Logical Framework Analysis:
A Planning Tool for Government Agencies, International Development Organizations, and Undergraduate Students

Andrew Middleton

ABSTRACT – *This paper provides an example of how framework analysis (a management planning tool used extensively by the major development organizations) can allow undergraduates to reflect on how they can maximize their efforts in humanitarian intervention. The example of a small-scale development project, "Wells for Africa," set up by the author during his undergraduate studies, will be used to illustrate the effectiveness of this tool in project management.*

RÉSUMÉ – *Cet article est un exemple de comment une analyse squelettique (un outil de planification de gestion utilisé considérablement par les principales organisations de développement) peut permettre aux étudiants de refléter sur les moyens qu'ils ont de maximiser leurs efforts en intervention humanitaire. L'exemple du projet de développement à petite échelle, "Wells for Africa" ("Puits pour l'Afrique"), mis sur pied par l'auteur de cet article durant ses études du premier cycle, sera utilisé pour illustrer l'efficacité de cet outil en ce qui concerne la gestion de projets.*

INTRODUCTION

Canadian students in International Development Studies (IDS) are passionate about getting involved in groups and organizations who address the social needs of people throughout the world. Student action can be defined in many ways, from a small donation to a well-known nongovernmental organization (NGO) active in development (Oxfam, World Vision, CARE, etc.) to taking a year to work for an organisation such as CUSO (Canadian University Students Overseas) on a particular development project or starting a small humanitarian project on one's own (the example to be used in this paper). Assessing where to concentrate one's efforts presents major choices for students: What do I want to do? Which organizations should I get involved with? How can I maximize my time and resources to do something I believe in? All of these are questions that go through the mind of the IDS student.

The purpose of this paper is to demonstrate how a management tool called Logical Framework Planning (LFP) can assist students with answering some of these important questions. To illustrate the use of this tool, I will share my experience with a project I initiated as an undergraduate called "Wells for Africa"[1] and how the project not only made an impact on the

---

[1] Andrew Middleton created "Wells for Africa" in 1998 as part of the Mission and Service Group of St. Mary's United Church, Ontario. The project has constructed 21 water wells in small rural communities in Oyo State, Nigeria and is

lives of a number of small rural communities in Nigeria, but also acted a learning tool throughout my undergraduate education. Although I encountered the LFP tool only after the "Wells for Africa" project began, it has proven useful in assessing the project in retrospect and it will be helpful to students both in maximizing their volunteer contributions and in analyzing the choices available. It can be as relevant for evaluating whether to sponsor a child for World Vision as it is to starting one's own project and to assessing whether one should or should not get involved with 'development'. LFP, although time consuming, can provide a step-by-step guide to the process of specifying one's intermediate and final objectives and it can be used to evaluate any proposed intervention. In the process of explaining the LFP, the value of the methods and perspectives of certain academic disciplines outside of the traditional IDS 'sphere' will also be demonstrated.

LOGICAL FRAMEWORK PLANNING

LFP was created by the United States Agency for International Development (USAID) to assist in the planning, management and evaluation of its development interventions (Coleman, 1987, p. 251). It has been described as an interlocking set of concepts that, when used together, allow project planners to identify the logical linkages between a set of means and a set of ends. As an effective management tool, it has now been utilized in a variety of modified forms by many development agencies.

Figure 1
Logical Framework Planning Matrix

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
GOAL	Measurement of goal achievement.	Sources of information. Methods used.	Assumptions affecting Purpose-Goal linkage.
PURPOSE	End of project status.	Sources of information. Methods used.	Assumptions affecting Output-Purpose linkage.
OUTPUTS	Magnitudes of outputs. Planned completion date.	Sources of information. Methods used.	Assumptions affecting Inputs-Outputs linkage.
INPUTS	Nature and level of resources necessary. Cost. Planned starting date.	Sources of information. Methods used.	Initial assumption(s) about the project.

