Contribution Analysis – A New Approach to Evaluation in International Development

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Abstract

Since the mid 1990s there has been growing pressure on international donors to demonstrate the effectiveness of publicly funded aid initiatives. In Australia and elsewhere the need to show that programs have achieved desired outcomes has witnessed a shift from past preoccupations with the measurement of program implementation, inputs and outputs to a stronger focus on assessing program impact. However, an issue associated with this trend is that development assistance projects are frequently delivered over short time frames (three to five years). This sector reality has meant that donors can often only measure success in terms of progress toward results, rather than reveal a causal link between a program and outcomes.

To address this, the Australian Agency for International Development (AusAID) has looked to alternative approaches to evaluate development assistance programs. In Fiji, 'contribution analysis' (Mayne, 1999 and 2001) has been introduced across three programs as a means to consider progress towards outputs and intermediate and end outcomes. This approach recognises that it takes time to achieve an impact and so does not attempt to prove an impact before an impact could realistically be achieved. Furthermore, contribution analysis does not seek to definitively prove contribution, but rather seeks to provide plausible evidence to reduce the uncertainty about the 'difference' a program is making (Mayne, 2001).

Contribution analysis was introduced into the AusAID funded Fiji Education Sector Program (FESP) in 2005. Here it is being used to evaluate the contribution FESP is making towards the Ministry of Education achieving their priorities. AusAID is also applying contribution analysis to evaluate the contribution that AusAID's program as a whole is having in supporting Fiji to achieve their national priorities as articulated in Fiji's National Strategic Development Plan. This paper discusses what contribution analysis is, the specific approach to introducing contribution analysis into FESP, and provides early identification of the challenges faced and benefits gained with this new and innovative approach to aid and development program evaluation.

Donor Environment for Evaluation

Since the 1990's there has been a growing demand for public sector agencies to focus on impact and to integrate various forms of accountability into management and evaluation strategies (CIDA, 2002). This has led to a recognition that evaluation needs

to extend beyond the inputs and outputs to outcomes. The importance of evaluating intermediate outcomes to provide early indications of progress (or otherwise) and enable corrective action to be implemented more quickly is widely accepted. An increased focus on intermediate outcomes to reflect the logical cause and effect chain is now widely promoted (for example, Van Doorn and Litjens, 2002).

Australia has followed the international trend. All Commonwealth Government Agencies are now required to report on both output and outcomes. Reflecting the government requirements and recommendations made by the Development Assistance Committee (Van Doorn and Litjens, 2002), AusAID started moving towards a system of outcomes monitoring and reporting. This sought to define the extent to which project outputs had, or were likely to, achieve anticipated and sustainable outcomes (AusAID, 2000). From 2003 the pressure on AusAID to demonstrate results grew.

The recent White Paper on the Australian Government's Overseas Aid Program emphasised the need for a greater focus on performance outcomes and implementation of a better basis for assessing the impact of aid efforts (AusAID, 2006). This changed environment led to consideration of alternative evaluation approaches which were more outcomes focussed.

The move toward outcome based evaluation and reporting of institutional strengthening activities has presented specific challenges. Timeframes are such that donors have to measure success in terms of progress towards results rather than fully achieved results (CIDA, 2002). However, many donor agencies seek outcome based evaluation from early in the program, often within one or two years.

The second challenge is accountability. In the past accountability focussed on what programs could control and assigned blame when things went wrong. This has led to a reluctance to accept outcome level accountability as it is often beyond the programs' control (Mayne, 2001). However, knowledge of whether the expectations about the programs' outcomes are correct and have been efficiently gained can only be achieved if program managers are willing to accept some form of accountability for outcomes at this level. In practice, outcome level accountability is now being demanded and evaluation is often being used only as an accountability tool (Barton, 1997).

As a program seeks to monitor higher order outcomes, the issue of attribution becomes more complex. Attribution involves drawing causal links and explanatory conclusions between observed changes and specific interventions (Iverson, 2003). At a product or output level, these links are usually relatively easy to draw. At higher levels (program, agency, sectoral or national outcomes), this is more difficult. Determining whether the outcome was caused by the program, partner government programs or other donor activities, is difficult and rarely done. In practice, many evaluations identify whether the outcome was achieved and if it was, assume the program can take credit for this. However demonstrating a clear contribution of the program to the outcome is crucial if the value of the program is to be demonstrated and to enable decisions to be made about its future direction (Mayne, 2001).

