Using a logic model as the framework for an evaluation in Papua New Guinea

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Abstract

A logic model provides a relevant and useful framework to gather and analyse evidence for an evaluation. This approach was used with a donor-funded program evaluation in Papua New Guinea.

This paper highlights first the process of developing and using a logic model to discuss and confirm the evaluation components, merit criteria and research methods with stakeholders. Secondly, it discusses the logic model as an effective visual tool to provide feedback during the evaluation. It promotes the use of the logic model components and merit criteria in the analysis of evidence. The logic model was used as the framework in the identification of future considerations for program development.

The endorsement by stakeholders in Papua New Guinea of this approach to evaluation in an international development context demonstrates the relevance and effectiveness of using logic models for program evaluation. The lessons learnt are highlighted from three perspectives – the Papua New Guinea evaluator, the international client and the independent evaluator.

Introduction

The use of logic models in evaluation is widely accepted. Chen (1990) defines program logic as "a set of interrelated assumptions, principles and/or propositions to explain or guide social actions". A logic model outlines the program's theory of action and is usually portrayed in diagrammatic form displaying the inputs, outputs, outcomes, impacts and connections that a program is intended to achieve.

Logic models are not only a tool for evaluators but are also useful for policy and program staff (Nunns, 2008)[1]. They can be used for a range of purposes, including:

1. Designing a new policy or program.
2. Identifying the assumptions about how an existing program is intended to work and building a shared understanding about a program's objectives and priorities.
3. Scoping and designing an evaluation.
4. Identifying performance indicators for the ongoing monitoring of a program.

Leonard and Bayley (2008) state that Managing for Development Results is now a firmly established part of the global development agenda. This management approach includes identifying the "program logic or results chain." Accordingly, AusAID (2000) has moved toward a system of outcomes monitoring and reporting to better assess the impact of aid efforts (Kotvojs, 2006) as a response to this international trend.

Logframes were traditionally used as program monitoring frameworks which concentrate on the specific program only (referred to as "program-centric"). Averill and Duignan (2008) in their American Evaluation Association presentation promoted the use of a wider "world-centric" logic model approach to identifying key program inputs and intended results. This allows the planned contribution of the specific program to be mapped onto the logic model and considers the results that the program may not impact directly. This approach allows evaluators firstly to examine the results achieved, and secondly to assess the contribution of the specific program in a wider setting.

[1] Nunns (2008) highlights key points in the technical method appendix from Funnell (2000) and Norton (2003) on the role of logic models. Averill, K. Sent- Mel, W.,Nunns 2008. *Evaluation of APNGIF Support.*

However, the authors observe that currently, logic models for program development and evaluation in an international development context do not appear to be systematically used in many donor-funded program evaluations, particularly in Papua New Guinea.

This paper describes the process of developing and using a "world-centric" logic model with a donor-funded program to evaluate the support provided by a managing contractor in Papua New Guinea.

Case Study – Evaluation of managing contractor support for a donor-funded program in Papua New Guinea

Background

The Australia Papua New Guinea Incentive Fund (APNGIF) Program Stream Phases One and Two have managed a number of AusAID-funded programs over the past seven years. The APNGIF goal is *"to support private and public sector organisations in Papua New Guinea (PNG) to participate in, and contribute to, national development in accord with the development policies of the PNG and Australian Governments."*

The purpose of the APNGIF is "*to provide an efficient and effective facility whereby private and public sector organisations in PNG can be directly supported in the implementation of viable development activities."*

All of the 39 funded programs were completed and 37 have had an immediate (post-completion) evaluation. Fourteen programs were completed in Phase One, and twenty-five in Phase Two, including the wind-down period up to mid-2009.

Evaluation approach and methodology

The evaluation had three key objectives:

1. To describe the support provided by the APNGIF.
2. To examine the contribution of the APNGIF support to funded organisations.
3. To document the lessons learnt and provide direction for future similar management facilities.

The evaluation focused on the support (including management support) the APNGIF has provided to funded organisations and key stakeholders, and the degree of satisfaction with this support. This was not an evaluation of the performance of the Managing Contractor.

The two components of the evaluation framework were:

- a results chain[2] logic model for APNGIF support
- merit criteria developed for the identified key support outcomes.

