How to make a theory of change

Introducing a collaborative method for designing solutions to complex social and environmental problems  (v2 Aug 09)

The challenge of intractable problems

One obstacle to effective government is ‘fantastic ideas’. Everyone has them and they are all fantastic. The problem is: when faced with a seemingly intractable problem like, say, a polluted river or a dysfunctional community, 10 people will have 10 different fantastic ideas. So which one should you go with? The ‘smartest’, the ‘most innovative’, the pet project of the most powerful person, or the cheapest,? And there is, of course, the possibility that every one of those 10 ideas is half baked.

Why might that be so? Because we all carry in our heads uncritical assumptions about what it takes to change the behaviour of others. These ‘lay theories of change’ often tell us more about personal prejudices and organizational blind spots than they do about the unique realities of the people we hope to influence.

Examples of simplistic ‘lay theories of change’ include assumptions that people will change their behaviour when they get the right information; they get the right message; they get the right incentives; they get the right threats and punishments, or when they get the right services. However when the evidence is examined dispassionately it turns out that none of these theories has a particularly strong claim to effectiveness.

The challenge is to replace uncritical assumptions with more nuanced and adaptive theories of change which closely fit the unique realities of real people leading real lives in the real world.
The difficulty, however, is that intractable social, health and environmental problems are outrageously complex. They are the result of myriad poorly understood forces operating over great scales of time and space with politics and power never far below the surface. Their context is not just the individual but often broad social and institutional systems. Even defining a problem can involve uncertainty, conflict, ideology, power games and turf wars.

Solving complex problems is not like building bridges, doing accounting, or performing chemical experiments. There is never one best way. In fact, there may be no best way. Your program might, for instance, have to start as a series of experiments with uncertain outcomes, some worth building on, others not.

And then there is the human element. Every change program is a people change program. Success will depend on people leaving their comfort zones. No matter how fantastic your idea is, people will still need to believe in it, believe the risks are worth it, invest their passion, time and resources in it, and sustain their investment over many years. Experience tells us that this only happens when people have a hand in designing the program from the start.

And then there is entropy. You can’t go backwards in time. Removing the causes of a problem is rarely an option. A community can’t go backwards to a state of nature where there is no alcohol, TV, pornography, junk food or sexually transmitted diseases. A river valley can’t go backwards to a natural state where there is no agriculture, forestry or irrigation. Hence the focus on ‘the problem’ found many analytic models (like as DIPS and PRECEDE, for example) is not as helpful as it seems. The time and energy spent studying a problem may be better spent learning about (and being inspired by) other people’s success in increasing the resilience of communities and institutions.

As a facilitator and trainer in change programs I faced a challenge. I needed a method of designing change programs that was suited to tackling complex social and environmental problems. I wanted one that could mobilise and process the contributions of diverse participants, that was scalable from small to large programs, that was outward looking and encouraged imagination, and that was enjoyable and simple so time-poor professionals could actually do it.

I this paper I’m sharing a process that’s been evolved and tested in many workshops over the last few years. I believe it provides a relatively simple, quick, engaging way to develop richly nuanced programs in complex, uncertain settings.
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You could use this as part of the full collaborative design cycle described in CoCreate manual on my website, or use it to develop a smaller one-off change program.

How the method evolved

I began by using a simple team brainstorm captured on a mud-map, with the focus question ‘what’s causing the problem’. However the results tended to be ‘shallow’ (they had low analytic value).

Then I experimented with the Ishikawa diagram. It had similar problems.

Then I discovered the Problem Tree method used by AusAid (also called the ‘Cause and Effect Tree’ or ‘Five Whys’). It’s analytically rich because it forces participants to look at the forces behind the symptoms, and the forces behind those forces and so on. However I found it had two weaknesses. First, it was hard to explain and required a surprising amount of practice and discipline to do well (I noticed participants spent a lot of time simply perplexed, despite my best efforts to explain the process).

Secondly, it was negative: it focused on problems. Solutions, by contrast, need to be acts of imagination which can’t be generated by studying problems alone. In fact I often found participants were so demoralized by focusing on their problems that they couldn’t come up with any positive ideas at all. Which isn’t to say the Problem Tree method doesn’t work. It does and it’s an effective system. But I wanted something easier, quicker, more engaging and more inspiring.