Contribution analysis, as proposed by Mayne (1999), provides an approach to monitoring and evaluation which addresses these challenges.

What is Contribution Analysis?

The term contribution analysis is widely used in financial assessment of business units/products and to a lesser extent in other fields such as media campaign analysis, medicine and biology. In these areas, contribution analysis quantifies the contribution made by specific resources towards final outcomes. These applications assume clear attribution of input to outcome. This is significantly different to Mayne's (1999) use of the term contribution analysis.

In the context of public sector program evaluation, contribution analysis is "a specific analysis undertaken to provide information on the contribution of a program to the outcomes it is trying to influence" (Mayne, 1999, 6). It aims at "finding credible ways of demonstrating that you have made a difference through your actions and efforts to the outcomes" (AusAID, 2004a, 1).

Unlike other uses of the term contribution analysis, there is no expectation that the degree to which the program has contributed to the outcomes will be quantified. Mayne's (1999) broader approach to contribution analysis attempts to describe what Hendricks (1996) calls a "plausible association"; where a reasonable person, knowing what has occurred/is occurring in the program agrees that the program contributed/is contributing to the outcomes. It does not prove a contribution, but provides evidence to reduce the uncertainty about the contribution made (Mayne, 1999).

Contribution analysis recognises that it takes time to achieve an impact and does not seek to prove an impact before it could be achieved. It provides information on whether a program is likely to achieve an impact. In terms of accountability for outcomes, contribution analysis asks if everything possible has been done to effect the achievement of the intended results and what lessons have been learnt (Mayne, 1999).

Mayne initially (1999) identified nine elements in contribution analysis. He subsequently consolidated these into six steps (Mayne, 2001, 9). These are:

1. Develop the results chain (the program logic). This sets out the logic across all levels from activity through intermediate to end outcomes. It demonstrates the logical link between achievements at one level and higher levels. The outside factors that impact each level, clients, expected results and performance measures are specified. By recognising these, the problem of attribution is acknowledged.
2. Assess the existing evidence on results. The intended results will be clear from the results chain. Indicators to demonstrate achievement of the desired results at each level, and the availability of this evidence, can be determined. Mayne recommends use of multiple lines of evidence to provide more definitive information on attribution. Where evidence for links between elements of the results chain is weak, further evidence will be required.
3. Assess the alternative explanations. Identify the most likely alternative explanations and present evidence to discount these (if appropriate) and to support

the program as a more likely explanation of contribution to outcomes. The burden of proof is then on others to demonstrate that some other factor was the main factor in the chain of events that led to the outcome.

4. Assemble the performance story. The evidence available is documented in a performance story (Dart and Mayne, 2005). This should convince a sceptical reader that the activities undertaken have made a difference (Mayne, 2003). Mayne (2003, 16) proposes that a credible performance story will set out the program context (including the results chain), planned and actual accomplishments, lessons learnt, approach for assuring the quality of information and (Mayne, 1999) the main alternative explanations for the outcomes occurring and show why they had no or limited influence.

5. Seek out additional evidence. Where an alternative explanation cannot be discounted, or the program cannot be shown to be a more likely contributor, the program logic should be reviewed and/or additional data gathered and evaluated.

6. Revise and strengthen the performance story. Where this can't be done, further evaluation is required or the program is not the key contributor to the outcomes.

Mayne does not attempt to differentiate contribution analysis from other forms of monitoring or evaluation, other than to emphasise its focus on attribution. This emphasis promotes seeking alternative explanations to account for outcomes more than most other forms of evaluation. It makes explicit the fact that attribution can not be proved, but only indicated. It is in this dimension that contribution analysis differs most from evaluation approaches normally used in the development sector.