The methodological approach used was a mixed method evaluation with the incorporation of relevant Rapid Evaluation Appraisal Method (REAM) techniques.

Both qualitative and quantitative research methods were used in the evaluation:

- a document scan
- interviews with key informants, funded organisations (covering 35 out of 39 programs) and Provincial Governments
- a survey of key stakeholders
- data from workshops with funded organisations
- monitoring data from the APNGIF
- an iterative analysis.

[2] Refer *Wind Down Management Draft Monitoring and Evaluation Framework*, Australia p. 7. The model presented here is based on the work completed by the Office of the Auditor General of Canada: *"Reporting on outcomes: setting performance expectations and telling performance stories*." April 2003, p. 8.

Development of the results chain logic model

The logic model used for the evaluation was developed by the independent international evaluator from program documents (including the logframe). On her arrival in PNG, a workshop was held with key stakeholders to discuss and amend the draft results chain logic model, identify underlying assumptions and confirm the merit criteria for effectiveness and efficiency.

The logic model identified specific support components (proposal, set-up, ongoing, other), provided at different stages during a project, which were to be assessed for effectiveness and efficiency (Figure 1). This approach is advocated by Davidson (2005), who states that "evaluation involves several components which are combined together.[3]"

This logic model included other outputs and outcomes for which the APNGIF support was not directly responsible. Using this approach, it was then possible to "map" the intended contribution of APNGIF support.

The assumptions underpinning the logic model were identified in the stakeholder workshop. Kusek and Rist (2004) emphasise the value of explicitly identifying assumptions to clarify the results chain and then examine them as part of the evaluation. Examples of assumptions highlighted for the APNGIF support included:

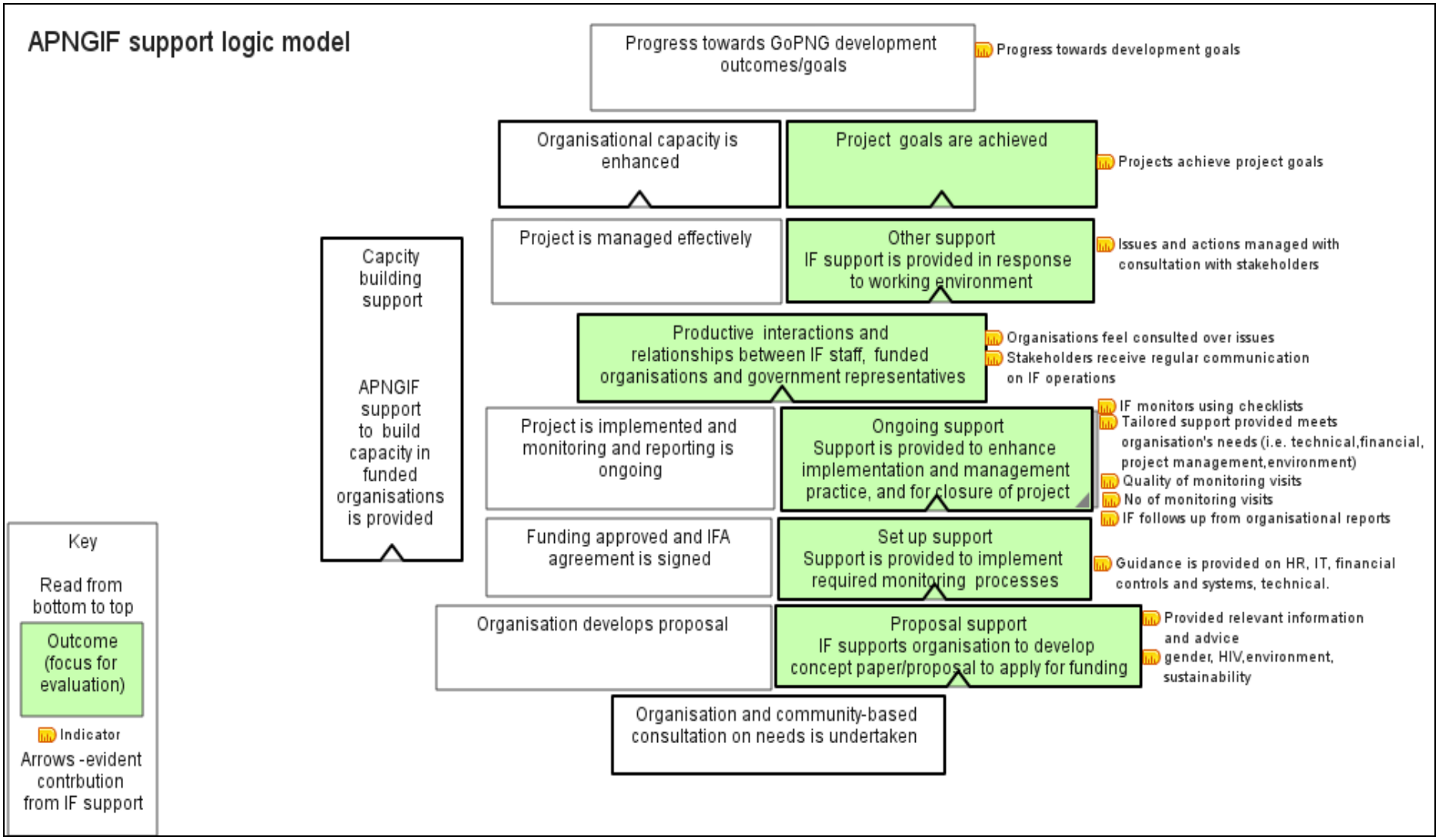
- organisations of excellence can manage the project implementation
- the expected competition for funds would improve organisations' capabilities
- organisations can self-develop
- organisations will ask for assistance
- organisations will improve their service to the community as a result of the APNGIF program
- APNGIF assumes that confidence is developed by organisations once the program is funded.

