

Behaviour Change Framework for *Our Water Our Future*

Prepared by Karen Spehr & Rob Curnow

February 2007



Contents

INTRODUCTION	3
Your Guidelines for Using this Framework	3
BEHAVIOUR CHANGE FRAMEWORK	4
STEP 1 Check Mindset: Not 'Us and Them'	5
Summary Actions	6
What will happen if we don't do this? What will happen if we do?	6
Illustrative Quotes	6
STEP 2 Set Specific Behaviour Related Objectives	7
Summary Actions	8
What will happen if we don't do this? What will happen if we do?	9
Illustrative Quotes	9
STEP 3 Understand the Target Group As Completely As Possible	11
Summary Actions	12
What will happen if we don't do this? What will happen if we do?	12
Illustrative Quotes	12
STEP 4 Decide on Outcome Measures as They Relate Directly to Objectives	14
Summary Actions	15
What will happen if we don't do this? What will happen if we do?	15
Illustrative Quotes	16
STEP 5 Design and Plan the Program (or Review Existing Program)	17
Summary Actions	19
What will happen if we don't do this? What will happen if we do?	20
Illustrative Quotes	20
STEP 6 Design and Plan the Evaluation / Monitoring Process	22
Summary Actions	23
What will happen if we don't do this? What will happen if we do?	24
Illustrative Quotes	24
STEP 7 Implement Program and Regularly Monitor to Continuously Modify	25
Summary Actions	25
What will happen if we don't do this? What will happen if we do?	26
Illustrative Quotes	26
STEP 8 Review the Program to Inform the Next Phase, Including the Formulation of New Objectives	27
Summary Actions	28
What will happen if we don't do this? What will happen if we do?	28
Illustrative Quotes	28
REFERENCES	29
Sources of Quotes	29
Resources Used in the Preparation of This Guide	29
Useful Social Marketing Websites	33

BEHAVIOUR CHANGE FRAMEWORK

OUR WATER OUR FUTURE

INTRODUCTION

In 2004 Community Change (CC) was commissioned by the Department of Sustainability and Environment, and the Melbourne metropolitan water businesses to develop a behaviour change framework for the *Our Water Our Future* (OWOF) water conservation campaign.

CC consulted with the OWOF campaign steering committee¹ to establish that the main aim of the framework is to guide and direct campaign actions and processes for evaluation. Specifically, the framework aims to:

- o Assist in identifying water conservation drivers and barriers to change.
- o Provide a set of steps that 'forces' us to ask what do we want and why?
- o Identify credible processes for marketing and communication strategies.
- o Provide a tool to structure program discussions and flag issues.
- o Encourage stakeholder cooperation, coordination and integration.
- o Act as an *'aide memoir'* with background information for users.

In developing the framework, it was also important that it was broadly applicable to any demand management activity requiring behaviour change, not just water conservation. And finally, the OWOF steering committee wanted to leave a legacy by continuously building knowledge and understanding of behaviour change for the benefit of future generations.

Your Guidelines for Using this Framework

The OWOF behaviour change framework is a living document that is updated over time to incorporate learning experiences from the OWOF steering committee. It comprises a detailed eight step process which is supplemented with references to texts and other resources. The framework introduces primary concepts that may assist you in understanding how behaviour change principles may be applied to a variety of social programs.

It is important for readers to understand however that this framework is not designed to be a simplified representation of a comprehensive social marketing process and it should not be considered a stand-alone manual.

The OWOF steering committee recommends that readers of this framework use it as an *accompanying guide* to an active learning process. So, to facilitate this you are invited to an active learning session to experience the behaviour change framework in action and to understand how it may apply to your own individual needs.

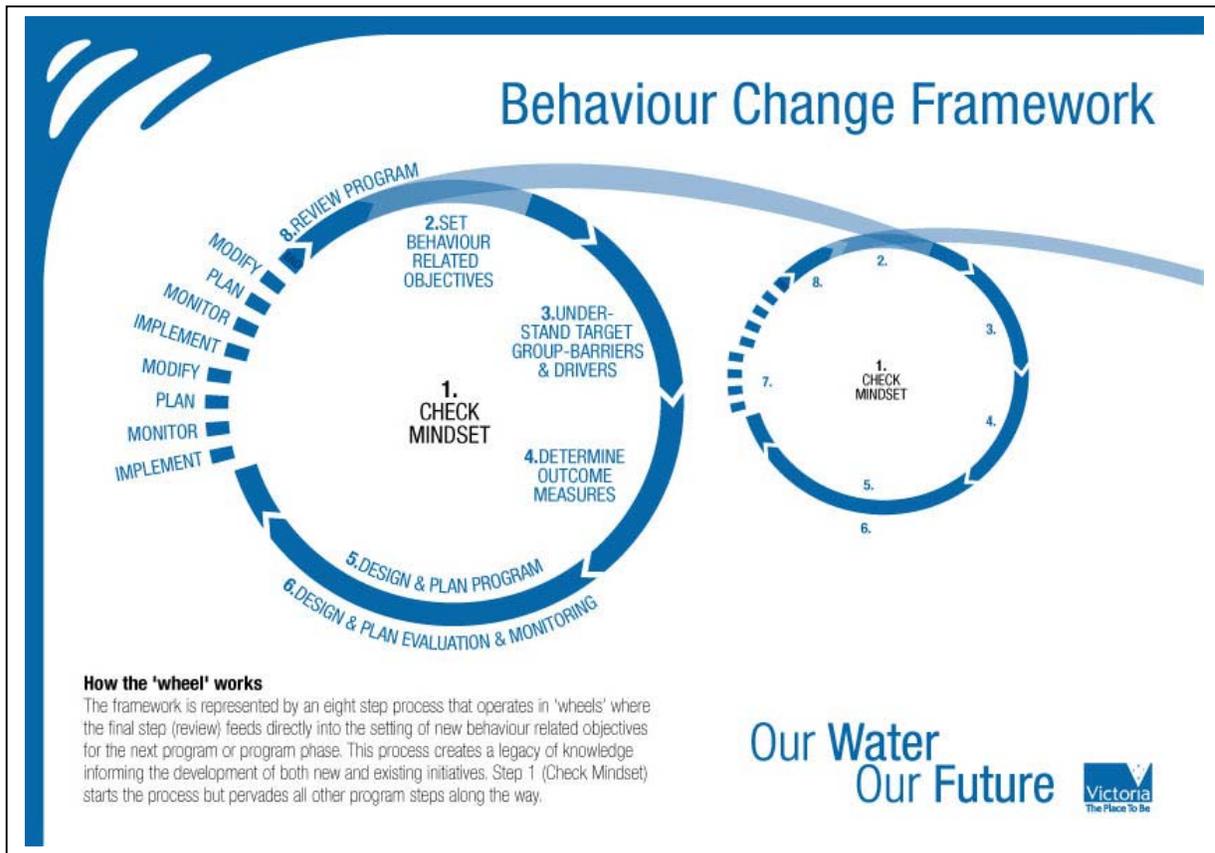
To learn more about the *Our Water Our Future* behaviour change framework and/or to find out more about attending an active learning session, please call Sandie Pullen from the Department of Sustainability and Environment on (03) 9637 8182 or Karen Spehr from Community Change on (03) 9775 4422.

¹ OWOF steering committee comprises representatives from DSE and metro water businesses.

BEHAVIOUR CHANGE FRAMEWORK

The behaviour change framework is comprised of eight steps, with the model below representing the framework as operating like a wheel. Step 1 (Check Mindset) starts the process but pervades all other program steps along the way and so sits in the wheel's centre. Step 2 (Set Behaviour Related Objectives) sits at the top of the wheel as the next step.

Following the sequence, the final step (Review the Program) feeds directly into the setting of new behaviour related objectives for the next program or program phase. This continuous process creates a legacy of knowledge informing the development of both new and existing initiatives, represented by the second wheel, moving off into the distance (the future).



The behaviour change framework is designed to keep moving, repeating itself ad infinitum, with ongoing program development leading to new behavioural gains.

STEP 1 Check Mindset: Not 'Us and Them'

Most social change programs are conducted by people with a passion for a cause. This energy and enthusiasm is a positive force. Unfortunately, with the best of intentions many so-called 'education' or 'awareness' initiatives degenerate into a group of 'us' (the educated) trying to convince 'them' (the uneducated) that what they are doing is wrong. Even polite and respectful program messages often carry other indirect messages that are condescending at best, and critical and judgemental at worst.

The unintended consequence of this mindset is that 'we' end up trying to persuade or exhort 'them' to change which sets up further resistance and yet another barrier to change.

The other interesting thing about assuming that 'we' are the educated ones is that we often do not practice what we preach, particularly when the behaviour is related to the environment. As a community, whilst we have been prepared to learn to swim between the flags, get our children immunised, and move our smoking outside of the home, we have not been as successful in reducing our household energy requirements or saving water.

Many behaviour changes related to the environment require us to make changes to fundamental ways in which we live – driving the car less, buying smaller vehicles, consuming less, changing our gardens. One of our biggest successes, kerbside recycling, has not required us to reduce our waste, but to perform a relatively straightforward behaviour to address an issue we cared a lot about. We know waste is a problem and finally we can do something about it!

We also know water waste is a problem and we want to do *something*. We're just not sure what. Or we're sure about watering our gardens less, but we still want the exotic plants we put in when we built the house. We can't see what we're saving (unlike the recycling bin full of cans and newspapers) and what's more, we're not sure others are doing it either (at least we can see all the neighbour's recycling bins out, but maybe our neighbours are cheating with the water restrictions?).

We are prepared to respond in a water shortage crisis when it is obvious to us that the dams are 'half empty'. On the whole, we support legislative changes like the extension of water restrictions but additional voluntary water saving seems difficult. Our *espoused* view is that water saving is a good idea but our *actual* (private) view is that we don't really need to do it on an ongoing basis. Who is doing the water saving anyway – our neighbours, our employers, retail outlets, our local government? We are only beginning to see it happening so we probably don't need to worry about it until the next crisis – do we?

'We' the program implementers (and other employees working for the organisations running them) are part of this community wide conundrum as well. On the whole, we're not making big enough changes to our own consumption at home or in the workplace². By addressing these difficult changes we model behaviour for others and demonstrate leadership, but more importantly, eliminate the distinction between 'us' and 'them'. By taking action we illustrate that changes can be made, even when we're all finding the going rough. It demonstrates the commitment required to do the job.

Moving away from an 'us and them' mindset to an 'us' mindset also makes it less likely that 'we' will jump to conclusions or answers on 'their' behalf. We come to know that as a community, we are comprised of many different 'target' groups – not necessarily based on demographics but on the kinds of lifestyles we are leading and their impact on water use. As program providers, we become more inclined to listen to all the varying experiences of these 'groups'³ because many of the experiences are ours.