Application of Contribution Analysis in Fiji

Australia (through AusAID) appears to be the first bilateral or multilateral donor to investigate application of contribution analysis to their development assistance programs. In Fiji, AusAID began to investigate mechanisms to provide a greater focus to determining the contribution of the Australian development assistance program to achievement of Fiji's National Strategic Development Plan in mid 2004. This would enable AusAID to more clearly demonstrate to stakeholders the value of the program (AusAID, 2004a). Discussions commenced in August with a workshop in Fiji. Participants included representatives from AusAID, the Department of National Planning, the three relevant Government of Fiji Ministries and the three AusAID programs (education, health, law and justice). In December, after consideration of alternative approaches to demonstrate AusAID's contribution to agency outcomes (AusAID, 2004b), it was agreed to apply contribution analysis to each program.

A further meeting (5 April 2005) clarified that contribution analysis would occur at two levels. At the higher level, AusAID would evaluate the contribution of the country strategy to Fiji's strategic objectives. At the lower level, each program would use contribution analysis to determine the contribution of program activities to the sector strategic objectives. It was agreed that this was a learning process and as such, each Program could develop and adopt an approach to contribution analysis which best met that sector needs. The lessons learnt would be shared and effective approach (or approaches) to contribution analysis developed.

Application of Contribution Analysis on Fiji Education Sector Program (FESP)

Underpinning the approach taken to implementation of contribution analysis on the FESP was the belief that contribution analysis was not a distinct monitoring or evaluation tool. Rather it was an approach to analysing evidence gained from a variety of monitoring and evaluation techniques which were already in place. This meant that FESP's monitoring and evaluation framework did not significantly change when contribution analysis was introduced. The focus was instead on the program logic and identifying alternative explanations for achievement of outcomes.

The first step was to review the program logic that had been documented in a program logical framework matrix. The links between each level in the hierarchy were analysed and clarified. The links between the program, Ministry of Education (MoE) and national objectives articulated in the National Strategic Development Plan (NSDP) were refined and more clearly articulated. A graphical representation of these links was developed (Figure 1).
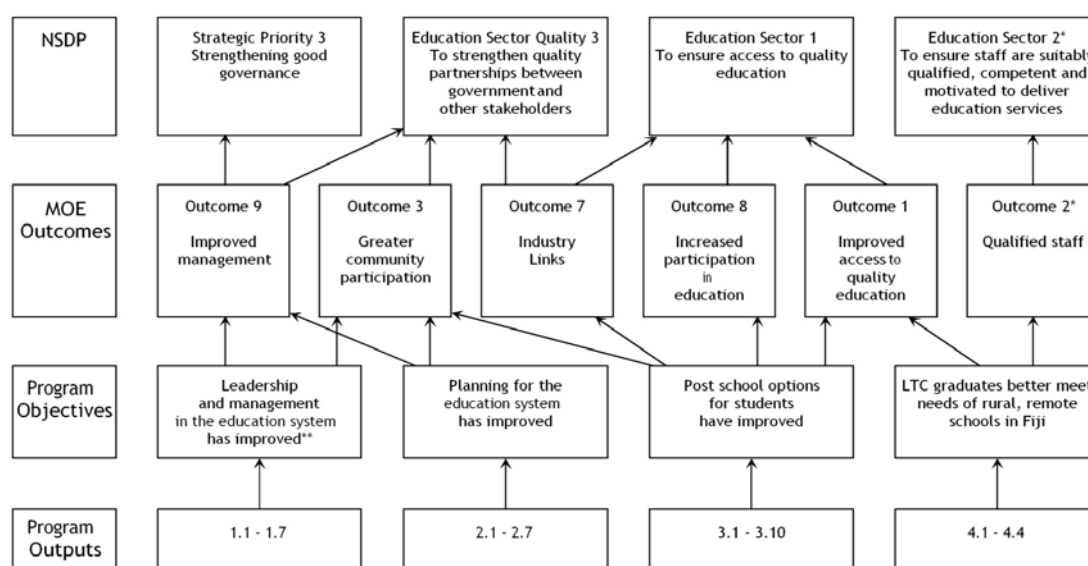

Figure 1: Graphical representation of program logic on FESP

Contribution analysis recognises that in "most cases what we are doing is measuring with the aim of reducing uncertainty about the contribution made, not proving the contribution made" (Mayne, 2001, p21). With this change in emphasis away from proof, the team were comfortable in monitoring high level indicators and establishing targets which are to be strived for and cannot be easily be met (stretch targets as defined by Mayne (2003)). Performance indicators were revised in the logical framework matrix to reflect the Ministry's targets.

