attitude change towards performing specific behaviours is necessary, but also complex as attitudes are multi-factored and interact with a number of other key factors in influencing behaviour, especially norms and self-efficacy (Fishbein, 2008). Further, attitude change alone is unlikely to be effective in achieving sustained behaviour change as a focus on individual voluntary change ignores social, environmental, structural and institutional barriers to behaviour change (Ockwell et al., 2009). People will take action only they perceive beneficial personal consequences, but they are also influenced by social interactions with others in their communities (Gooch and Rigano, 2010). A further barrier may also be a perception that changing one's own behaviour will not make any difference in the face of the magnitude of potential environmental challenges such as climate change (Semenza et al., 2008).

2.2 Assumption of ‘Spillover effects’

Policy makers assume, without evidence, that ‘spillover effects’ will occur, i.e., people can be “ushered onto a virtuous escalator” (Thøgersen and Crompton, 2009: 143) whereby behaviours performed in one setting will automatically lead to changes in another setting (Barr et al., 2011) and that small behaviour changes will lead to larger change and catalysts for other changes, but there is evidence that this does not automatically occur (Corner and Randall, 2011). Doing one pro-environmental behaviour may be seen as compensating for other environmentally detrimental behaviours, i.e., spillover effects may be negative rather than positive (Mazar and Zhong, 2010). Thus communication that focuses on single behaviours, e.g. recycling, is unlikely to impact on other potentially sustainability actions.

2.3 Message Sources and Communications Theory

Mass media provides most of the general public’s knowledge of science and risk perceptions (Foust and O’Shannon Murphy, 2009). Consumers no longer use individual media, but rather multiple media simultaneously. Within social networks, marketers cannot control the outcome of discussions; anyone can post opinions and readers may find it difficult to assess the relative credibility or veracity of sources and claims (Campbell et al., 2011). Behaviour change messages will not occur in isolation, but will be subject to a range of competing messages and social encouragement / discouragement, including peer and family influences, perceived and actual behavioural norms. Traditional communications theories, such as Hierarchy of Effects models no longer offer complete explanations of communication processes. For example, AIDA (Awareness, Interest, Desire, Action), originally developed a century ago, is of limited relevance to the contemporary communication context (Barry and Howard, 1990; Barry, 1987). These types of models were predicated on marketer controlled, one-way information flow and came to prominence during an era in which mass media were dominant and the prevailing belief was that advertising was a strongly persuasive force. These models acquired the status of accepted wisdom in spite of considerable evidence that, even before the Web 2.0 era, they were not universally applicable (Jones, 1990).

Future research should involve a re-examination of the relevance of traditional communication theories for the 21st century environment, together with newer - but in the sustainability context largely untested – models. For example, the Technology Acceptance Model (TAM), the Innovation Diffusion Model (Premkumar and Bhattacharjee, 2008) and various hybrid models that combine the TAM with more widely known behaviour change models. Extensions of the Theory of Planned Behaviour, such as the Integrative Model of Behaviour Prediction and Change (Fishbein and Cappella, 2006) place more focus on the influence of background factors than its predecessors, including, importantly, the role of intervention activity and media exposure. Further, different population segments may be driven more strongly by attitudinal factors, normative influences or perceived self-efficacy, i.e., the ability to change behaviour and sustain that change. A behaviour that is attitudinally driven in one population or culture may be normatively driven in another (Fishbein and Cappella, 2006). In the sustainability context, the use of the TPB and other related theories has been descriptive rather than analytical; its power as a predictive tool has yet to be tested.

3. Improving Communication Effectiveness and Message Framing

The aim of intervention communications is to increase the strengths of beliefs that will increase positive behaviours and reduce the strength of beliefs that promote negative behaviours. The premise is that beliefs related to positive actions will carry more weight as determinants of attitudes, norms, self-efficacy and intentions (Fishbein and Cappella, 2006).

A key factor that needs to be considered in terms of facilitating effective communications is whether messages are framed in terms of potential losses or gains to an individual. No one single framing approach is applicable across all intervention types. In low-involvement conditions positive messages appear more effective, whereas the reverse is true for high-involvement conditions (Donovan and Jalleh, 1999). People are reluctant to act in response to information that contains ambiguity or uncertainty (Morton et al., 2011). While positive framing fosters greater self-efficacy, in health contexts it can have a boomerang effect if the message conflicts with pre-existing knowledge, attitudes and beliefs (Wolburg, 2006). Effectiveness is also enhanced when the personal salience of messages is coupled with ways of building or reinforcing self-efficacy and presenting low cost solutions and support (Spence et al., 2010). A barrier to the acceptance of the need for change may be unrealistic optimism, risk denial or the perception of low risk where first hand experiences of consequences may be lacking (Spence et al., 2011). However, before this is achieved, issues relating to the capacity of individuals to understand must be addressed.