² Recent government initiatives have helped address this issue.

³ Step 3 in the framework discusses this in much greater detail.

We are also more likely to perceive potential partnerships in achieving water saving objectives since we feel freer to help mobilise resources on behalf of the community as a whole. Further, communicating or publicising these alliances helps create the community expectation that 'everyone' is doing water saving.

Summary Actions

1. At all steps during our programs, continue to ask the question "does what we're doing reflect an 'us' mindset?"
2. Consider the question "what are *we* doing as an organisation to effect the changes we are asking others to do?" Make committed attempts to address the answer and communicate these actions to the community.
3. Look for and implement opportunities to form partnerships and communicate/publicise them.
4. Ensure that customer research thoroughly investigates the perceptions, needs and desires of target groups and ensure that programs are directed towards meeting these rather than asking target groups to meet the requirements of programs.

What will happen if we don't do this? What will happen if we do?

If we *don't* abandon an 'us and them' mindset, we end up trying to persuade or exhort 'those people out there' to alter their behaviour which is likely to add community resistance to change rather than help to reduce it. In addition, if we are not seen to be making attempts to address water saving in our own 'organisational homes', we become the very 'them' that we are trying unsuccessfully to change.

If we *do* use an inclusive 'all together' approach we reduce resistance to change and begin to offer up valuable opportunities to show inspired leadership and that 'we' are prepared to engage in a personal effort to change as part of 'our' community. We are also more likely to identify potential partnerships in achieving water saving objectives and be better able to communicate or publicise these alliances to help shift the social expectation (one of the most powerful methods of change) that we *all* save water. We will also be able to listen carefully in our research endeavours and tailor our change programs to customers, rather than asking customers to change *their* behaviour to fit in with *our* programs.

Illustrative Quotes

On 'us' and 'them'...

"... most social marketers... could command significantly higher salaries if they worked in the commercial sector. But they care about an issue or program... and this can lead them to an unconscious assumption that everything they do is justified and that everyone else should appreciate it." Andreasen (1995), p 42.

"Too many organisations that think they are practicing social marketing are really mired in an organisation-centred mindset that sees their mission as inherently good and their lack of success as their customer's fault. They think that marketing is really just communications, that research is seldom necessary, that customers can be treated as a mass ..." Andreasen (1995), p 67.

"Water users – ie, consumers – need to be ... treated as informed consumers, not as passive recipients of water." Bakir (2004).

On getting our own houses in order...

"Water service providers, public and private, must start with their known staff, ensuring they are 100% behind any water demand management program, that they understand it and can promote it. The staff of the agencies themselves are the best advocates for the water sector." Bakir (2004).

STEP 2 Set Specific Behaviour Related Objectives

Many programs designed to effect changes in behaviour do not have specific quantifiable objectives *directly related to behaviour* for an identified target group. They may have a number of other necessary and important objectives - *overall* behavioural objectives and communications objectives for example – but no objectives for the very thing they are trying to change. The evaluation process is almost always a problem here because it doesn't have identifiable objectives against which to evaluate.

For example, objectives of an education campaign involving dissemination of information and a water saving competition may use 'kpi's' such as the number of people requesting brochures, number of hits to a website and how many competition entries there were (all necessary and worthwhile kpi's) and that the campaign *as a whole* was aimed at 'reducing household water consumption'. As a result, program evaluation is likely to find that kpi's were achieved and that there were no measurable changes in household water consumption (as shown by community water use figures).

Because it is clear to most programs managers and consultant evaluators (sometimes brought on board after the campaign has started) that this is not very informative or useful information, other 'ad hoc' data is often collected as well – for example, attitudes to water saving (the vast majority of the community will continue to think this is a good idea) and self reported water saving behaviour (many community members will report increases in water saving which do not appear to be reflected in the community-wide water use figures). Again, this information is of limited use.

An alternative method is to clearly define program objectives according to changes in any or all of the following:

1. **Knowledge:** Example ("Directly following a television advertising campaign, target consumers will be able to identify at least three ways they can save water in the home (that they didn't know before). This improved knowledge will be maintained six weeks after the end of the campaign.")
2. **Attitudes:** Example ("Immediately following their visit to a 'Save Water' stand at a homeshow, visitors will demonstrate improved attitudes to using recycled water in the home".)
3. **Behaviour:** Example ("At least one month after household plumbing work has been completed by an accredited plumber trained in water saving, individual household water use will show a decrease of at least 5%.")⁴

Even knowledge and attitudinal objectives, should have *a direct connection to behaviour* over time. For instance, we may *say* it is good to save water (because that is now an established social expectation) but not be motivated to actually do it because the problem of water shortage is too complex for us to understand.

It is also crucial to include *time frames* for each program objective. Initial resistance to setting time frames is often due to the idea that this is not possible for 'ongoing' programs because "the program ends when the money runs out", or "it ends when we achieve a community wide reduction in water use of 15%", or "it ends when we change the program so significantly that it becomes something new". The main problem with this idea is that because the endpoints are not related directly to objectives, the program never seems to be able to measure its effectiveness properly and maintains a heavy reliance on kpi's (for example, over a 12 month period, the number of students participating in a schools education program and participant satisfaction levels) *at the expense of* knowledge, attitude and behaviour outcomes.

In the absence of an identified time frame, planned evaluation attempts may be made at some point to include more direct 'effectiveness' indicators (knowledge, attitude, behaviour changes) but this research effort (often in the form of a complex written report) then sits on someone's shelf gathering dust or may be used for a one-off purpose, eg, as material for an annual report. This evaluative information often appears to be of limited use and is not used in a dynamic way to make decisions – say, to re-segment targets based on an improved

⁴ These examples are hypothetical and are meant for illustrative purposes only.

understanding of the existing target group's experience. Often, the data may not even be used to actively modify and improve the program, eg, designing a behaviour *maintenance* program phase for a target segment which has already achieved significant positive behaviour change.

When time frames are constructed, the question may be asked, "For each objective specified, what changes were evident prior to the implementation of the program(s), during the program, afterwards, and at follow up?" The answers to this question may then be used to modify the 'next phase' of the program and *continuously* improve both the program itself and the knowledge of the target group and methods being used to reach them. Identifying an 'endpoint' or specific timeframe does not mean that you stop doing the activity, but it does mean that you can evaluate what you are doing in a logical way, make useful changes (if necessary) on a continuous basis and feel more confident about what you are doing and the specific directions you are moving towards. (Not to mention having more useful things to say for the annual report).

Hypothetical examples⁵

A water saving plumber's program sets a behavioural objective that "following a visit from an accredited plumber, high water users (as defined by A) will reduce their water consumption by B litres per water bill. Lower existing water user consumption will decrease by 5%. These changes will be maintained for three consecutive water bills. A knowledge based objective is also set that "following a visit from an accredited plumber the primary household contact (defined as C) will be able to correctly identify D additional methods for saving water compared to before the visit".

A school education program sets a knowledge based objective that "by the end of the program, students will be able to correctly answer at least five key questions on X (program content)". A behavioural objective is also set that at three month follow up "students/staff will have (a) conducted a basic audit of their personal water use in the school, (b) developed a water use reduction program and implemented it with the students and that (c) the school's water use will have decreased by 5%."

Once objectives are set in this way, the process of tracking program effectiveness becomes clearer and those implementing the program become much more focused in their efforts to achieve the required change. The use of additional qualitative information (eg, anecdotal information from program implementers) also helps drive continuous improvement, eg, the development of a follow up program for those schools that have met objectives and may be looking for more.

This strategic approach also means that elements for one program may effectively 'piggyback' onto another program element for relatively low cost. Hypothetical examples might include an accredited plumber's knowledge message ("did you know an accredited plumber can install your new appliances *and* save you water?") included in a smart water bill. Or a schools education program might include a take home brochure with discounts for parents visiting participating local gardener's program retailers. With a strategic view of all program objectives, managers are also able to make more effective decisions about important overall *OWOF* issues including important target groups or areas not being addressed, research needs and associated resource allocation decisions.

Summary Actions

Set behaviour related objectives for the program including:

1. What quantifiable changes are required in knowledge, attitudes, and/or behaviours?
2. Within what time frame the changes should be achieved.

⁵ These examples are hypothetical and are meant for illustrative purposes only.

3. Who the target segment is (based on factors appropriate to the type of program – water use quantities, patterns, level of contemplation to change, customer perception and experience). See Step 3 for further details on selection of target segments.
4. Review of existing knowledge and/or collection of new information needed to identify target segment(s).⁶
5. How the objectives fit strategically with other objectives & related programs.

What will happen if we don't do this? What will happen if we do?

If we *don't* set specific behaviour related objectives for our programs, we lose the opportunity to actively and consciously work towards them. We lose the opportunity to 'pump up' our programs to be as effective as possible in the way in which they meet objectives. (If what is essentially a knowledge based program drifts off into a 'persuasion' oriented message that "it's good to save water" it is less likely that it will achieve an effective knowledge or attitude change, let alone a behavioural one). Also, we run the risk of measuring the wrong thing in our evaluations – we measure knowledge, say, when our program was all about attitude or behaviour change.

If we *do* set specific behaviour related objectives, we become more focussed on achieving them. We *know* if our current program does not seem to be working and with whom because our evaluation outcomes are clearly related to objectives. We can modify our existing programs as a result of clear evaluation outcomes related to objectives, rather than just moving on to the next 'good idea' that someone has. We can work on maintaining behaviour once it has been achieved (because we *know* it has been achieved), rather than run the risk of behaviours going back to the way they were because we're not paying attention to them any more.

Illustrative Quotes

On the setting of behaviourally related objectives...

"Good social marketers recognise that behaviour change... may take a long time to bring about. Thus they may temporarily focus on achieving non-behavioural objectives such as a certain knowledge level or a certain attitude change. However, they always keep their eye on the final outcome and make sure that interim measures are always carefully designed to lead directly to the intended goal." Andreasen (1995), p14.

On why some knowledge objectives are directly related to behaviour...

"... in a social dilemma ... we may act non rationally even while possessing a general understanding of social dilemmas and that we are making a choice. This happens when the structure of the social dilemma is too complex for us to understand or when no one has explained that a particular behaviour is a defection. We must increase the awareness in offenders that certain behaviours constitute defection & that alternative behaviours will result in positive long term outcomes." Gifford (1987), p 396.

On development of Australian market segments for water consumption ...