Source: Coleman, 1987, p. 252.

currently financing the construction of sanitation facilities in rural villages in collaboration with the Sacred Heart Hospital, Abeokuta, Nigeria.

LFP operates as a 4 x 4 matrix. The narrative summary describes an activity or intervention; it allows the identification of "inputs" that lead to a set of "outputs," which should accomplish a "purpose" that is an integral to achieving the ultimate "goals" of a project (Coleman, 1987, p. 252). Each of these four stages needs to be subjected to a concrete means of verification. "Assumptions" are factors one assumes will (or must) take place in order for the narrative summary to run its course and achieve its aim. The middle two columns of the matrix describe the ways in which one may measure what *could* happen as well as what *actually* happens. "Objectively verifiable indicators" are means by which one can verify whether a given activity actually led to an output. The "Means of verification" column describes the precise method by which this verification can be measured.

This narrative summary can help a student to define his or her activities, by allowing the student to imagine the output of certain actions, how this output would lead to the achievement of a specific purpose and the ways in which that purpose could contribute to a wider goal. For example, one can imagine donating $20 a month to support the education of a child in Bolivia. This action would lead to an output (the child attending school), which would fulfill a purpose (better-educated future generations), which would lead to the wider objective of social and economic development in the region. In this case, one assumes several things: that the child wants to attend school; that schools are available; that the quality of education available will lead to the student being better educated; and that opportunities will be available for the student to use his or her education to make a difference in the future economic and social development of the region. An objectively verifiable indicator of success could be that the child is physically attending school, and the means of verifying this could be through a school record of attendance, and/or a receipt from the school showing that a donation had been used toward that specific child's education. Many NGOs provide this exact type of information in the course of establishing accountability to their donors.

THE "WELLS FOR AFRICA" PROJECT

Prior to coming to Canada, I lived in Nigeria for ten years, working for an agricultural research institute in Ibadan. Although I managed hotel and catering operations, I was able to witness firsthand the institute's numerous projects targeting the improvement of food security, income and the overall well-being of resource-poor people, primarily in the humid and sub-humid zones of sub-Saharan Africa.

Following my arrival in Canada, I knew that I wanted to do something to help the rural people of Nigeria. Some of the areas in which I envisioned making an impact were: improved nutrition, availability of affordable primary education, health improvement, and gender equality. I decided that I wanted to concentrate on health improvement and began by conceptualizing the factors that would lead to improved health: access to water, improved nutritional levels, local health clinics, availability of affordable drugs, etc. Deciding that I wanted to focus on access to water, I considered the ways in which access to water could be improved. I realized that many villagers relied on the local stream as the only source of fresh water. UNICEF has been working on improving access to water in Nigeria and had identified many of the initiatives that constituted improved access. After considering these options, I decided that building wells in small villages was the way that I could personally intervene to achieve the wider objective of improving health in rural villages.

In Figure 2, the first three levels of the Logical Framework Planning matrix – *inputs*, *outputs* and *purpose* – are specific to the "Wells for Africa" project itself. Purchasing construction materials and building a well are directly related in providing access to improved water. Access to improved water is, however, only *one* contributor to the achievement of the wider objective of improved health (which is the greater goal of the development project).

Figure 2
LFP Matrix for the "Wells for Africa" Project

	Narrative Summary	**Objectively Verifiable indicators**	**Means of Verification**	**Important Assumptions**
GOAL	Improve the health of villagers in rural communities.	Improvements in village residents' health.	Life expectancy; child and infant mortality; number or workdays missed due to ill health.	Reduction of water borne disease is a major factor in general health.
PURPOSE	Reduction of water-borne disease.	Reduction in Guinea worm, bilharzias, diarrhoea and other water-borne disease.	Statistics from local health clinics in the reduction of patients due to water-borne disease.	Water from the well reduces water borne disease.
OUTPUTS	Construction water well; access to improved water.	Availability of improved water.	Videos, pictures and surveys showing number of villagers accessing water daily	Village elders will allow construction.
INPUTS	Purchase construction material. Basic hygiene workshops.	Existence of well.	Pictures and videos of villages where wells were built.	Funds can be raised to purchase materials.