4. Capacity to Understand: Time Dimensions and Functional Literacy

Individual's ability to visualise the future is only 15 – 20 years for most people (Tonn et al., 2006); 50 years seems to be the longest conceptualization limit (O'Neill and Hulme, 2009), with scenarios projected beyond this being seen as largely hypothetical (Lorenzoni et al., 2007), thus talking about what will happen in a hundred years or by the end of the century is unlikely to be ineffective. Functional literacy, defined as whether a person is able to understand and employ printed information in daily life, at home, at work and in the community (Nutbeam, 2008) presents another challenge. Varying definitions of literacy make cross-study comparisons difficult, however there appears to be agreement that some 20% of the population of most developed countries have severe literacy problems and a further 20% have limited literacy (Adkins and Ozanne, 2005). The Adult Literacy and Life Skills Survey uses a five-level assessment of literacy, for which Level 3 is regarded as the "minimum required for individuals to meet the complex demands of everyday life and work in the emerging knowledge-based economy" (Australian Bureau of Statistics, 2006) and gives the following estimates of the percentage of the population in the lowest two quintiles: literacy: 47%, numeracy: 53% and problem solving: 70%. The implications of this for individuals, groups and communities must be considered in developing future interventions.

5. Role of Communities versus Individuals: Achieving a Balance

5.1 Sustainability and Adaptation

Few people now question or deny the gravity of the sustainability issues being faced both nationally and internationally: environmental degradation, food security challenges and climate change present complex problems that have the potential to adversely impact the sustainability of individual and community lifestyles and health issues (Peattie and Peattie, 2009; Berry et al., 2011). It is recognised that the majority of current sustainability indicators are based on a national-level data that may "*miss critical sustainable development issues at the local level and may fail to measure what is important to local communities*" (Reed et al., 2006: 406). Mitigation focuses on reducing the impacts of factors that impact on sustainability such as climate change while adaptation focusses on coping with its impacts (Laukkonen et al., 2009). Mitigation efforts have a primarily global or national focus, but adaptation needs to be local (Vasi, 2007). There is increasing recognition for research to inform policy in areas such as to what extent various adaptation measures can help achieve sustainability goals, what policies are need, and how they can be applied – and funded

(Burton et al., 2002). Further, there is also recognition that adaptation will not take place automatically and that some adaptation strategies may undermine other social, economic or environmental issues (Eriksen et al., 2011). There is recognition that a combination of mitigation and adaptation strategies is necessary, but this is not unproblematic as the two strategies can be counterproductive (Laukkonen et al., 2009).

Communities themselves may vary widely in terms of their ability to adapt to change (Ivey et al., 2004). It has been argued that community adaptive capacity ranges from ‘powerless spectators’ (who lack capacity, skills and resources) through ‘coping actors’ (who have the capacity to adapt but who may not be doing so effectively), to ‘adaptive manager’ communities (who have high levels of both adaptive and governance capacity) (Fabricius et al., 2007). “Adaptive capacity will not necessarily translate to adaptation” (Berrang-Ford et al., 2011: 25). The ability of communities to take control of their own change management activities is important as many interventions are predicated on the assumption that communities are better able to understand their own needs and to develop, or co-create, appropriate solutions to challenges (McKenzie-Mohr, 2000). Existing systems, structures and norms present significant barriers to sustained behaviour change (Moloney et al., 2010). Additional challenges relate to competing knowledge and parochialism and the “commons dilemma” whereby personal advantage overrides common interests (Aitken et al., 2011). A key factor in achieving successful adaptation by individuals and communities to external influences and changes is the concept of social capital which is now discussed.

5.2 Social Capital

“Social capital is a necessary condition for sustainable community development as it enhances linking ties that increase access to resources outside the community. Social capital in and of itself however is not always sufficient to sustain and develop local community initiatives”(Dale and Newman, 2010: 5).