These underlying assumptions were examined during the APNGIF support evaluation for validity.

Figure 1. APNGIF funded water project, Bougainville.

[3] E. Jane Davidson (2005). *Evaluation Methodology Basics: The Nuts and Bolts of Sound Evaluation,* Sage Publications.

Figure 2. APNGIF support logic model.



Merit criteria

The APNGIF support components were confirmed by stakeholders in a workshop. They discussed how to assess the effectiveness and efficiency of this support using merit criteria.

Davidson (2005) describes merit determination as one way of deciding what to evaluate, defining the values (or standards) on which the evaluation will be based, and using those values to make an evaluative judgment. A four-step process was used as the basis for identifying the merit criteria:

1. Identifying the evaluation criteria or dimensions of merit.
2. Identifying the importance of each of the dimensions or criteria of merit, i.e. deciding which aspects of performance are more important than others.
3. Setting standards of performance on each of the dimensions or criteria, i.e. defining what performance is 'excellent', 'good', or 'poor'.
4. Applying the standards to data to draw evaluative conclusions about a particular dimension.

Stakeholders discussed whether the evaluation would assess both the effectiveness and efficiency of APNGIF support to funded organisations. It was decided that both efficiency and effectiveness of APNGIF aspects would be assessed using a formative evaluation approach, i.e. seeking to understand. It was agreed that an overall assessment would be made based on the intentions of the donor-funded program as follows:

- Efficient Support[4] – the extent to which activities have been managed in a professional manner.
- Effective Support[5] – evidence that the support is likely to achieve the desired results. For assessing effectiveness, the different support components were to be used with associated merit criteria identified where possible. The rationale for this approach was that APNGIF support had evolved over time and that within the time constraints, it was possible only to formally identify and confirm merit criteria for the set-up support.

A breakdown of the effectiveness merit criteria agreed by stakeholders is provided in Table 1 over the page.

Using a logic model/visual tool for feedback

The fieldwork was undertaken by the international and Papua New Guinea evaluators in five locations within PNG. At the start of the fieldwork in each location, the APNGIF support logic model was presented and discussed with stakeholders. The key support components were highlighted, and the structure of the interviews and survey explained. At the completion of fieldwork in each location, feedback was provided to the funded organisations and other stakeholders during a workshop session, again using the logic model as the framework.

This approach was tested with stakeholders at the first location by the evaluators. The stakeholders said they liked the logic model as it "tied the program together," and they could see it "in its entirety" and where they fitted in. Based on this endorsement, the evaluators continued using the logic model to structure the interview questions and provide feedback to stakeholders throughout the evaluation.