"(Researchers) found large differences in the relationship between overall water consumption and attitudes with differing household composition... Nancarrow, Smith & Syme (1996/97) have found consistent market segments in terms of their perceptions of the product supplied by the water utility over time and location in Australia. These could form the basis of campaign strategies." Syme, Nancarrow and Seligman (2000), p564.

On identification of time frames...

"...when you design your program, you should spell out the conditions under which you will bring it to an end... If your program is successful, it may fade away without a conscious decision on your part. Often, new, improved patterns of behaviour become self-maintaining. Responses... may become habitual. Whether you end your

⁶ Steps in the framework may not necessarily be sequential depending upon the type of program or its stage of development. See Step 3 in the next section for further information relevant to this action.

program intentionally or not, you should always be prepared to reinstitute (it) if... there is ... slipping back to... old patterns of behaviour." Weiten (1995), p 251.

"Another problem characteristic of behaviour modification programs in general is the maintenance of the desired behaviour after the treatment period is over. A potential alternative that would alleviate these problems is simply to provide feedback to the individual regarding his or her behaviour vis-à-vis the environment. Such information is useful in self-monitoring of behaviour and can yield a sense of self-efficacy and satisfaction as a result of self-control, examples of such methods include sending a special feedback monthly card regarding residential energy use... installing a device that illuminates a light when electricity use exceeds a particular criterion... and teaching people how to read their own electric meters... These are relatively inexpensive techniques suitable for widespread use and they can be helpful in promoting long-term behavioural change." Veitch and Arkkelin (1995), pp 437-438.

On the importance of a strategic approach...

"(an) important social marketing principle ... insists on a unified communications approach... All messages are designed to reinforce one another." Andreasen (1995), p 20.

STEP 3 Understand the Target Group As Completely As Possible

Determine the Perceived Barriers and Drivers for the Target Group and the Ratio of One to the Other

For some water demand management programs, it can seem like back pedalling to identify specific target groups when it seems clear that water saving programs apply to all (or at least most) community members. Unfortunately programs addressed to a mass market run a much poorer chance of success than those directed towards specific target groups or segments of the population. For example, early attempts to designate the whole community as the main audience for AIDS programs were largely unsuccessful until sexually explicit behavioural messages were provided to specific high risk audiences, eg, gay men.

The upshot of this fact for water saving programs is that there are a number of potentially difficult decisions to make in relation to even identifying target groups in the first place, let alone understanding their needs and wants. Should programs focus on the highest water users (where more savings are likely to be made in *absolute* terms with people living in big houses with big gardens) or lower water users (where more savings are likely to be made in *percentage* terms with those of us living in flats)? Who among these groups is at the point where they are contemplating change and are therefore most likely to be receptive to program messages? And, even more problematic, *if* big water users are those least receptive to change (and we don't know this yet) should they be made to pay even more for their water (than is currently required) as a social equity consideration (a political rather than a program consideration)?

Although these questions are difficult ones, they are crucial to program success. Without addressing them, we become reliant on simple demographic segments – eg, 34-45 years olds (convenient), those of us with gardens (practically everybody), fluent English speakers in an 'Anglo' culture (too hard to do otherwise) – rather than looking at those subgroups who might be most amenable to our programs, eg, 'two person households living in houses with more than 3 bedrooms who have considered installing water saving devices over \$50' for a retrofit plumbing program. There are though, some excellent Australian based research outcome studies indicating some demographic variables that *do* have a relationship to behaviour (see Syme et al (2004) below). Findings such as these are also invaluable in identifying useful target segments. For those programs already in existence, more effective targeting is likely to improve the ongoing development of program features (directed more towards the needs of the target group) and drive future research to improve understanding of the problem, useful then in extending the program to other target segments.

Once target groups have been identified, gaining a comprehensive understanding of their needs, wants and perceptions is crucial to effective program design. In programs that already exist, again, this can feel like back pedalling. There is also often a resistance to considering new information which makes it clear that the existing program would benefit from modification.

Such efforts in understanding the target group are best focussed on two primary factors – the perceived barriers and drivers for the customer of the existing behaviour and *the ratio of one to the other*. In a simple example, in watering my garden three times a week (existing behaviour), *perceived drivers* might relate to my enjoyment of a 'green' environment, the activity of watering as a source of recreation and the belief that my green garden adds to the value of my house. *Perceived barriers* might be the guilt from knowing that I might be 'wasting' water and the length of time it takes (although largely pleasurable) to do what I see as the minimum watering required (three times per week). Currently though, the perceived drivers of my *existing* behaviour outweigh the perceived barriers involved in adopting a *new* behaviour (reducing my watering time).

In reducing my watering time in the garden (new behaviour), the drivers will need to outweigh the barriers. For example, *new perceived drivers* might be that one deep water per week will yield me a better long term outcome than my existing schedule, that the installation of a rainwater tank will reduce my guilt about watering and might increase the value of my house as social expectation for

rainwater tanks increases ('everyone has one'). The program planning process might then be able to explore various options for reducing watering time in the pre-program phase and even test out some initial responses to ideas for program messages.

In any case, a social marketing approach will attempt to *market* the new behaviour (benefits of less frequent watering, installation of a rainwater tank) as well as *demarketing* the old ones (challenging my belief that the value of my house relies on a green garden that many people think of as wasteful, and that installation of a rainwater tank would be a good investment). Without establishing the quite complex thought processes behind my behaviour (barriers, drivers and their relationship to one another) the proposed program might have missed its mark.

Summary Actions

1. Review existing knowledge on target segment(s) and identify perceived barriers and drivers for the *existing* behaviour and the ratio of one to the other.
2. Conduct new research as needed on the identification of perceived barriers and drivers for the *existing* behaviour, the ratio of one to the other, and the likely barriers and drivers related to adoption of new behaviours.
3. When pre-testing program elements (see Step 5 for further details on pre-testing) continue to focus on identifying the likely perceived barriers and drivers (and the relation of one to the other) of the *new* behaviour as it relates to program messages.
4. Continue to review information on the identification of target segments in the light of improved understanding of perceived barriers and drivers. Formulating behaviour related objectives; understanding target segment member's barriers and drivers in relation to change, and program design, planning and evaluation are all processes that will require information gathering and/or research. The processes are likely to feed off each other and knowledge should be consistently reviewed to inform program decisions.

What will happen if we don't do this? What will happen if we do?

If we *don't* properly understand our target segment(s) and the thought processes behind their current actions, we are not likely to be able to design our programs to minimise perceived barriers and promote drivers to the point where change is likely to occur. We run the risk of designing our programs in the dark without reference to people's real experiences. For example, we may be focusing on hard-to-change behaviours when we thought we were focusing on easy-to-change ones. People's behaviour in relation to behaviour change is often not what we expect it to be. Using our own expectations to design (or modify) programs rather than an accurate reality-based understanding of their behaviour can be a costly 'hit and miss' exercise.

If we *do* have a thorough understanding of our target segment(s), designing (or modifying) behaviour change programs is bound to be a less risky, more focused process. We are much more likely to hit the mark with our program messages and the methods we use to impart them. The research effort we put into the process of identifying the perceived barriers and drivers related to change will repay us several times over in both money and time.

Illustrative Quotes

On segmenting the target group...

"(an) important social marketing principle... avoids mass marketing. Careful attention (is) paid to developing differentiated strategies for different market segments." Andreasen (1995), p 20.

"(Social marketers) do not see the problem as just having to convince the target audience that they are wrong and that the behaviour promoted is really highly desirable. Rather, they assume that it is more likely that the marketer has inadequately understood the target market's perceptions and their needs and wants... It is much easier for marketers to change their own behaviour than try to change the target customer." Andreasen (1995), p56.

"Greater effectiveness can be achieved ... by (developing) a set of marketing strategies and tactics that would meet the needs, wants, and perception of specific subpopulations rather than approaching them all with one general strategy that does not quite speak to anyone particularly well." Andreasen (1995), p 177.

"The lack of systematic attention to segmentation... in social marketing programs... can be attributed to one or more of several barriers:

- *A belief that the sponsors of a program or the government that has authority over it will forbid (it).*
- *A lack of appreciation of the potential of segmentation to significantly increase program impact while reducing program costs.*
- *A mistaken devotion to program uniformity, based on the belief that this is essential in order to keep costs down through economies of scale and assure that messages are always consistent.*
- *... An unwillingness to collect new segmentation data... because (there is a belief) that such research efforts will never be cost effective..."* Andreasen (1995), pp 175-76.

"...good social marketers... (see) marketing as much more than communications. It knows that research is vital, that markets must be segmented, and that competition is everywhere." Andreasen (1995), p 67.

Some Australian research relevant to the selection of target segments...

".. the largest reductions in water use, in absolute terms, occurred in households that had been using most water to begin with. Smaller users made larger percentage reductions." Syme, Nancarrow & Seligman (2000), p42.

"...households with more sophisticated lawn reticulation systems were found ... to have used more water externally... it may indicate a tendency to set timing devices for longer periods or more frequently than other irrigation modes... As the ownership of automatic reticulation systems has raised rapidly over the past years, it will be crucial for the water agencies to introduced educational programs to ensure the systems are used appropriately and that water efficiency outside the home is achieved." Syme et al (2004), p127.

"...households who enjoyed a 'green' environment, displayed high interest in garden and gardening, used more water externally." Syme, Nancarrow and Seligman (2000), p127.

According to Syme et al (2004), those households with the following characteristics used more water:

- Owner occupied (who tended to have a better garden)*
- Large block size*
- Higher income*
- Better rated gardens (on a three point scale from 'unkempt' to 'highly maintained')*
- Swimming pool*
- More sophisticated lawn watering systems*

STEP 4 Decide on Outcome Measures as They Relate Directly to Objectives

It will be clear from the sections above that once the challenging task of setting behaviour related objectives has been done, the identification of outcome measures should be much easier. Outcome measures do not replace the program's kpi's, but direct themselves specifically to the effectiveness of the program in meeting its behaviour related objectives. Outcome measures are not used to answer the question 'did we do what we said we were going to do?' (that's what the kpi's are for) but the question 'did the program have the *effects* we were aiming for?'

Once the behaviour related objectives are set, the broad category of outcome measures are fairly obvious. If the objectives relate to knowledge for example, then outcome measures should measure knowledge; if the objectives relate to attitudes, then attitudes are what should be measured, and so on. Although this seems obvious, this is often not done in many behaviour change programs. Many programs take a 'shotgun' approach to measuring outcomes. That is, they 'fire off' a whole lot of measures (attitudes and self reported behaviour for every imaginable - usually demographic - subgroup) to see what hits the mark. Sometimes differences are found, but how they actually relate to the program objectives is often a mystery.