The responsibility for monitoring and evaluating achievements at each level were specified. Advisers were responsible at program output and intermediate outcomes level, and the Monitoring and Evaluation Adviser at objective and outcomes level. Adviser Terms of Reference were restructured to more clearly reflect the relevant

results chain, include indicators for each level and initiate early thinking about alternative explanations for achievement of outcomes at each level.

During their first input, advisers were required to develop a plan for monitoring and evaluating the achievement of the indicators specified in their Terms of Reference (this had also been standard practice prior to introduction of contribution analysis). They also identified potential alternative explanations for achievement of outcomes and gather evidence to discount these (if appropriate).

At the completion of each input, advisers assess the evidence and alternative explanations and update their performance story. The format for this was based on their Terms of Reference (Annex 1). This then feeds into their next input, promoting a monitoring and evaluation cycle. The Monitoring and Evaluation Adviser reviewed these and prepared a performance story at the Ministry of Education outcomes level.

It is important to recognise that the approach taken on FESP has not resulted in additional monitoring and evaluation than would have normally occurred. It has resulted in a different analysis and dissemination of monitoring and evaluation results.

AusAID have implemented a contribution analysis at the national level for the last two years. The approach taken for this has been quite different and largely built around focus groups. This process has been refined over the two years. It is recognised that while the process is beneficial, it can still be significantly improved. A discussion of this is beyond this paper.

Assessment of Implementation of Contribution Analysis on FESP to date

Iverson (2003) notes that Mayne's approach recognizes and begins to address some of the limitations of conventional evaluation methods. Early results on FESP support this, and show significant benefits from the introduction of contribution analysis.

Application of contribution analysis on FESP has provided two key benefits. The first is the inclusion of higher, often stretch, performance indicators and others outside the program's control. In general, like most public sector managers, managers of international development activities prefer to include indicators at a level over which they have control. Thus most indicators were at an output level. There was a reluctance to include indicators at outcome level as the program is unable to control these. Contribution analysis identifies contribution to a greater whole rather than seeking to lay blame or prove attribution. AusAID's recognition of this has made program managers more comfortable in monitoring against indicators for higher order outcomes. The indicators now developed provide information on progress towards, and contribution to, outcomes. This enables donors to better meet their accountability requirements without seeking to demonstrate impact before this is possible.

The second benefit has been providing a greater focus on donor harmonisation. When planning an activity, potential alternative explanations to account for anticipated changes were identified. This has increased awareness of other donor and agency activities encouraging greater coordination.

The way contribution analysis was introduced on FESP has improved the clarity of the program logic and more closely linked the program logic to each adviser's Terms of Reference. The introduction of contribution analysis enabled the performance indicators to be refined and these now better reflect the specific benefits the program is intended to achieve.

Contribution analysis has increased the use of qualitative evaluation methodologies on all programs. Prior to this, evaluations mainly used quantitative methodologies.

More broadly, AusAID has actively supported an increased focus on monitoring and evaluation over the last year. Vigorous discussion has occurred between AusAID, the partner agencies, and programs in each sector to determine approaches to introduce contribution analysis. The level of resources (both time and financial) to monitoring and evaluation has also been increased. Provided that the monitoring and evaluation activities remain of a high quality, this will enhance the overall quality of evaluations on the program. We anticipate that the more accessible reporting of monitoring and evaluation results will improve discussions of results from monitoring and evaluation.

Challenges in Applying Contribution Analysis

At this early stage, the challenges faced in application of contribution analysis relate to the way in which it has been applied rather that the technique itself. There have been a number of misconceptions. These include that contribution analysis:

- Is a different form of monitoring and evaluation and can therefore replace existing monitoring and evaluation. Some have not seen it as an approach to planning and analysing all information from a monitoring and evaluation program.
- Must use focus groups. While it is recognised that focus groups are one form of data gathering, it must be remembered that they are not appropriate in all cases.
- Must use the most significant change approach. This technique has been successfully introduced on (or to review) the three programs in Fiji and has produced some excellent results and benefits on FESP. However, it is also only one approach and is not appropriate in all cases.
- "Validates the anecdotal". Anecdotes on their own, can be quite misleading. Their use in a rigorous evaluation must be supported by other forms of evidence (Mayne, 2001, 20).