The value of this approach was particularly highlighted at one location, where one funded organisation representative, after the evaluation feedback, indicated to APNGIF staff and the evaluators that sustainability was one area that this model had not included. He stated that this was an important refinement to focus on in future APNGIF-funded programs. The logic model provided the framework and was the basis for a dialogue on program design and activity planning.

The value of examining the underlying program assumptions during the evaluation was emphasised, as some of these did not hold true. It was evident that these assumptions impacted on APNGIF support.

It was possible to identify unintended outcomes such as capacity building in community development and project management. This was not a recognised goal of the APNGIF. Yet it was found to be a key result from providing this type of ongoing support during a funded project.

[4] Drawn from the approach used in AusAID NGO QAF.
[5] Drawn from the approach used in ACFID's NGO Effectiveness.

Table 1. APNGIF support effectiveness merit criteria

Components of APNGIF support or outcome of APNGIF (from logic model)	Indicators (from logic model)	Merit Criteria
Proposal support: IF supports organisation to develop concept paper/proposal to apply for funding. Note: the contract between AusAID and CID "forbids" the APNGIF to provide in-depth assistance to develop proposals.	▪ provides relevant templates, information and advice ▪ addresses gender, HIV/Aids, environment, sustainability issues	**Excellent:** Advice and information are provided and assist organisations to develop proposal **Good:** Timely advice and information assist organisations in proposal stage **Poor:** Advice and information are not sufficient, relevant and/or timely
Set-up support: Support is provided to implement required monitoring processes	▪ guidance is provided on HR, IT, financial controls, technical areas and systems ▪ APNGIF responds to requests for assistance ▪ support provided is tailored to meet organisation's capacity building needs ▪ APNGIF monitors, using checklists	**Excellent:** High level of support is provided, as required, to organisations for monitoring and reporting **Good:** Sufficient support is provided to organisations to implement monitoring and reporting processes **Poor:** Support to funded organisations is insufficient to establish regular monitoring and reporting
Ongoing support: Support is provided to enhance implementation and management practice, and for closure of project	▪ tailored support provided meets organisation's needs (i.e. technical, financial, project management, environment) ▪ issues and actions are managed by consultation with stakeholders ▪ APNGIF follows up from organisational reports ▪ number of monitoring visits ▪ quality of monitoring visits	No merit criteria were developed because of the evolving nature of support over time, diversity of programs and conditions and time constraints in the evaluation
Other support: IF support is provided in response to working environment	No indicators developed	No merit criteria were developed because of the evolving nature of support over time and time constraints
Productive interactions and relationships: Between IF staff, funded organisations and government representatives	▪ relationships are positive ▪ organisations feel consulted over issues ▪ stakeholders receive regular communication on IF operations	No merit criteria developed

Analysis and overall evaluation assessment

The APNGIF support components formed some of the information objectives for the evaluation. An iterative analysis approach was used whereby the digitally recorded interviews with funded organisations were uploaded via the Internet in PNG, and transcribed and coded in New Zealand. The New Zealand-based evaluator coded the interview transcripts under each support component. The coded information was then sent back to the evaluators in PNG. This enabled the emerging themes to be tested and the unintended findings to be explored, such as the value of APNGIF support in building community capacity. This approach strengthened the thematic analysis and allowed the evaluators in PNG to present the emerging findings and analysis to stakeholders at the completion of the fieldwork.

For the overall evaluation assessment of APNGIF support to funded organisations, the identified support criteria and merit criteria were used. The clearly articulated merit criteria ensured the transparency of the evaluation assessment to stakeholders. An excerpt of this assessment is provided in Table 2.

Table 2. Excerpt of APNGIF support evaluation assessment using merit criteria.

Components of APNGIF support (from logic model)	**Indicators (from logic model)**	**Achieved** **Yes ✓** **Partial achievement ⭘** **Not evident X**	**Merit Criteria**
Proposal support: IF supports organisation to develop concept paper/proposal to apply for funding	▪ provided relevant information and advice	✓	**Excellent:** Advice and information are provided and assist organisations to develop proposal **Good:** Timely advice and information assist organisations in proposal stage **Poor:** Advice and information are not sufficient, relevant and/or timely
	▪ addresses gender, HIV/Aids, environment, sustainability issues	⭘	
Other support: IF support is provided in response to working environment	▪ No indicators developed	✓	No merit criteria were developed because of the evolving nature of support over time and time constraints.
Productive interactions and relationships: Between APNGIF staff, funded organisations and government representatives	▪ relationships are positive	✓	No merit criteria developed.