In using the LFP process of narrative summary, I had prepared a process of "linkages" that described how building a well would lead to improving the health of people in a rural village. This was a very personalized undertaking heavily influenced by projects I had seen during the time I lived In Nigeria. Another student may have decided on a different way to improve health or may have opted to pursue another method of improving access to water; indeed, each student will have a different aim based on her/his own personal aims and objectives. Even if I could just as easily have decided to donate money to UNICEF or The Carter Foundation – organizations that were already working in this field and region – I chose to create a small project. In part, this decision stemmed from the fact that I had the local contacts necessary to accomplish the work.

Deciding on what to do can be based on personal experience, articles or books that one has read, a professor's interests or presentations that have been made by an organization. In my own case, I not only based my decision on personal experience, but I engaged in research on statistics for access to water in the developing world, the organizations or groups that were working in that field or region and on the concerns and needs of a wide range of villagers.

In this example, in order to show how the matrix was assembled, I have shown a top-down construction (where the project emerges from 'outside'), contrary to the normal, bottom-up approach (where the project is initiated from the 'inside'). This highlights the point that the matrix is not merely a blueprint. Initially, I based the matrix on my own personal beliefs and experiences; after completing my degree in IDS and reading many articles from development professionals, I would construct the matrix differently. The way I originally conceptualized the development intervention is different from how I perceive it now. This re-conceptualization has

resulted in an open and flexible approach where each iteration is itself a learning process. As the project expanded, it was essential to remain open to the variety of and fluctuations in interest that each well construction brought.

If I were beginning an LFP for the "Wells for Africa" project today, although I would begin with the same 'wider objective' – the improvement of the health of rural villagers – the remainder of the narrative summary would be determined using a more consultative approach. The beneficiaries would have been an integral part of planning and would have been instrumental in designing the activities, outputs and purpose of the intervention. This may have also led to changing the wider objective, if the beneficiaries did not feel that health was an area that required attention. Informal discussion with a wide variety of villagers, followed by structured and semi-structured interviews, would have revealed their needs and concerns and although this would have been costly, such an approach would have given the project had a better chance of making a positive impact. Discussants and interviewees would have been drawn from a range of villagers, with representation from different genders, professions, ages, and social status (i.e. landowners, landless labourers, children and orphans, labourers and the heads of households).

Although villagers were not involved in the initial construction of the narrative summary, many were involved in each of the other stages of project planning and execution. Due to the nature of the intervention and as I was residing in Canada, I did not visit during the first five years of the project, nor did I have any direct contact with the beneficiaries except through the project co-ordinator. My previous experience in hotel management also made me realize that the positive impact of the project needed to exceed the actual cost of the project – the funds I would use to travel to Nigeria and undertake a personal evaluation of the wells would be enough to build another ten wells. Hence my decision to use a local co-ordinator; to provide constant feedback on the functioning of the wells that we had constructed and on the impact those wells had on the village.

Each time sufficient funds had been raised to construct another well; the project co-ordinator visited a set of villages to assess the need for access to improved water. Need for access was considered greater if the village was reliant on a dam or stream for their water supply and if there was a high prevalence of guinea worm. The co-ordinator then spoke with the village council to negotiate its involvement in construction, its ownership of the well and the future management of that well. After the successful completion of this stage, a contract was drawn up between our organization and the village council; describing the council's agreement to the construction of the well and its future role in maintaining the well and ensuring equitable access. At the well's opening ceremony, video footage was taken of the well and of the villagers using it A plaque was placed on the front wall recognizing the donors who made the construction possible and letters from the beneficiaries were distributed to the donors. This not only showed the donors how their money had been spent, but also provided information and promotional material for future donors. With the project completed, it would have been for our organization to sit back and feel elated that my 'vision' of aid had been achieved.