This phenomenon is usually a combination of lack of clarity in program objectives and ad hoc evaluation methods (which are trying to capture *something* about what the program achieved in the absence of clear objectives). At the end of the process, no one is really the wiser as to whether the program worked or not. The ultimate test – community water use data – is too stringent for any one program alone and really relates to the desired outcome for the whole *set* of programs that are operating over time, not just the one under consideration.

For example, a gardener's program designed to get nursery retailers to provide water saving advice and recommendations to customers may start out with an objective to 'reduce water use of customers who visit 'water saver' retailers.' In the absence of more specific objectives, evaluators might then ask a sample of customers about their experience (yes, the advice given was very clear, the staff member was friendly, X and Y advice sounded easy to implement but Z sounded too hard) and whether they thought it would change their behaviour (yes in relation to X and Y advice, not sure about Z).

The evaluator may even be able to track these same customers again and obtain self report data (yes, we reduced our water use as a result of X and Y information; no we didn't use Z strategy – too expensive). And yes, we think saving water is a good idea, and yes, we have definitely reduced our water use in A, B and C areas. The self reports are, typically, unable to be verified.

Compare this to a situation where the same program identifies the following objectives:

*"As the result of a 'water saver' consultation by a participating retailer, X% of customers will show an improvement in their knowledge of water saving methods in the garden in relation to low water use plants, watering methods and use of garden irrigation systems (**knowledge**). Y% will demonstrate take up of at least one of these methods one month following the consultation (**behaviour**). At least 80% of customers will perceive their water consultation experience as very positive (**attitude**). The primary targets for the program are those customers with large existing gardens⁷ (a decision made from examining existing research on water use data)."*

At this stage, in consultation with program managers, evaluators may suggest ways of 'ramping up' the program in order to increase the likelihood that program objectives will be met. Using this example, it might be agreed that

⁷ In reporting on outcomes of the *Water Savers Working Together* water conservation community engagement forums conducted for the Department of Sustainability & Environment by Community Change (2004), the following definitions were used: Small garden - size less than a tennis court; medium garden – size of 1-2 tennis courts; large garden – size greater than 2 tennis courts (not including hard landscaping or pool).

over a specified period, a proportion of those receiving consultations will receive a follow up phone call from their 'garden consultant' to answer any questions and see how the household is going with the advice.

The following outcome measures are suggested:

- 'Knowledge' questions for customers on low water use plants, watering methods and garden irrigation systems.
- Self reported behaviour of customers on take up of methods.
- Water use figures from those with existing (ie, not new landscaping) large gardens of X square metres or more.
- Increases in retailer sales of low water plants and water saving devices and decreases in the sale of high water use plants.
- Customer satisfaction and perception of the 'water saver' consultation.

At this stage, the evaluation process has not been designed in any detail, but the outcome measures have been discussed and agreed on. How much detail can be extracted from the data will be influenced by the design of the evaluation process (covered in the next section) but it can already be seen from this example that quite specific information will be gained in direct relation to clearly defined, behaviour related program objectives. For examples, we will be able to answer questions like:

In relation to its objectives...

- In what ways did this program work?
- In what ways didn't it work, or work contrary to what was expected?
- What are some likely reasons for the elements that worked or didn't work?
- What relationship exists (if any) between customer self report and water use data and what does this tell us?
- What can now be done to improve the program (before the next evaluation)?
- For customers that have demonstrated change, what can we do to maintain the changes?

In addition to gaining information that will assist program managers in making decisions, the specific definition of outcome measures in relation to objectives yields increased opportunities for evaluators and program staff to work cooperatively towards change rather than evaluators simply giving a 'scorecard' on something that has been completed and therefore can't be modified or improved.

Summary Actions

1. Review objectives and ensure that they are clearly related to knowledge, attitudes or behaviour.
2. Along with those responsible for program evaluation, check ways of 'ramping up' the program. As in Step 3 above, note that formulating behaviour related objectives, understanding target segment member's barriers and drivers in relation to change, and program design, planning and evaluation are all processes that are likely to feed off each other. Information about target segments should be consistently reviewed to inform program decisions.
3. Decide on specific outcome measures as they relate directly to knowledge, attitude and behaviour contained in the program's (behaviour related) objectives.

What will happen if we don't do this? What will happen if we do?

If we *don't* ensure that outcome measures relate directly to objectives we are not likely to be able to determine whether the program had the effects we were aiming for. Our evaluative efforts are likely to consist of ad hoc methods which measure irrelevant or inappropriate outcomes and do not assist in making decisions about how to improve the program.

If we **do** ensure that outcome measures relate directly to objectives, our evaluation data will tell us exactly what we want to know – is our program working to change those things we meant it to? If it isn't, how can this information help to inform or modify our efforts? We are also more likely to find ourselves working in concert with program evaluators as we all work towards the same goal of understanding the target segment(s) as comprehensively as possible, and continuously improving the program with accurate data based on behaviour related objectives.

Illustrative Quotes

On the importance of developing clear outcome measures related to objectives...

"...the monitoring system should be based on measures closely related to program goals. The tendency in many organisations is to measure what can be measured. Thus, social marketers may be tempted to keep track of how well they are doing by looking at the number of brochures distributed, the number of advertisements run, the number of people attending various events, or the extent of distribution of products involved in the behaviour. The difficulty with this approach is that the data may or may not bear any relation to the program's objectives and goals." Andreasen (1995), p128.

"The problem with the use of summative evaluations only ... is that they are seldom precise enough to provide specific suggestions for improvement for future campaigns." Syme, Nancarrow and Seligman (2000), p572.

"Given social marketing's bottom line, the best monitoring systems are those that measure actual behaviour or some close approximation to it." Andreasen (1995), p128.

STEP 5 Design and Plan the Program (or Review Existing Program)

The introduction of a behaviour change framework may occur at a time when a program is already in existence. At this stage in the framework's development, much of the initial design and planning of programs has therefore already been done. However, a review of program objectives in line with the previous steps in the framework is likely to lead to some modification of the program and its attendant evaluation. In other words, if (newly articulated) objectives are more specific in relation to quantifiable changes in knowledge, attitudes or behaviour, timelines and target segments, then the program will need to be refined in order to meet these objectives. So how should this process begin?

First, it can be useful to do some kind of audit of the program to check organisational or other apparent weaknesses, eg, call centre operators responding to queries on the use of water saving devices may need to be more specific in the information they provide; the distribution of devices to retailers may be experiencing regular hold ups; or many people buying or requesting free water saving devices may be found not to be installing them, etc. This process can help identify some 'easy fixes' that will make the program operate as it was originally intended to. Elements that are working well can also be identified and appropriate program staff informed in order to help maintain the considerable motivation required to keep the program going at an optimum level over the long term. During this process, staff conducting programs are an invaluable source of (anecdotal) information about what is or isn't working and why. If critical to the program, this information can then form the subject of more systematic research to more accurately identify potential problems and solutions.

Second, a targeted research review of programs with similar objectives can be examined to check if there are any additional findings relevant to improvement.

Example

A campaign conducted to encourage purchase and use of water saving devices was not as successful in saving water as expected. As a result, a review of key existing research was conducted, identifying an outcome study where a similar problem was encountered - because users thought they had 'done their bit' by installing the devices, they appeared to consider less care was needed in relation to their water use behaviour.⁸ In light of this new information, program messages were reviewed, leading to substantial changes. Messages were pre-tested before being included in the revised program.

Third, examination of a number of 'toolboxes'⁹ currently available, or other programs which have been conducted, may yield new ideas on ways to enhance existing program content or methods.

⁸ Syme, Nancarrow and Seligman (2000).

⁹ Some easily obtained 'toolboxes' have been included in the 'Useful Social Marketing Websites' section at the end of this document.

Example

A program designed to reduce water use in tourism business settings involved a media campaign using trade, business and other professional organisations, and the offer of a workplace water saving consultation on site. The water saver consultant conducted a workplace water audit and provided the business with written recommendations and water saving literature.

In a review of some research publications, the program manager thought that the use of prompts (a brief message designed to 'trigger' a response) might be a relatively simple addition to the power of the program to effect change. In considering the water saving audits, she thought it might be possible for prompts to be placed close to taps. She found that a program encouraging retail customers to recycle tested different messages (or 'prompts') placed at strategic locations in a store. The message showing the best effect was "Please help us recycle, Please dispose of for recycling in the green trash can at rear of store". The worst message was "Please don't litter – please dispose of thoughtfully". A search for additional guidelines for the use of prompts yielded the following characteristics of good prompts:

- *Ask for help, don't demand.*
- *Suggest specific solutions, not just general ones.*
- *Briefly suggest why the request is being made.*
- *Prompts that are unusual or attractive are more effective than unattractive or unobtrusive ones.*
- *Prompts are most effective for responses that are easy or convenient to make – responses that require more effort (inconvenient or time consuming) are not very amenable to change.*
- *Prompts must be very close in space and time to the behaviour people are being asked to perform.*

Following the pre-testing of a variety of prompts, a small water resistant place card placed close to basins and sinks was found to be the most acceptable to business managers, with a large hotel chain agreeing to act as a 'pilot' in exchange for some media publicity on their participation.

This hypothetical example is very simplistic and assumes that the primary features of a social marketing program are already in place and working effectively. The example is designed however, to illustrate the benefits of even fairly low key attempts to improve programs and *use research or other information gathering exercises to guide decisions.*

There is, of course, a bewildering array of information on designing behaviour change programs. Common misconceptions abound on the simplicity of this process. "Our program will work if we can just find a catchy enough message, if we can just luck on the 'right' (usually one) answer, if we spend enough money..." Poorly designed and planned programs are frequently the result of:

- The belief that there is one correct answer to achieving the desired behaviour change and we just have to work hard enough to find it.
- A 'great idea' (with no underpinning objectives or strategic context) from an influential person within the organisation or an important partnering organisation.
- Vague or 'all encompassing' program objectives.
- A belief that the program sponsor (especially government) is unprepared or unwilling to 'go the hard yards'.
- A belief that the research required to drive effective programs is expensive or takes too long.

Designing and planning an effective program involves setting specific measurable objectives for appropriate target segments and looking for the best way to do this, based on experience to date and that of others, examining existing research or commissioning some new research (including the pre-testing of alternative strategies) and seeking advice from others (colleagues, 'experts', partner organisations, resource and other 'tools', etc) as to what might be required.