Its precise meaning, dimensions and mechanisms are unclear, due, in part, to the fact that the concept has multiple definitions stemming from disparate disciplinary approaches including economics, political science, sociology and anthropology and other social sciences. The definition used in the context of complex socio-ecological systems is “*the social norms, networks of reciprocity and exchange, and relationships of trust that enable people to act collectively*” (Armitage et al., 2009: 96). The diverse disciplinary interest has resulted in a lack of standardised measurement instruments (Van Der Gaag and Snijders, 2005) and of empirical data across all aspects of society in which social capital may have a role (Sabatini, 2009). There has been an over-emphasis on easily measured utilitarian economic factors at the expense of other aspects of community sustainability, well-being and adaptation, such as cultural and non-material impacts (Adger et al., 2011). Variations in perceptions of social capital within the public sector have thus led to a lack of direction as to how to implement it – i.e. it “*does not distinguish between what social capital is and what it does*” (Franke, 2005: 6). The various forms of social capital are important when governmental agencies are not actively involved in planning for major adverse events or in recovery from them: “*The rolling back of the state in times of crisis or “adjustment” often means that this substitution of social capital is a necessity, rather than a choice*” (Adger, 2003: 397). Successful adaptation requires social networks, leadership and trust (Folke et al., 2005); positive impacts of social capital are evident when strong ties exist and there is a belief that working together can make a difference in identifying effective behaviours and motivating others to support the activity (Foster-Fishman et al., 2009). However, the fact that social capital may have positive or negative impacts is not widely recognised. Negative social capital may reinforce inequalities, exclude ‘outsiders’ or restrict freedom to act (Adhikari and Goldey, 2010). Negative social

capital may generate negative outcomes for a whole group such as a reduction in norms, (in) tolerance of ‘outsiders’ or may produce positive outcomes for some at the expense or exclusion of others (Patulny and Svendsen, 2007). Understanding how positive and negative impacts vary across different types of communities, the factors that enhance or diminish social capital, such as inequality, exploitation and power tactics (Onyx et al., 2007) and the impact, positive or negative, of policy implementation is needed (Talbot and Walker, 2007).

6. Conclusions and Directions for Future Research

We have detailed the complexity of factors potentially impacting, both positively and negatively on communication of the need for behaviour change in order to achieve sustainability aims. We have also illustrated the need for research focussed on the interactions of individuals and communities with marketing communication channels. Future research would benefit from using a transdisciplinary approach that uses concepts, theories, research approaches, analytical methods and strategies for the interpretation of findings to develop shared conceptual frameworks that integrate and transcend individual disciplines (Mâsse et al., 2008). Key features of this approach include recognition that no one group has a monopoly on knowledge and that collaborations must be created ‘*not only between different academic disciplines but between researchers and non-academic groups with a stake in the problem under investigation*’ (Balsiger, 2004: 161).

References

- Adger, W. N. (2003). Social Capital, Collective Action, and Adaptation to Climate Change. *Economic Geography*. 79 (4), 387-404.
- Adger, W.N., Barnett, J., Chapin, F.S., et al. (2011). This Must Be the Place: Underrepresentation of Identity and Meaning in Climate Change Decision-Making. *Global Environmental Politics*. 11 (2), 1-25.
- Adhikari, K.P. and Goldey, P. (2010). Social capital and its “downside”: the impact on sustainability of induced community-based organizations in Nepal. *World Development*. 38 (2), 184-194.
- Adkins, N.R. and Ozanne, J.L. (2005). The Low Literate Consumer. *Journal of Consumer Research*. 32 (1), 93 - 105.
- Aitken, C., Chapman, R. and McClure, J. (2011). Climate change, powerlessness and the commons dilemma: Assessing New Zealanders’ preparedness to act. *Global Environmental Change*. 21 (2), 752-760.
- Armitage, D.R., Plummer, R., Berkes, F., et al. (2009). Adaptive co-management for social-ecological complexity. *Frontiers in Ecology and the Environment*. 7 (2), 95-102.
- Australian Bureau of Statistics. (2006). *Adult Literacy and Life Skill Survey*. Canberra: Australian Bureau of Statistics.
- Balsiger, P.W. (2004). Supradisciplinary research practices: history, objectives and rationale. *Futures*. 36(4), 407-421.
- Barr, S., Shaw, G. and Coles, T. (2011). Times for (Un) sustainability? Challenges and opportunities for developing behaviour change policy. A case-study of consumers at home and away. *Global Environmental Change*. 21(4), 1234-1244.
- Barry, T.E. (1987). The Development of the Hierarchy of Effects: A Historical Perspective. *Current Issues and Research In Advertising*. 10 (2), 251 - 295.
- Barry, T.F. and Howard, D.J. (1990). A Review and Critique of the Hierarchy of Effects in Advertising. *International Journal of Advertising*. 9 (2), 121-135.
- Berrang-Ford, L., Ford, J.D. and Paterson, J. (2011). Are we adapting to climate change? *Global Environmental Change*. 21 (1), 25-33.