Contribution analysis requires clear program logic. Its effectiveness as a monitoring or evaluation approach would be limited where the program logic was weak. This was not a challenge on FESP, but could be on other programs.

While donors are moving towards monitoring outcomes, many donors still require monitoring and evaluation to "occur at outputs, activity and inputs level, providing information on inputs/outputs. … (keeping) track of project implementation efficiency … (providing) information on progress towards planned outputs in physical and financial terms" (AusAID, 2000). This is also reflected in the Contractor evaluation responsibilities identified for the Fiji Program (AusAID, 2004b, 4). Contribution

analysis is not designed to provide information at this level and it appears it doesn't consider efficiency. Those designing evaluations must recognise that other approaches will need to supplement contribution analysis to provide the full spectrum of evaluation information required by donors. This is not yet broadly recognised.

Conclusion

Contribution analysis has been successfully introduced into FESP to evaluate FESP's contribution to the Ministry of Education achieving their priorities. At this level it has already produced benefits due to both the technique itself, and the way in which it was implemented. Most notable benefits were the improved program logic, monitoring against performance indicators which better demonstrate progress towards outcomes, donor harmonisation and increased support for monitoring and evaluation. The challenges faced primarily reflect misunderstandings about evaluation, in particular the need to use a range of techniques to gather evidence to enable triangulation of findings. The limitations of contribution analysis to monitor and evaluate inputs and project implementation efficiency are also not well recognised.

The determination of whether contribution analysis is a suitable approach in a given situation must consider the purpose of the evaluation. If it is to consider program efficiency or monitor inputs and outputs, contribution analysis would not be a suitable approach. However, with the use of multiple methodologies in an evaluation, early results suggest that contribution analysis provides an appropriate approach for monitoring and evaluating progress towards intermediate and end outcomes.

Acknowledgements

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Annex 1: Extract from a Performance Story for FESP

Rationale

The work to monitor standards in schools is comparatively new in Fiji. In February 2005 funding was provided through the AusAID funded ICT project to develop a school review process for Fiji's schools. The model that was developed in draft form at that stage used a self-assessment approach, where schools considered their performance against a number of school effectiveness variables in a School Review Framework. FESP provided funds to refine the school review framework and to further develop the model for its implementation in schools. The introduction of a school review model is planned as part of the Leadership and Management courses to be offered to the Eastern and Western (E&W) Divisions during 2006.

Results Chain	2006 Expectations	Alternative explanations
Output 1.3 Relevant MoE personnel successfully train other MoE officers, school principals and head teachers in leadership and management. **Output 1.4** Training for involvement in school management is successfully undertaken by school managers and management committee members.	**2005** Draft School Review Framework (SRF) and model of school review was developed through consultation and workshop program. Some field testing was undertaken but the framework needed further refinements and testing. This was completed and a draft policy and guidelines for standards monitoring developed. **Expected key products** 1. School review module. 2. 12 MoE officers trained as trainers in the E&W Divisions to deliver the new School Review module. 3. School Review module delivered to 70% of school principals and head teachers in the E&W Divisions. 4. A sample of validations of school self-assessments completed (5 validations by each team member). 5. Implementation of the school review policy and guidelines in E&W Divisions. **2006 Achievements at the completion of input 1 of 3** 1. The training module for school monitoring, which incorporated the school review process, was developed for school principals and head teachers and completed as scheduled. 2. A Plan was developed for the delivery of training to 34 MoE Officers as train the trainers. 3. A Plan was developed to deliver the Financial Management, School Monitoring, and FILNA Modules to school principals and head teachers in the W & E Divisions. 4. Processes were also developed to make implementation at the school level and for the reviewers more manageable.	Discussion with the Manager of Training, Public Service Commission (PSC), identified that the concept of standards is relatively new to Fiji. MoE through FESP is leading the way setting and monitoring standards in the public sector. Standards monitoring is not covered in PSC training. Leadership and management is covered in numerous courses offered by USP, but monitoring standards is not included in USP courses. Formal discussion is required between MoE and USP to update USP on this initiative and incorporate the concept of monitoring standards in the Fiji context into their courses.
Target group	Divisional and District officers, principals and head teachers (2004 E&W, 2005 North and Central, 2006 E&W Division)	
Immediate outcomes Leadership and management in the education system have improved.	**Performance measures (stretch):** 1. 80% of trainers demonstrate acceptable trainer-training skills and 2. 70% of school principals, head teachers and school managers demonstrate enhanced skills in reviewing standards in schools. **Achievements:** 1. Evidence to validate performance measures will be collected during and after L&M training and school monitoring implementation. 2. Evaluation processes have been developed to measure the extent to which the performance measures above are reached/achieved. Evaluation tools developed to determine performance measures achieved include: School Review Template; School Review	School involvement in other quality assurance and continuous improvement models could explain benefits gained. Eg MSC at John Wesley College is due more to their involvement in the Plan, Do, Study, Act (PDSA) Quality Improvement Approach than their involvement as a trial school for Monitoring