It is also clear that the more complete *the understanding of the target group* (outlined in the third step of the framework), the more likely the design and planning of the

program will be effective. The following features are key to optimal program design:

1. Bringing customers (ie, 'us') to the point where they are contemplating change.
2. Promoting the drivers for the new behaviour once change is being contemplated.
3. Minimising the perceived barriers.
4. 'De-marketing' alternative behaviours.
5. Increasing the social expectation for change.
6. Making change as easy as possible – removing external barriers (increasing people's ability to carry out the new behaviour).
7. Pre-testing new program elements before they go out into the field.
8. Constantly evolving programs to create new objectives relevant to new segments and/or new behaviours, acknowledging that environmental programs are 'never-ending' and in a continuous state of development.
9. Taking into account the need to maintain new behaviours once they are established.
10. Being aware that programs do not occur in a vacuum, but within a context of political and other practical realities which may have significant effects on program outcomes, and that these influences should not be ignored.

Although it is beyond the scope of this framework document to elaborate on these themes (details of which can be found in some excellent texts listed at the end of this document), well designed and planned programs are almost always the natural consequence of well articulated objectives and a solid understanding of the target segment(s).

Summary Actions

1. For existing programs, conduct an audit of the program to check organisational or other apparent weaknesses and strengths. Ensure the perceptions and experiences of program staff are identified as part of the process. If required, conduct additional systematic research to more accurately identify potential problems (what isn't working or working contrary to expectation) and solutions and/or build on strengths (what appears to be working well).
2. Conduct a targeted research review of other programs with similar objectives and check if there are any additional findings relevant to improvement of the current program.
3. Gather information from 'toolboxes' or other sources which may yield new ideas on ways to enhance program content or methods.
4. Consider the following key factors in the design of the program and optimise understanding of the target segment(s) in relation to these features:
 - Bringing customers, ie, 'us' to the point where they are contemplating change.
 - Promoting the drivers of the new behaviour once change is being contemplated.
 - Minimising the perceived barriers.
 - 'De-marketing' alternative behaviours.
 - Increasing the social expectation for change.
 - Making change as easy as possible – removing external barriers (increasing people's ability to carry out the new behaviour).
 - Pre-testing new program elements before they go out into the field.
 - Constantly evolving programs to create new objectives relevant to new segments and/or new behaviours, acknowledging that environmental programs are 'never-ending' and in a continuous state of development.
 - Taking into account the need to maintain new behaviours once they are established.
 - Being aware that programs do not occur in a vacuum, but within a context of political and other practical realities which may have significant effects on program outcomes, and that these influences should not be ignored.

What will happen if we don't do this? What will happen if we do?

If we *don't* design and plan programs (including review of the design and planning of existing programs) in a systematic, thoughtful way then our programs are more likely to become hijacked by the next 'great idea' that someone has or another search for the 'correct' answer to solve our complex problem. We are more likely to fail to look for and take account of the experiences of colleagues, 'experts', partner organisations and other resources in the most promising ways in which to meet our objectives. We also restrict the capacity of a program to operate effectively at a strategic level because unsystematically designed programs become 'renegade' programs others cannot connect with or feed off.

If we *do* design and plan programs (including review of the design and planning of existing programs) in a systematic, thoughtful way then we are more likely to gather information from a variety of sources to aid in maximising the power of our change interventions. Because we are doing this in a stepwise way, we build a legacy of program knowledge which is sustainable beyond individual program staff, managers and (even) governments. We are more likely to seek monitoring or evaluation outcomes which help us actively review our current program design and planning, as well as promoting the effective design of *new* programs or program elements.

Illustrative Quotes

On the challenges involved in the design of social marketing programs...

"... in social marketing ... we are almost always dealing with high-involvement behaviours ... about which individuals care a great deal, where they see significant risks, where they think a lot before acting, and where they frequently seek the advice of others." Celsi and Olson (1988, in Andreasen 1995), p38.

On communication of messages...

"Message(s) should be very specific. Homeowners should be told what should be done, how much it will cost, what savings they can expect, and where they can get assistance. Information should be presented in a vivid, personalised manner." Syme, Nancarrow & Seligman (2000), p561.

On demarketing alternative behaviours...

"...it is wise to mention rather than ignore counter-arguments against one's position because this enhances the individual's resistance to subsequent counter-arguments." McGuire (1981 in Syme, Nancarrow and Seligman, 2000), p564.

On social norms ...

"The study found that overall (the) subjective norm of the influence of significant others ... was a substantially better predictor of intentions to save water than personal attitudes." Syme, Nancarrow and Seligman (2000), p 41.

"... community norms may play a more important role than individual attitudes in communities where more than half the population has already adopted a target behaviour." Hornick (1992 in Andreasen, 1995), p160.

"... in order to predict individuals' intentions to take a particular action, one must understand not only their perceptions of personal consequences but also their perceptions of what they think others want them to do and how likely they are to be influenced by these others." Andreasen (1995), p159.

On pre-testing...

"In the very best marketing organisations, the planning stage involves the preparation of a number of alternate strategies, only one of which will be used. The pre-testing phase is then used to sort out the competing executions." Andreasen (1995), p 120.

"...pre-testing is not just for advertising... other elements of an integrated marketing strategy can be exposed to target customers' reactions ... (for example)... alternative rewards to be given to home builders who plant or save more trees." Andreasen (1995), p122.

On the maintenance of new behaviours...

"To maintain new behavioural patterns, consumers must feel rewarded. They must also be subject to regular reminders until the new behaviours become an ingrained way of life." Andreasen (1995), p311.

Some examples of different tactics for engendering behaviour change in relation to the environment...

"Despite the difficulty in promoting petrol conservation through television campaigns... (researchers) claimed great success by using television to create a competition between two towns to see which could save the most petrol." Syme, Nancarrow & Seligman (2000), p562.

"A household energy conservation program was designed around a set of neighbourhood-based activities ... eg, visiting groups, home energy visits, group discussion ... Although it did not change attitudes; the program did reduce energy consumption by approximately 8%." Syme, Nancarrow & Seligman (2000), p563.

"It is ... possible to increase pro-environmental behaviour by getting people to make a public or quasi-public commitment to taking an action. A public commitment appears to strengthen people's private, personal commitment to the action ... a personal commitment to take action despite competing demands on one's time is ... a main link between attitude and behaviour; therefore, a publicly made commitment, freely given, should make a pro-environmental attitude lead more reliable to action ." Gardner and Stern (1996), p 86.

"... in going door-to-door with water efficiency kits (toilet dams, faucet aerators and low-flow shower heads), ask homeowners who wish to take the kit to make a public commitment to install it (eg, have their names advertised in the newspaper)." McKenzie Mohr (www.cbsm.com).

"(In behaviour modification programs) you also need to be concerned about doling out too much reinforcement. If reinforcement is too easy to get, you may become satiated, and the reinforcer may lose its motivational power... One way to avoid (this) problem is ... a token economy. A token economy is a system for doling out symbolic reinforcers that are exchanged later for a variety of genuine reinforcers ... you might develop a ... system for ... accumulating points that can be spent on ... movies, restaurant meals, and so forth." Weiten ((915), p 249.

On awareness of the social context in which programs exist...

"... the communicator must be aware of the psychological messages carried by other ongoing demand management policies. For example, many have saved water through 'responsibility' created by campaigns during the drought only to be apparently punished by price rises shortly after-ward. Compliance on future occasions may be less likely." Syme, Nancarrow and Seligman (2000), p564.

STEP 6 Design and Plan the Evaluation / Monitoring Process

Program evaluation and research is often thought of as a process which tells you something about the program after it has ended (or at some arbitrary point after it has started). It is frequently seen as a luxury 'add on' component of a behaviour change program rather than an essential component without which other components cannot effectively operate.

Although the evaluation process is capable of addressing questions at many levels of complexity (and expense), it should, at the very least, provide what is perhaps lightly termed a 'monitoring' function. That is, it should inform program managers at each step along the way how the program is going. It should help them make decisions about program focus, content and delivery methods.

At the conclusion of a particular program phase, evaluation outcomes can also give rise to changes in program objectives and target groups, as well as to the intervention itself.

Example

Monitoring and evaluation for the audit program for tourist businesses (included in Step 5 above) found that early champions in the hotel industry enabled partnerships to effect change beyond what was originally expected, with a significant number of hotels and accommodation sites showing reductions in water use and self monitoring and wanting to be involved in audits. As a result, the program's next phase focused on tourist attractions with high visitor numbers as the primary target group, as it was also found during program monitoring that operators in these sites were keen to be involved but needed assistance in communicating messages to overseas and interstate visitors.

In addition to providing a monitoring function, the evaluation process should also answer the primary question:

- Did the program meet its identified objectives (knowledge, attitudes, behaviour) with the nominated target group in the stated time frame?

If evaluation is limited only to this question though, then the process loses its ability to address other important questions such as:

- Did the program demonstrate better outcomes than doing nothing at all? (control groups might be used in the evaluation).
- Did the program demonstrate different outcomes over time (before, during and after the program, and at follow up points)?
- What are possible reasons for the program achievements?
- What are possible reasons for program failures?
- What information can be obtained during the process that will help improve the program as it is being implemented?
- How can the evaluation/monitoring process be used to help collect other research information that may be required? (eg, if depth interviews are being used to collect pre-program information on attitudes to garden watering (because that is the main focus of the program objective) then are there opportunities to collect information to help understand the barriers and drivers associated with changes in watering habits ('understanding the target group' in Step 3 above)?
- Did the program demonstrate different outcomes compared to another program (comparative research)?

At this point, it will be obvious that the chronological order of the steps in a 'behaviour oriented framework' are not fixed. In particular, a number of the 'information gathering' or 'research' elements contained in each step can be done more effectively (or more cost efficiently) by being conducted at the same time, as shown in the second last dot point above.

The utility of an evaluation process can be undermined by many factors. Common pitfalls include:

- o Program managers/implementers not setting specific measurable objectives against which to evaluate.
- o Failing to evaluate against set program objectives.
- o Detailed written descriptions of programs (or even summaries) not being readily available to program evaluators.
- o Consultant evaluators unwilling to risk offence in asking for the above.
- o An over-reliance by evaluators on attitudinal methods to measure what are really knowledge or behavioural objectives.
- o An over-reliance by evaluators on one method of data collection, eg, surveys at the expense of others.
- o Evaluators failing to account for bias in their results, eg, householders over-reporting their water saving efforts to please the researchers.
- o Difficulties in communicating evaluation/monitoring information (from evaluators to program staff and vice versa) in the midst of many competing demands and time constraints.

Such pitfalls become less likely to occur as those responsible for the design and delivery of programs become more skilled in setting behaviour related objectives and more systematic methods of program design and refinement, *and* program evaluators gain more experience in responding to these.