A contribution analysis was also completed, assessing the contribution of APNGIF support to key project results identified in the logic model. It was evident that the contribution from this support was wider than intended, thus endorsing the approach of using a “world-centric” logic model. The arrows for identified results on the logic model (Figure 2) show the extent of evident contribution from APNGIF support to funded organisations and their projects.

The areas for future consideration by stakeholders were identified systematically, based on the key components outlined in the APNGIF logic model.

Lessons learnt

PNG evaluator

This logic model was used as a trial by the Government of Papua New Guinea, as it is looking for models to measure effectiveness, relevance and efficiency in addressing developmental policies and programs. This trial showed that the use of a logic model provides a results-based approach for monitoring and evaluation clarifying inputs, outputs, outcomes and impacts.

This evaluation demonstrated a systematic way to assess effectiveness by breaking the program into components and using merit criteria. This approach also assisted with understanding – what has happened and why it occurred. It also confirmed that the results from the program were more extensive than intended, such as the contribution to capacity building in organisations.

International client

All APNGIF-funded programs, except the last two, were evaluated by an internal evaluator not previously involved in the particular program under observation. Some external evaluations have also taken place, generally on a sector basis, e.g. education, health. APNGIF had extensive anecdotal feedback on their level of support for organisations, given that the relationships mostly lasted for two to three years and evolved with the program implementation. However there was no formal external evaluation of the level of support provided, which could be used as evidence of the Management Company's accountability. This evaluation was commissioned for this purpose.

Use: The use of the logic model allowed all key stakeholders to participate in setting the parameters for the evaluation. It gave APNGIF another way of accessing feedback on what was most relevant to funded organisations as well as AusAID and Department of National Planning and Monitoring.

The qualitative evaluation approaches allowed extensive exploration that APNGIF data could not provide. For example we had a number of 'proxy measures' – such as percentage of projects completed on time, percentage completed to budget, percentage of agreed monitoring visits from APNGIF actually achieved, percentage of evaluations completed, etc – some of which were used as performance milestones.

Relevance: This approach is extremely relevant for the APNGIF in the development aid context. The range of players is diverse and each 'category' of stakeholder has a different perspective:

- AusAID – the effective delivery of aid money in line with country priorities, but using an innovative and (up to then) untested delivery approach
- Government of Papua New Guinea – interested in the impact of funded organisations projects on Mid-Term Development Strategy goals including capacity of PNG organisations to delivery aid
- APNGIF – as a way of verifying the relevance and extent of the support given and ways in which it could have been improved
- Funded organisations – as a way of giving feedback to all stakeholders on the issues surrounding the model of support.

Effectiveness of the approach: This evaluation approach quickly gained the support and agreement of key APNGIF stakeholders for the design and content of the evaluation, as well as the interest of the funded organisations taking part. As a result 37 of the 39 Funded organisations attended focus groups and interviews in five provinces. It also allowed the international evaluator to engage local evaluators in the process in a way which fostered mutual learning.

It is always good to explore new approaches, especially one which is flexible – the PNG environment demands flexibility of approach within a parameter which has form and discipline. The APNGIF were satisfied with the outcome of the evaluation. The process engaged and included almost all major stakeholders and confirmed for Coffey International Development that their support and management showed good levels of accountability.

Independent evaluator

The logic model provided a useful "working" framework for the evaluation. It also demonstrates how logic models assist with program design.

The visual model was well received by stakeholders in PNG. Personnel from funded organisations referred to the logic model in their discussions and it provided a coherent structure for the evaluation fieldwork and reporting.

A key learning from the evaluation analysis was that the use of only three rating levels for the merit criteria meant there were big gaps between the ratings. The independent evaluator recommends using a rating scale with five levels for the evaluation assessment.

Conclusion

To conclude, the authors advocate the use of a "world-centric" program logic model by program managers and evaluators. The visual nature and demonstrated links of the program components in a results chain logic model provide a useful tool and framework for development practitioners and evaluators.

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