- Berry, H.L., Hogan, A., Owen, J., et al. (2011). Climate Change and Farmers' Mental Health: Risks and Responses. *Asia-Pacific Journal of Public Health*. 23 (Supl 2), 119S-132S.
- Burton, I., Huq, S., Lim, B., et al. (2002). From impacts assessment to adaptation priorities: the shaping of adaptation policy. *Climate Policy*. 2 (2), 145-159.
- Campbell, C., Pitt, L.F., Parent, M., et al. (2011). Tracking Back-Talk in Consumer-Generated Advertising. *Journal of Advertising Research*. 51 (1), 224-238.
- Cialdini, R. (2007). Descriptive Social Norms as Underappreciated Sources of Social Control. *Psychometrika*. 72 (2), 263-268.
- Corner, A. and Randall, A. (2011). Selling climate change? The limitations of social marketing as a strategy for climate change public engagement. *Global Environmental Change*. 21 (3), 1005-1014.
- Dale, A. and Newman, L. (2010). Social capital: a necessary and sufficient condition for sustainable community development? *Community Development Journal*. 45 (1), 5-21.
- Donovan, R.J. and Jalleh, G. (1999). Positively versus Negatively Framed Product Attributes: The Influence of Involvement. *Psychology & Marketing*. 16 (7), 613-630.
- Eriksen, S., Aldunce, P., Bahinipati, C.S., et al. (2011). When not every response to climate change is a good one: Identifying principles for sustainable adaptation. *Climate and Development*. 3 (1), 7-20.
- Fabricius, C., Folke, C., Cundill, G., et al. (2007). Powerless Spectators, Coping Actors, and Adaptive Co-Managers: A Synthesis of the Role of Communities in Ecosystem Management. *Ecology and Society*. 12 (1), 1- 16.
- Fishbein, M. (2008). A Reasoned Action Approach to Health Promotion. *Medical Decision Making*. 28 (6), 834-844.
- Fishbein, M. and Cappella, J. (2006). The Role of Theory in Developing Effective Health Communications. *Journal of Communication*, 56, S1 - S17.
- Folke, C., Hahn, T., Olsson, P., et al. (2005). Adaptive Governance of Social-Ecological Systems. *Annual Review of Environment and Resources*. 30 (1), 441-473.
- Foster-Fishman, P.G., Pierce, S.J. and Van Egeren, L.A. (2009). Who participates and why: Building a process model of citizen participation. *Health Education & Behavior*. 36 (3), 550-569.
- Foust, C.R. and O'Shannon Murphy, W. (2009). Revealing and Reframing Apocalyptic Tragedy in Global Warming Discourse. *Environmental Communication: A Journal of Nature and Culture*. 3 (2), 151-167.
- Franke, S. (2005). *Measurement of Social Capital Reference Document for Public Policy Research, Development, and Evaluation*. Ottawa: Policy Research Initiative, Government of Canada.
- Gooch, M. and Rigano, D. (2010). Enhancing Community-scale Social Resilience: what is the connection between healthy communities and healthy waterways? *Australian Geographer*. 41 (4), 507-520.
- Ivey, J.L., Smithers J., de Loë, R.C., et al. (2004). Community Capacity for Adaptation to Climate-Induced Water Shortages: Linking Institutional Complexity and Local Actors. *Environmental Management*. 33 (1), 36-47.
- Jones, J.P. (1990). Advertising: Strong Force or Weak Force? Two Views an Ocean Apart. *International Journal of Advertising*. 9 (3), 233 - 246.
- Laukkonen, J., Blanco, P.K., Lenhart, J., et al. (2009). Combining climate change adaptation and mitigation measures at the local level. *Habitat International*. 33 (3), 287-292.
- Lorenzoni, I., Nicholson-Cole, S. and Whitmarsh, L. (2007). Barriers perceived to engaging with climate change among the UK public and their policy implications. *Global Environmental Change*. 17 (3-4), 445-459.