	Timetable; and a template for schools to provide feedback on the extent to which they have been able to apply school self-assessment, planning for improvement and prepare for a school review visit. This template will be used by schools who do not receive a review visit. Existing MSC stories used in training modules illustrate good practice that is emerging as a result of implementing improvement processes e.g. Action Research. **Lessons Learnt:** • The task of implementing Standards Monitoring in Schools is extremely complex in any system. Discussions with counterparts identified ways to make the implementation of Standards Monitoring in Schools more manageable. • Implementation needs to be more clearly articulated and documented. The key messages during implementation need to be; begin small, celebrate success and remain focused on developing strategies for sustainability.	Standards in Schools. John Wesley College became involved in the PDSA Program in 2004 independently of MoE and after the Principal returned from a study tour to Victoria. Only a few schools were involved in such programs.
Intermediate outcomes Contribution to: MoE Objective 9 (Improved management through accountability, policies and programmes).	**Performance measures (stretch):** 1. A process for reviewing school performance developed by 2007 2. Leadership and management training programme fully implemented by 2007 **Achievements:** 1. A process for reviewing school performance has been developed. 2. Timetable for 2006 school reviews in the Eastern and Western Divisions developed. 3. Workshops began the raising awareness process. 4. Evidence to validate performance measures will be collected during and after L&M training and school monitoring implementation. **Lessons Learnt:** • Sufficient time needs to be allowed for the reflection and consolidation of ideas by those taking part if they are to implement change in a productive manner. • Effective planning and timely, sensitive communication between all parties concerned is needed to set the environment for change.	Contribution of school management training also supported by FESP has been a key contributor to the outcomes. Few school leaders have upgraded qualifications through tertiary studies in the year (less than 5%). Discussions with those who have, identified that they believed the FESP training had been a factor. Systems have been streamlined (with FESP support). However surveys of training participants indicated that they felt the training had shown them how to manage more effectively.
End outcomes Contribution to: NSDP Strategic Priority: strengthening good governance. NSDP objective 3 (to strengthen quality partnerships between government and all other stakeholders).	**Performance measures (stretch):** 1. A process for reviewing school performance refined for 2007 2. Increased submission of audited financial accounts from school managers. 3. Increased consultation with and participation of key education stakeholders in school review processes. 4. Improved management and accountability of education institutions **Achievements:** 1. Evidence to validate performance measures will be collected during and after L&M training and school monitoring implementation. 2. Proposed Report to CEO by end of 2006 on achievement made in relation to school reviews especially in term of strengthening quality partnerships between government and all other stakeholders along with improved governance. 3. Awareness raising and planning to achieve these performance measures has commenced **Lessons Learnt:** • There is an ongoing need for awareness raising in terms of the potential of *Standards Monitoring in Schools Policy Framework* to achieve this end outcome. Good planning will achieve this. • Building the links between *Standards Monitoring in Schools Policy Framework* and other system initiatives, for example the National Curriculum Framework, TVET, ECE and FILNA must expand.	Activities by NGO's, FESP EU and PRIDE will be contributing, but their activities in this area are limited. Discussions with the managers of FESP EU and PRIDE indicate that they believe their contribution to these areas is extremely limited. Focus groups with school leaders to be conducted (input 3 L&M) to determine why these changes occurred.