As in most specialist areas, there are a bewildering array of concepts and terms associated with the design and planning of good program evaluation. Evaluation consultants need to fully understand program objectives and content in order to formulate the most useful and valid alternatives for measuring program efficacy. As well, program managers need to understand the evaluation options open to them in order to help decide which methods will be most useful in assessing whether the program achieved the outcomes it was designed to achieve, and how well they assist them in making program decisions along the way.

Summary Actions

1. Ensure the evaluation plan and process answers the primary question "Did the program meet its identified objectives (knowledge, attitudes, behaviour) with the nominated target group in the stated time frame?"
2. Ensure the evaluation plan includes tracking or monitoring that will help program managers and staff effectively modify the program along the way to increase the likelihood that it will meet its objectives.
3. Determine what other evaluative data can be collected to inform program knowledge, eg, data from control groups.
4. Be alert for low cost opportunities to gather information relevant to other program stages (eg, understanding the target segment) when other evaluative activities are planned (eg, pre-program baseline data collection).
5. Plan the evaluation process along with the program (or program modifications in the case of an existing program), not afterwards.
6. Ensure program objectives and content are adequately described in written form for others (especially evaluators) to quickly come up to speed on the program.

7. Include regular face-to-face meetings between program managers/staff and evaluators as part of the evaluation plan to ensure information relevant to the program is communicated.
8. Continue to ensure that early framework steps have been effectively completed, eg, setting behaviour related objectives, before embarking on evaluation design and planning.
9. Ensure that consultant evaluators (a) have experience collecting data in response to knowledge and behaviour objectives, not just attitude ones, (b) are not likely to over-rely on one method of data collection to the exclusion of others and (c) are able to address issues in relation to bias in outcomes.

What will happen if we don't do this? What will happen if we do?

If we *don't* effectively design and plan our monitoring and evaluation processes, at even the most basic level, we cannot know whether our programs are working as we intended them to. Further, we lose valuable opportunities along the way to improve our programs and increase their power to bring about change. Rather than seeing evaluation as a way of truly understanding the impact of programs and promoting our understanding of the community segments they are designed to respond to, we see evaluation as an irritating organisational requirement at best, and as a punitive 'scorecard' exercise at worst.

If we *do* effectively design and plan our monitoring and evaluation processes, we are likely to feel more confident in implementing our programs because we can base decisions on valid and reliable outcomes. We know what elements are working and what aren't, and can continuously modify our programs based on a planned monitoring process related to our objectives. As a result of outcomes based on a well designed and planned evaluation process, we are able to build a legacy of program knowledge that will outlast individual program managers and staff, forming the basis of truly sustainable efforts at behaviour change.

Illustrative Quotes

On the importance of planned evaluation...

"...focused studies can be conducted at the planning, development and conduct stages of a campaign. These can provide vital information on how the persuasive process should proceed, which media are important for which stage, how conservation behaviour can be maintained, and so on. More powerful methodologies such as direct experimentation can also be cost-effectively employed." Syme, Nancarrow and Seligman (2000), p573.

"...a common source of wasted research is the fishing expedition... (asking) questions in the hope that something will show up that will lead to some action". Andreasen (1995), p101.

"...evaluations whether summative or formative have been grossly underused in relation to information campaigns. Where they have been conducted they have been largely summative and too general. Often, no information as to how to improve media campaigns is acquired." Syme, Nancarrow and Seligman (2000), p572.

On the use of the evaluation process for monitoring purposes...

"The only useful formative research is research that helps managers come up with a good strategic plan. Sound decisions are most likely to be those based on some notion of what strategies and tactics will work on what target customers." Andreasen (1995), p77.

STEP 7 Implement Program and Regularly Monitor to Continuously Modify

(Implement, Monitor, Plan, Modify... Implement, Monitor, Plan, Modify...)

It has already been mentioned that the steps in a 'behaviour oriented framework' are not necessarily sequential. Program implementation in particular, is integrally connected to evaluation and monitoring at almost every step along the way. Evaluation and monitoring informs program implementation, as well as the other way around. In other words, without valid and reliable evaluation and monitoring, how can programs be improved both (a) during their implementation and (b) at their conclusion not only so a 'legacy' exists, but so that new program objectives can be created based on experience rather than the next 'good idea' that someone has?

Although this 'step' has already been referred to in sections above, it has been included as separate to focus attention on the dynamic nature of programs designed to change behaviour, particularly 'high involvement' ones related to the environment. In order to manage the numerous unanticipated factors that will influence programs, a continuous process needs to occur where programs are implemented, monitored, planned, modified... implemented, monitored, planned, modified...

Reasons for this include:

- Some program strategies and methods may not have been conducted properly and need to be 'fixed'.
- New support for programs (from partners or other stakeholders) sometimes become available with new or improved program elements able to be incorporated.
- Financial or other support (from partners or other stakeholders) is withdrawn, affecting what can now be realistically achieved within planned time frames.
- Those targeted by programs do not respond as expected, even when extensive pre-testing has been carried out.
- Community tragedies or other media events affect program delivery or outcome measurement.
- Climate conditions, eg, recent rainfalls result in significant increases in dam capacities immediately prior to the introduction of a media campaign to improve attitudes to the introduction of water restrictions.

The existence of a planned 'baseline', 'tracking' or 'monitoring' methodology will be able to provide important information on outcomes at preordained points along the way. In addition, other less 'formal' methods can be used on a regular basis for monitoring purposes, eg, program 'mini-audits', market probes, small scale routine surveys, or periodic depth interviews or focus groups. Both these types of data gathering are crucial in either identifying some of the contingencies mentioned above or making decisions about them.

As with the design of any new program or alteration to an existing program, mid-stream changes to a program requires 're'-consideration of the key features in Step 5 (design and plan the program). For example, in a situation where people using the water saving devices thought that they had 'done their bit' and therefore needed to take less care in water use, the program manager would still need to go back to the 'barriers and drivers' research to discover what was missed, and develop and pre-test alternative messages.

Summary Actions

1. When program implementation begins, ensure equal attention is paid to the implementation of the monitoring/evaluation process and that program staff know when they can expect communication of outcomes to inform continuous program development.
2. Program modification requires good communication among program staff. Promote staff involvement in the communication of program monitoring outcomes and subsequent program modification plans and activities.

3. When monitoring outcomes point to changes needing to be made, do not make 'knee-jerk' program modifications. Return to the planning process to ensure changes are appropriate to the new outcomes, eg, pre-testing of new (modified) program messages may be required.

What will happen if we don't do this? What will happen if we do?

If we *don't* 'monitor, plan and modify' at regular intervals during the program implementation process, we lose the opportunity for continuous improvement of programs. We become more inclined to sit back, watch and wait for the program to end rather than view program implementation as a dynamic process, amenable to change. As a more passive participant of the implementation process, we fail to see opportunities for improvement, particularly those relating to the inclusion of additional program partners or other stakeholders.

If we *do* 'monitor, plan and modify' at regular intervals during the program implementation process, we are able to make our programs the best they can be in the face of the many limitations that exist. We are far less likely to move into crisis mode when unexpected changes occur; because we have tracking methods available to tell us how these changes are affecting our progress. These methods help us to plan and implement new strategies to achieve our objectives without starting back at square one. We are able to use the same methods to help identify program strengths and increase the program's focus on these elements. Opportunities to involve additional project partners become evident more frequently because we are examining positive outcomes on a regular basis.

Illustrative Quotes

On the importance of the use of evaluation/monitoring to modify programs...

"Too many ... programs ... only carry out studies at the beginning and end of a project. (They) allow one to learn whether the project as it was developed was successful. They do not allow managers to make mid-course corrections that would make that development much more effective. Commercial (programs) ... carry out focus group studies, small scale surveys ... to permit up-to-date measures of program effectiveness and rapid adjustments of strategy and tactic in response to market dynamics." Andraesen (1995), p128.

"It is important to realise that a summative evaluation is no substitute for monitoring (which, of course, is also evaluation but which takes place regularly within programs to keep them fast on their feet)... (summative evaluation) should not be considered satisfactory for monitoring purposes because (it) usually comes much too late for desirable changes to be implemented." Andraesen (1995), p 94.

"Evaluation is a normal step in most social change programs – if nothing else, funders usually require it – but monitoring is often neglected. It is not uncommon for the social program manager and the program staff to figure out what to them is their very best strategy. They conscientiously implement it and stick with it until such point as the project is done and the evaluation team comes along to see if they were correct in their strategic choices. This is not good social marketing... if they do not keep continually checking their progress with customers, their programs will surely get off track. If necessary mid-course corrections are not made, all a final, formal evaluation at the end of the project will tell you is: (a) you screwed up and (b) it is too late to fix it." Andraesen (1995), p94.

STEP 8 Review the Program to Inform the Next Phase, Including the Formulation of New Objectives

Conduct Regular Strategic Review of the Whole Program

A review of the program (or 'sub programs') at its conclusion may be seen as just a more formal extension of the previous step in the framework. However because the review relates directly to how well program objectives were met and includes all evaluative data, it is an invitation to the formulation of new objectives, including new target segments.

If a more 'formal' program review is not conducted (and 'formal' should not be confused with 'complicated' or some activity requiring a voluminous report) then programs can simply drift into a state of inertia where major improvements or new targets are never set. Also, it often seems as if the program is not 'getting anywhere' because there is no focal point for the achievements of a program to be identified and acted upon. It is only the problems that are regularly a call to action, rather than successes upon which to build.

Example

A water saving plumbers program might be comprised of a number of separate sub-programs with their own behaviour related objectives eg, 'at least one month after household plumbing work has been completed by an accredited plumber, individual household water use will show a decrease of at least 5%'¹⁰. At the twelve month mark, a program review might identify (among other things) the following:

- o Increases well in excess of 5% were found in most households with small gardens.*
- o Increases of less than 2% were found for most households with large gardens but this accounted for 50% of the total water saving in litres.*
- o These water savings were well in excess of those achieved by a control group who had plumbing work completed by an 'ordinary' plumber.*
- o Informal interviews conducted regularly with accredited plumbers found that it was a lot more difficult (and sometimes frustrating) to persuade those with large gardens to engage in water saving plumbing work.*

As a result of this information it could be decided to:

- o Set different targets for the next phase according to household size – higher targets for those with smaller gardens and maintain the previous target of 5% for those with large gardens.*
- o Provide feedback to accredited plumbers about the water saving in absolute terms (litres) attached to those with large gardens and include this information in the plumber's training program to improve motivation in working with large garden households.*
- o Use control group outcomes to persuade a prospective partnering organisation to increase the demand for, and number of plumbing accreditation training programs being offered.*

A review of the whole program also allows feedback on the program and its outcomes to program staff and partners who often have excellent ideas on additional improvements and the application of outcomes. In addition it is a powerful motivating tool in maintaining the involvement of all program stakeholders.