- Mâsse, L.C., Moser, R.P., Stokols, D., et al. (2008). Measuring Collaboration and Transdisciplinary Integration in Team Science. *American Journal of Preventive Medicine*. 35 (2: Supl 1), S151-S160.
- Mazar, N. and Zhong, C-B. (2010). Do Green Products Make Us Better People? *Psychological Science*. 21 (4), 494-498.
- McKenzie-Mohr D. (2000). Fostering Sustainable Behavior Through Community-Based Social Marketing. *American Psychologist*, 55 (5), 531-537.
- Moloney, S., Horne, R.E. and Fien, J. (2010). Transitioning to low carbon communities—from behaviour change to systemic change: Lessons from Australia. *Energy Policy*. 38 (12), 7614-7623.
- Morton, T.A., Bretschneider, P., Coley, D., et al. (2011). Building a better future: An exploration of beliefs about climate change and perceived need for adaptation within the building industry. *Building and Environment*. 46 (5), 1151-1158.
- Myers, S., Blackmore, M., Smith, T., et al. (2012). Climate change and stewardship: strategies to build community resilience in the Capricorn Coast. *Australasian Journal of Environmental Management*. 19 (3), 164-181.
- Nutbeam, D. (2008). The evolving concept of health literacy. *Social Science & Medicine*. 67 (12), 2072-2078.
- O'Neill, S.J. and Hulme, M. (2009). An iconic approach for representing climate change. *Global Environmental Change*. 19 (4), 402-410.
- Ockwell, D., Whitmarsh, L. and O'Neill, S. (2009). Reorienting Climate Change Communication for Effective Mitigation. *Science Communication*. 30 (3), 305-327.
- Onyx, J, Edwards, M. and Bullen, P. (2007). The intersection of social capital and power: An application to rural communities. *Rural Society*. 17 (3), 215-230.
- Patulny, R.V. and Svendsen, G.L.H. (2007). Exploring the social capital grid: bonding, bridging, qualitative, quantitative. *International Journal of Sociology and Social Policy*. 27(1-2), 32 - 51.
- Peattie, K. and Peattie, S. (2009). Social Marketing: A pathway to consumption reduction? *Journal of Business Research*. 62 (2), 260-268.
- Premkumar, G. and Bhattacharjee, A. (2008). Explaining information technology usage: A test of competing models. *Omega*. 36 (1), 64-75.
- Ramadier T. (2004). Transdisciplinarity and its challenges: the case of urban studies. *Futures*. 36 (4), 423-439.
- Reed, M.S., Fraser, E.D.G. and Dougill, A.J. (2006). An adaptive learning process for developing and applying sustainability indicators with local communities. *Ecological Economics*. 59 (4), 406-418.
- Sabatini, F. (2009). Social capital as social networks: A new framework for measurement and an empirical analysis of its determinants and consequences. *Journal of Socio-Economics*. 38 (3), 429-442.
- Semenza, J.C., Hall D.E., Wilson, D.J., et al. (2008). Public Perception of Climate Change: Voluntary Mitigation and Barriers to Behavior Change. *American Journal of Preventive Medicine*. 35 (5), 479-487.
- Spence, A., Poortinga, W., Butler, C., et al. (2011). Perceptions of climate change and willingness to save energy related to flood experience. *Nature Clim. Change*. 1 (1), 46-49.
- Talbot, L. and Walker, R. (2007). Community perspectives on the impact of policy change on linking social capital in a rural community. *Health & Place*. 13 (2), 482-492.
- Thøgersen, J. and Crompton, T. (2009). Simple and painless? The limitations of spillover in environmental campaigning. *Journal of Consumer Policy*. 32 (2), 141-163.

- Tonn, B., Hemrick, A. and Conrad, F. (2006). Cognitive representations of the future: Survey results. *Futures*. 38 (7), 810-829.
- Van Der Gaag, M. and Snijders, T. A.B. (2005). The Resource Generator: social capital quantification with concrete items. *Social Networks*. 27 (1), 1-29.
- Vasi, I.B. (2007). Thinking Globally, Planning Nationally and Acting Locally: Nested Organizational Fields and the Adoption of Environmental Practices. *Social Forces*. 86 (1), 113-136.
- Wolburg, J.M. (2006). College Students' Responses to Antismoking Messages: Denial, Defiance, and Other Boomerang Effects. *Journal of Cons. Affairs*. 40 (2), 294-323.
- Woodhouse A. (2006) Social capital and economic development in regional Australia: A case study. *Journal of Rural Studies*. 22 (11), 83-94.