First, I chose a simpler method – an oldy and a goody – the Force Field method. This encourages participants to visualize a problem as the result of a system of positive and negative forces (hence it emulates ‘system thinking’). It’s more engaging because it involves participants in firstly brainstorming a pattern of causes and then individually weighting each one.

Second, instead of making the problem the centre of attention I made it simply the starting point. Participants got a briefing on the situation, talked it over, and ideally had a site visit. This happened before the main session which instead focused entirely on what positive factors could make a difference.
I’ve tested the method perhaps a dozen times now. I find it generates intense, animated, positive debate between the participants and results in imaginative, well-tempered program designs. And, importantly, it’s easy to explain and do.

The ‘What Would It Take Force Field’ method

Here’s how the method works.

Essentially it involves one briefing session (including a tour where appropriate) and two forum-style sessions where participants work together in tables of 5-8. For compact issues, all the sessions could be combined into a single day event.

1) Preliminary steps

a) Get thoroughly informed

Usually there will be some existing information. Get hold of it. Put it in a briefing document for the participants.

Here’s a check list of things to look for:

- The extent of the problem: how quantifiable is it? Baseline data?
- Lessons learnt in similar projects elsewhere: speak directly to experienced project staff in other organisations; obtain and read their evaluation reports;
- Scientific, technical, regulatory aspects: speak to experts in council and government agencies;
- Stakeholders (internal, external, community): find out about their perspectives, issues, knowledge resources and capacities;
- The community: talk to ‘experts’ or informants who know their community well; look at ABS and other social research data.
- Money: Where could you get more money?

If you spot important gaps in knowledge, you may want to commission a survey or new research before proceeding.
b) Identify your brains trust

Your most important ingredients are people. You will want to develop your program using the accumulated knowledge, expertise and life experiences of a wide diversity of people who have a strong interest in the outcome.

You’ll want to include:
- people whose actions can make a difference;
- people living with the problem;
- people who may have to live with the solution;
- people with special expertise or life experience that bears on the situation;
- people with a good understanding of the underlying causes.

Avoid having ‘turf sitters’ who are just there to defend institutional interests. Be very careful with business representatives as their presence may damage the legitimacy of your program.

2) Briefing session: Acquaint your brains trust with the situation

Give them a detailed expert briefing. Take them on a tour to see, smell and touch the problem. Let them speak with others who are living with the problem.

While it’s important to look at the problem, it’s even more important to stretch people’s minds with possible solutions. As a facilitator, your job is to provide a rich feedstock of positive stories to feed their imaginations. Discover how other communities are tackling similar problems and creating new futures. It’s a big planet and it’s full of inspiration – people in Denmark, Oregon, Guangzhou, Saskatoon and Christchurch are wrestling with just the same issues. Find out what they are creating and share it with your participants.
3) First forum session: Agree on a desired program outcome

At the first forum there are some preliminary questions you’ll need to consider to create clarity on the ‘why’ of the program.

- what, exactly, is the problem?
- how could you measure the problem?
- what is the desired long term program outcome?
- what is the geographic boundary of the program?
- what institutional plans and strategies bear on the problem?
- what, if any, targets exist?

These are important issues that deserve adequate time for discussion. Even ‘What, exactly, is the problem?’ is a deceptively simple question. The participants will come with different interests, values, expectations and definitions of success. A common agreed position – and an acknowledgement of the diversity interests and values – is vital before you proceed.

This stage will need adequate time for information and expert presentations, plus at least one facilitated discussion of 1-2 hour length, and much more if the issue is controversial (if it takes less time you’ve probably left important people out).

**HINT:** allow a lot of discussion, but instruct participants to keep it simple and don’t start devising solutions or possible program activities yet. And don’t let them analyse causes yet. Instruct them to by define the problem in it’s *most observable, tactile, easily measurable terms* e.g. mortality and morbidity figures. Then simply INVERT this statement to create the ‘desired program outcome’ ie. a specified reduction in mortality and morbidity figures over the long term (e.g. 3-10 years, depending on the situation).
4) Second forum session: The Force Field process

**Time:** a single 2 to 3 hour session.

**Materials:** marker pens, flipchart paper (coloured dots are nice but optional), whiteboard.

**Skilled staff:** a facilitator

**Numbers:** from 10 to 100 participants, working in teams of 5-8.

**Step 1:** Appoint a facilitator and scribe for each team. The team facilitator’s job is to ensure all have a fair go and the discussion stays on track.