¹⁰ Note that this sub-program may have a number of other objectives.

Finally, regular strategic review is essential in considering the relationship of all objectives (and associated outcomes) to each other. Such a review is crucial to decision making on:

- Resource allocation.
- Program links to optimise the effectiveness of the program/s.
- Identification of gaps that need to be fulfilled by new, additional programs.

Summary Actions

1. Conduct a review of the program (or sub program) at its end. Include a review of whether an appropriated 'mindset' was assumed and acted upon (see Step 1).
2. Include as many stakeholders as possible in communication of review outcomes, especially program partners and staff.
3. Conduct a regular strategic review of the program/s based on the regular review of its component programs.
4. Ensure that strategic review outcomes are used to directly inform decisions on resource allocation, program links and identification of the need for new programs to address gaps.
5. Celebrate program achievements. We all need the positive reinforcement!

What will happen if we don't do this? What will happen if we do?

If we *don't* conduct whole program review, we forgo the opportunity to reflect on achievements and problems in total. Although we may have nominated an end to our program and may have made improvements incrementally, we fail to notice all the program features that have contributed to outcomes. We also lose the chance to celebrate our successes and learning, as well as the chance to communicate these to all those involved in the program, its implementation and subsequent strategic review.

If we *do* conduct whole program review, we become better able to encapsulate program outcomes to directly inform the development of new program objectives, strategies and evaluation processes. Not only are our programs more likely to be sustainable, but so are the processes by which they are developed. The review process is an opportunity to include program partners and staff, sustaining motivation and involvement. Whole program review makes the strategic review of programs more straightforward, rendering it more likely that each individual program will benefit from the other.

Illustrative Quotes

"It has been said: The whole is more than the sum of its parts. It is more correct to say that the whole is something else than the sum of its parts, because summing up is a meaningless procedure, whereas the whole-part relationship is meaningful. Koffka (1935), p176.

"To understand is to perceive patterns." Plato.

"Knowledge exists to be imparted." Ralph Waldo Emerson.

"Nothing is a waste of time if you use the experience wisely." Rodin.

References

Sources of Quotes

- Andreasen, A.R. (1995). *Marketing Social Change: Changing Behaviour to Promote Health, Social Development, and the Environment*. San Francisco: Jossey-Bass.
- Bakir, P.H. (2004). Public Involvement in Water Demand Management Programs. International Water Demand Management Conference, 30 May – 4 June 2004, Dead Sea, Jordan.
- Gardner, G.T. and Stern, P.C. (1996). *Environmental problems and human behaviour*. Boston: Allyn and Bacon.
- Gifford, R. (1987). *Environmental Psychology Principles and Practice*. Massachusetts: Allyn and Bacon.
- Koffka, K. (1935). *Principles of Gestalt Psychology*. New York: Harcourt-Brace.
- Syme, G.J., Nancarrow, B.E. and Seligman, C. (2000). The Evaluation of Information Campaigns to Promote Voluntary Household Water Conservation. *Evaluation Review*, 24(6), 539-578.
- Syme, G.J., Shao, Q., Po, M. and Campbell, E. (2004). Predicting and understanding home garden water use. *Landscape and Urban Planning*, 68, 121-128.
- Veitch, R. and Arkkelin, D. (1995). *Environmental Psychology: An Interdisciplinary Perspective*. New Jersey: Prentice-Hall.
- Weiten, W. (1995). *Psychology: Themes and Variations*. California: Brooks/Cole Publishing Company.
- www.zaadz.com/quotes (Quotes included in Step 8).

Resources Used in the Preparation of This Guide

- Aitken, C. (1992). *Factors Affecting Residential Water Consumption in Melbourne Australia*. PhD thesis, University of Melbourne.
- Al Wakeel, D. (2001). 'Businesswomen urge water conservation as national way of life'. *Jordan Times*, 22 May.
- Amy Vickers and Associates, Inc (1996). *Final Report: Water Conservation Planning USA Case Studies Project*. West Sussex: The Environment Agency Demand Management Centre.
- Amy Vickers and Associates, Inc (1996). *Appendices: Water Conservation Planning USA Case Studies Project*. West Sussex: The Environment Agency Demand Management Centre.
- Andreasen, A.R. (1995). *Marketing Social Change: Changing Behaviour to Promote Health, Social Development, and the Environment*. San Francisco: Jossey-Bass.
- Australian Research Centre For Water In Society (2004). Social science investigations of water reuse. *Water in Society Newsletter*. Winter issue.
- Australian Research Centre For Water In Society (2004). Determining community preferences in drinking water aesthetics. *Water in Society Newsletter*. Summer issue.
- Australian Research Centre For Water In Society (2002). *Perth Domestic Water-Use Study: Household Appliance Ownership and Community Attitudinal Analysis 1999-2000*. CSIRO Land and Water, CSIRO Urban Water Program, December 2002.
- Australian Research Centre For Water In Society (2002). Domestic water use study – release of the report on community attitudinal analysis. *Water in Society Newsletter*. Summer issue.
- Auspoll Pty Ltd. 2003. *Qualitative Research, Water Conservation Campaign*. Report to Department of Sustainability and Environment, Melbourne.
- Auspoll Pty Ltd. 2003. *Water Campaign Launch Ads Focus Group research*. Report to Department of Sustainability and Environment. Melbourne.
- Bakir, P. H. (2004). *Public Involvement in Water Demand Management Programs*. International Water Demand Management Conference, 30 May – 4 June 2004, Dead Sea, Jordan.

- Berkowitz, L. (1972). 'Social norms, feelings, and other factors affecting helping behaviour and altruism.' In Berkowitz (Ed). *Advances in Experimental Social Psychology Volume 6*. New York: Academic Press.
- Bruvold, W. (1979). Residential Response to Urban Drought in Central California. *Water Resources Research*, 15, 1297-307.
- Buvold, W. and Smith, B. (1988). *Developing and Assessing a Model of Residential Water Conservation in Water Resources Bulletin* (24), 3. American Water Resources Association.
- City of Melbourne (April 2004). *Total Watermark*. City of Melbourne.
- City of Melbourne (2003). *WaterMark Summary*. City of Melbourne.
- City West Water Ltd. (2004). *Making Waves*. Edition 21, April- June. City West Water.
- City West Water Ltd. (2004). *Making Waves*. Edition 20, January- March. City West Water.
- City West Water Ltd. (2003). *Sustainability Report 2003: Today for Tomorrow*. City West Water.
- City West Water. (2003). *Drinking Water Quality Report 2003*. City West Water.
- City West Water, South East Water, Yarra Valley Water. and Melbourne Water (2003). *A Guide for Schools: Water- Learn it! Live it!* Melbourne: Our Water Our Future.
- De Oliver, M. (1999). Attitudes and Inaction: A Case Study of the Manifest Demographics of Urban Water Conservation. *Environment and Behavior*, 31, No 3 372- 394. Sage Publications.
- Department of Sustainability and Environment. (2004). *'Water Savers Working Together' Water Conservation Community Engagement Forums*. A Community Change Report. Melbourne: Department of Sustainability and Environment.
- Department of Sustainability and Environment. (2003). *Water Saver Update*. October 2003. Melbourne: Department of Sustainability and Environment.
- Department of Sustainability and Environment. October (2002). *Water Resources Strategy for Melbourne. 21st Century Melbourne: A Water Smart City*. Melbourne: Department of Sustainability and Environment.
- Department of Sustainability and Environment, Melbourne Water, City West Water, South East Water and Yarra Valley Water. (2004). *Joint Water Conservation Plan for Metropolitan Melbourne 2004/05 to 2009/2010*. Melbourne: Department of Sustainability and Environment.
- Dickinson, K. (2001). *Urban Water Conservation: Consumer Attitude, Environment Policy Tools and the Implications for Sustainable Development*. School of Anthropology, Geography and Environmental Studies. Research Paper No 7. University of Melbourne.
- Duncan, J. (1991). *Monitoring of Urban Water Demand: A Review of Water Consumption and Demand Management in Melbourne*. Melbourne: MMBW.
- Fujii, E., Hennessy, M. and Mak, J. (1985). An evaluation of the validity and reliability of survey response data on household electric conservation. *Evaluation Review*, 9 (1), 93-104.
- Gardner, G.T. and Stern, P.C. (1996). *Environmental problems and human behaviour*. Boston: Allyn and Bacon.
- Gifford, R. (1987). *Environmental Psychology Principles and Practice*. Massachusetts: Allyn and Bacon.
- Grieser, M. (2004). *Lessons From Outside the Box: The Story of the Water Efficiency Program in Jordan*. International Water Demand Management Conference, 30 May – 4 June 2004, Dead Sea, Jordan.
- Hamilton, L. 1985. Self-Reported and Actual Savings in a Water Conservation Campaign. *Environment and Behavior*, 17 (3).
- Kaiser, F., Wolfing, S. and Fuhrer (1999). Environmental Attitude and Ecological Behaviour. *Journal of Environmental Psychology*, 19, 1-19.
- Kantola, S., Syme, E. and Campbell, N. (1984). Cognitive Dissonance and Energy Conservation. *Journal of Applied Psychology*, 69, 416 – 421.
- Karp, D. and Gauding, C. (1995). Motivational Underpinnings of Command-and-Control, Market-Based, and Voluntarist Environmental Policies. *Human Relations*, 48 (5).
- KSU Community Health Institute (2004). *RE-AIM Framework*. http://www.re-aim.org/2003/researchers/reach_res.html.
- Lange, R. (2004). *City West Water Media Strategy, Draft*. July 2004-June 2005.

- Maki, J. Hoffman, D. and Berk, R.(1978). A time series analysis of the impact of a water conservation campaign. *Evaluation Quarterly*, 2, 107-18.
- Melbourne Water (2003). *Annual Report 2002/03*. Victorian Government.
- Melbourne Water (2003). *Catchment to Coast: Our Long-term Plan to Make Melbourne the World's Most Water-Sensitive City*. Victorian Government.
- Melbourne Water (2003). *Melbourne Water Social Report 2002/03*. Victorian Government.
- Melbourne Water (2003). *Water Resources and the Environment 2002/03*. Victorian Government.
- Mills N.F. (2002). The Melbourne Experience: Planning Future Water Resources. In *Our Water Our Future*, Proceedings of Western Australia's Water Symposium, Parliament House, Perth, 1-7 October 2002.
- Murphy, M. (1994). *Water Conservation Behaviour in Adolescents*. MA Thesis. University of Melbourne.
- Nancarrow, B.E. (2002). Regulation and Restrictions: A Community Perspective. In *Our Water Our Future*, Proceedings of Western Australia's Water Symposium, Parliament House, Perth, 1-7 October 2002.
- Nancarrow, B.E., Smith, L.M. and Syme, G.J. (1996). The ways people think about water. *Journal of Environmental Systems*, 25(1), 15-28.
- Nancarrow, B.E. and Syme, G.J. (1990). *A Guide to Improving Communication with the Public on Water Industry Policy Issues*. Urban Water Research Association of Australia. Research Report No.13.
- Newton Wayman Chong & Associates. (2004). *Water Restrictions Survey – Attitudes & Behaviour of Consumers Wave 2 Survey (December 2003)*. Research Report for South East Water, Moorabbin.
- Newton, Wayman, Chong and Associates (2003). *Stage One Water Restrictions – Attitudes and Behaviour of Consumers*. Research Report for South East Water, Moorabbin.
- O'Sullivan, B. (2004). *City West Water Communications Strategy, Draft*. July 2004- June 2005. City West Water.
- Olsen, M. (1981). Consumer's Attitudes Toward Energy Conservation. *Journal of Social Issues*, 37 (2), 109-131.
- Otu, U.R. (2003). *Grassroots Participation and Management for Rural Water-related Environmental Problems in Ebo Itumbonuso, Ini Local Government Area, Akwa Ibom State, Nigeria*. Sixth Water Information Summit: Breaking the Barriers Let water Information Flow! 9-12 September 2003, Delft, The Netherlands.
- Po, M., Syme, G.J., Shao, Q. and Campbell, E. (2003). *What Determines Outside Household Water Use?* Ozwater Convention & Exhibition, AWA 20th Convention, 6-10 April 2003, Perth, Western Australia.
- Port Phillip and Westernport Catchment Management Authority and Melbourne Water (2004). *Melbourne's Rivers and Creeks 2004*.
- Ronis D. Yates J and Kirscht J. (1989). 'Attitudes, decisions and habits as determinants of repeated behaviour' in Pratkanis, A., Breckler, S. & Greenwald, A (Eds). *Attitude, Structure and Function*. New Jersey: Lawrence Erlbaum Hillside.
- Saulwick Muller Social Research (2003). *Water Smart Rebate Scheme. An Estimate of Consumer Demand for Various Products and Services*. Part II: Quantitative Research Report for Victorian Water Retailers, Melbourne.
- Scott, D. and Willits, F. (1994). Environmental Attitudes and Behavior. A Pennsylvania Survey. *Environment and Behavior*, 26 (2), 239-260.
- Scudamore, K. and O'Sullivan, B (2004). *City West Water Education Strategy*. Draft July 2004-June 2005. City West Water.
- Seligman, C. Hall, D. and Finegan, J. (1982). 'Predicting home energy conservation: An application of the Fishbein-Ajzen model' in *Advances in Consumer Research*, 10, 647-51. Ann Arbor, MI: Association for Consumer Research.
- Seligman, C., Syme, G.J. and Gilchrist, R. (1994). The role of values and ethical principles in judgments of environmental dilemmas. *Journal of Social Issues*, 50(3), 105-119.
- Southeast Water (2004). *Annual Customer Satisfaction Presentation*. South East Water.
- Department of Sustainability and Environment. (2004). *Victorian Government White Paper: Securing Our Water Future Together*. Melbourne: Victorian Government Department of Sustainability and Environment.
- Department of Sustainability and Environment. (2004). *Victoria's Action Plan for a Secure Water Future*. Melbourne: Victorian Government Department of Sustainability and Environment.

- Department of Sustainability and Environment. (2003). *Securing Our Water Future Green Paper for Discussion*. Melbourne: Victorian Government Department of Sustainability and Environment.
- Syme, G.J. (2002). Balancing community values, needs and water-use. In *Our Water Future*, Proceedings of Western Australia's Water Symposium, Parliament House, Perth, 1-7 October 2002.
- Syme, G.J. (1997). From hand to mouth: The fluctuating fortunes of social scientists in scientific research and natural resource agencies. In *Sustainability and Social Research*, Proceedings of the 1997 Conference of the Australian Association for Social Research, F. Vanclay and L. Mesiti (Eds), Charles Sturt University, Wagga Wagga, NSW.
- Syme, G.J., Kals, E., Nancarrow, B.E. and Montada, L. (2000). Ecological risks and community perceptions of fairness and justice: A cross-cultural model. *Risk Analysis*, 20(6), 905-916.
- Syme, G.J. and Meier, S. (1989). *An Urban Domestic Water Conservation Strategy*. A report to the Directorate of Water Resources, Water Authority of Western Australia.
- Syme, G.J. and Nancarrow, B.E. (2002). *Priorities for Social Change for Achieving Metropolitan Water Conservation*. 'Changing Actions Changing Lives: Environmental Sustainability Through Voluntary Behavioural Change' Workshop, 25-26 September 2002, University of South Australia, Australia.
- Syme, G.J. and Nancarrow, B.E. (1997). The determinants of perceptions of fairness in the allocation of water to multiple uses. *Water Resources Research*, 33(9), 2143-2152.
- Syme, G. Nancarrow, B. Bishop, B. and Vanderwal, P. (1992). *Community Analysis of Household Water Pressure Satisfaction*. Urban Water Research Association of Australia. Research Report No. 40.
- Syme, G.J., Nancarrow, B.E. and McCreddin, J.A. (1999). Defining the components of fairness in the allocation of water to environmental and human uses. *Journal of Environmental Management*, 57, 51-70.
- Syme, G.J., Nancarrow, B.E. and Seligman, C. (2000). The evaluation of information campaigns to promote voluntary household water conservation. *Evaluation Review*, 24(6), 539-578.
- Syme, G.J. and Salerian, S.N. (1987). Socio-economic, attitudinal and behavioural influences on scheme water use in Perth. *Domestic Water Use in Perth, Western Australia*. Technical Working Papers, Volume 3, Part E, Chapter 37. Perth, Water Authority of Western Australia, 125-174.
- Syme, G.J. and Seligman, C. (1987). *The Planning and Evaluation of Public Information Campaigns to Encourage Water Conservation*. Proceedings of the National Workshop on Urban Demand Management, AWRC Conference Series No. 14, April-1 May 1986, Perth Cultural Centre, Australia.
- Syme, G.J., Seligman, C., Kantola, S.J., and Macpherson, D.K. (1987). Evaluating a television campaign to promote petrol conservation. *Environment and Behavior*, 19(4), 444-461.
- Syme, G.J., Seligman, C. and Thomas, J.F. (1991). Predicting water consumption from homeowners' attitudes. *Journal of Environmental Systems*, 20(2), 157-168.
- Syme G.J., Seligman C. and Thomas J.F. (1987). From research to policy: Directions for residential water demand management in Perth. *Domestic Water Use Study Perth, Western Australia*. Technical Working Papers, Vol. 3, Part E, Chapter 40. Perth: Water Authority of Western Australia.
- Syme, G.J., Shao, Q., Po, M. and Campbell, E. (2004). Predicting and understanding home garden water use. *Landscape and Urban Planning*, 68, 121-128.
- Syme, G.J., Thomas, J.F. and Salerian, S.N. (1983). *Can Household Attitudes Predict Water Consumption?* Proceedings of the Hydrology and Water Resources Symposium, 8-10 November 1983, The Institution of Engineers, Australia, National Conference Publication 83/13, pp 52-56.
- Syme, G.J. and Williams, K.D. (1989). Community attitudes towards water pricing policies and domestic water quality standards. In R.C. King and J.K. Collins (Eds), *Social Applications and Issues in Psychology*. North-Holland: Elsevier Science Publishers.
- TNS Consulting (August 2003). *Water Conservation Behaviour and Campaign Recall Tracking Program: Benchmark Study*. Report for the Department of Sustainability and Environment, Government of Victoria. Study authors: Dexter, Alison and Harry, Leyla. Social and Government Research Group.
- United Nations. (2001). Water Conservation: A Guide to Promoting Public Awareness. *Water Resources Series 81*. <http://www.unescap.org/enrd/wmrs/publications/wrs/81.htm>.
- Veitch, R. and Arkkelin, D. (1995). *Environmental Psychology: An Interdisciplinary Perspective*. New Jersey, Prentice-Hall.

- Vickers, A and Associates, Inc (1996). *USA Case Studies Project*. Amherst: Environment Agency Demand Management Centre.
- Water Conservation Strategy Working Group (British Columbia). (1999). The Basics of Water Conservation. In *A Water Conservation Strategy for British Columbia*. British Columbia, Ministry of Sustainable Resource Management, Water Planning and Allocation Branch. <http://srmwww.gov.bc.ca/wat/wrs/strategy/>
- Water Smart (2003). *Planning for the Future of Our Water Resources. 21st Century Melbourne: A WaterSmart City. Final Report – Summary*. Victorian Government.
- Weiten, W. (1995). *Psychology: Themes and Variations*. California: Brooks/Cole Publishing Company.
- Werner, C. (2003). Changing homeowners' use of toxic household products: a transactional approach. *Journal of Environmental Psychology*, 23, 33-45.
- White, S. (2003). *Influencing Water Demand – Overview and Water Efficiency and Conservation*. Institute for Sustainable Futures, University of Technology, Sydney.
- Wong, T.H.F. (2004). *Water Sensitive Urban Design – An Overview of Current Practice in Victoria*. A background paper prepared for the 'Water Sensitive Urban Development – Valuing Stormwater as a Resource Workshop', Telstra Dome, Melbourne, 15 September 2004.
- Yarra Valley Water (2002/03). *The Sustainability Journal, Annual Report 2002/03*. Yarra Valley Water.
- Young, J. and O'Neill, P. (1999). *A Social Marketing Framework for the Development of Effective Public Awareness Programs*. In *Disaster Prevention for the 21st Century*, Proceedings of the Australian Disaster Conference (1999), Canberra.

Useful Social Marketing Websites

www.cbsm.com

McKenzie-Mohr & Associates' guide on the use of community based social marketing. The site also includes some case studies and downloadable reports.

www.cancer.gov/pinkbook

An excellent tested comprehensive guide – a revision of the original *Making Health Communication Programs Work*, a guide to communication program planning.

www.turningpointprogram.org

Go to 'social marketing', then 'resource guide' to download .pdf file.

www.social-marketing.com

No online guide, but go to 'resources' then 'links' for a comprehensive list of social marketing resources.

ctb.ku.edu/tools

University of Kansas social marketing toolbox. If you have trouble accessing this site (note there is no 'www' at the start of the address), go to Google and type in 'community tool box social marketing'.