Clearly describe the process to be followed.

Ask scribes to draw up a sheet of flipchart paper, as follows, with the previously agreed ‘desired program outcome’ in the centre (remember your participants agreed on that in Stage 3).

**Time:** 5-10 mins.

How to draw up the flip chart paper.
**Step 2: Brainstorm and discussion**

Give each participant two minutes to privately consider their answers to the following focus questions:

a) “What’s stopping improvement?” and 

b) “What could make a difference?”

Go around the table collecting each person’s views and record them as follows, with discussion as needed until the group is satisfied the pattern represents their collective views.

Time: 20-25 mins

![Diagram](image)

How to map the negative and positive forces.

**Step 3: Weight the results**

Each participant is given ten (10) points and asked to distribute them to the forces which they think are most potent in inducing change. Participants will have to think about consider both the strength of the forces and whether the program is likely to have the time and resources to modify them.

(It’s fun to give people coloured dots to mark their weightings.)

Time: 5-10 mins
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How to weight the forces.

Example of a WWITFF for creating ‘A safe and more friendly neighbourhood’ in parts of northern Sydney.
Step 4: Report back

Each team reports back on the 3 or 4 forces they believe would make the biggest difference.

The facilitator then collates the results from each table on a whiteboard and seeks consensus from the group on the ‘top set’ of ‘attackable forces’. Ideally you should aim for no more than 3-5 forces to target in your program (for resource reasons).

Time: leave 5 minutes per team, plus 5-10 minutes for consensus (6 teams = 30-40 minutes)

Step 5: Write as objectives

Now here’s the beautiful thing. You just add a verb and these ‘attackable forces’ become your program OBJECTIVES.

For instance ‘too much through traffic’ becomes ‘reduce through traffic’; ‘safe crossing places by design’ becomes ‘install safe crossing places by design’.

5) Adding indicators

The next stage – which is probably best done by a smaller group, on another day – is to set measurable indicators, methods of collecting data and targets for each objective. You’d be aiming to make each objective SMART (specific, measurable, achievable, relevant (to the problem), and timelined). Now you have an evaluation strategy for your program!

For big programs

If you’re running a big sprawling program (say, repairing a large catchment) and you have the resources to pursue many objectives over time, then don’t limit yourself to just 3 or 4 objectives. Let your head go and have, say 10 or 15. In that case you’ll want to do some logical clustering to create sub-programs with a handful of objectives each.

A good way to do this is to transfer the objective to A4 sheets of paper, one per sheet, written in thick marker pens.

Then lay them on the floor and have the participants stand around discussing the merits of different arrangements, until you have
agreed on coherent sub-programs (see photo, below, from a steering committee workshop to develop a Lower Georges River Sustainability Strategy: budget $2m).

And that’s your theory of change!

You have now achieved a very powerful thing. You have involved a diverse brains trust - including the very people who will need to act and whose ownership therefore is vital - in creating a THEORY OF CHANGE for your program.

The theory of change can be stated quite simply:

IF
we achieve progress towards OBJECTIVE 1; AND
we achieve progress towards OBJECTIVE 2; AND
we achieve progress towards OBJECTIVE 3;
THEN
We will achieve progress towards THE DESIRED PROGRAM OUTCOME.

Your program now becomes an experiment to test that explicit hypothesis. As you collect evidence you’ll be able to refine and modify the theory of change so that it becomes an even better match to reality (ie it’s a way to do Action Learning).
The next steps will be to get group sign-off on these SMART objectives and identify on-ground projects which can be implemented to address them. Don’t forget to keep the brains trust involved throughout the process including decision-making and monitoring of the on-ground projects. These processes are described in more detail in *CoCreate: the Facilitator’s Guide to Collaborative Multi-Stakeholder Planning* available at www.enabling-change.com.au

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