Measuring the performance of any intervention can be done by using the four E's: Efficiency; Effectiveness; Economics; and Equity (Open University, 2001, p.22). Evaluating performance and impact – as shown in the two middle columns of the Logical Framework Planning – allows one to define criteria on how the project is *or is not* achieving its goals at each stage.

The top two rows of the middle columns of the LFP matrix deal with assessing of the *efficiency* of the project. In the case of "Wells for Africa," I forwarded funds from Canada to a colleague in Nigeria who then engaged the project co-ordinator to work with the village elders and council in constructing the well. The first question that arose was: did these individuals use the money to build the well? Pictures and videos of each well were taken to show the materials that were purchased, to document the process of building the well, to prove that the well functioned and to show village residents accessing the well's water.

The same two rows of the LFP matrix can also provide one with an *economic* assessment of the project. This can be done in a rather straightforward manner, by calculating the cost of the well construction divided by the number of village inhabitants and divided again by the longevity of the well. In this case, each well costs approximately US\$ 1,000.00 to build and each village has approximately 750 inhabitants, therefore the cost of the well is approximately US\$ 1.33 per inhabitant. We believe that the wells will last at least ten years; therefore each well costs 13 cents per person, per year. NGOs use these kinds of statistics to encourage donation (for example, stating that *x* cents per day will sponsor a child in a developing country). Apart from the estimation of the longevity (some of our wells are now 5 years old and functioning well), the other factors involved in the calculation are known and confirmed and can be used not only to prove to donors that their money was well spent, but also to attract new donors. However, as a development professional analyzing the best way to use the funds at your disposal, you would need to do a comparison with the costs and impacts of other related projects. This evaluation process is widely used by many development organizations and can also be used by the student of development, not only as a learning tool but also as a means of determining the best possible investment of his or her time and/or money.

While moving through the LFP matirix, the evaluation becomes more complex where one begins to encounter factors beyond one's control. In the case of the "Wells for Africa Project," the purpose of building the wells was to reduce the transmission of debilitating water-borne diseases, thus *efficiency* must not compromise *effectiveness*. During my own evaluation of this project, I found that although the wells had been built within budget and in the time frame expected, the assumptions surrounding the achievement of this purpose did not exactly meet with the criteria laid out when the narrative summary was written. One of the underlying assumptions in my initial narrative summary was that access to improved water would lead directly to health improvements. I realized that improved access to water was only one aspect of water management. Improved sanitation and health education were other factors that, when added to the construction of wells, would allow the "Wells for Africa" intervention to achieve its wider purpose.

This realization was brought about by the emergence of several problems during the course of evaluating the completed wells projects. Although the water was clean and plentiful, villagers often believed that it should be reserved for drinking and that water for washing should still be collected from the stream. This counteracted efforts to halt the spread of guinea worm, a parasite that easily infects anyone who comes into contact with infected stream water. Guinea worm still existed in the village, though its incidence had been reduced through access to water from the well. In a continuation of the original project, simple latrines were dug and maintenance of those latrines was discussed with village elders in order to encourage improved sanitation. Another problem that arose during the course of evaluating the completed wells: equity in accessing well water. We discovered that villagers believed the well was for their use only and locked the wells so that visitors to the village could not gain access. Thus visitors were obliged to use the stream, which could be contaminated with any transmitted infections (including cases of Guinea worm). In order to address these problems, educational workshops were set up with the local Ministry of Health, instructing villagers in basic hygiene, the spread of disease and the simple precautions that maximized well efficacy. Taking action on these unexpected developments allowed us to keep 'on track' in achieving our overall aim of improving village health.[2]

---

[2] After identifying these problems, the project could have drawn up logical framework matrices that addressed each new intervention in hygiene and sanitation.

CONCLUSION

Constant monitoring and evaluation allows one to determine whether or not a project is moving in the direction envisioned during the design phase, and to take necessary action when the unexpected happens, or when assumptions are shown to be false. Although students of development often expect projects to run according to the initial intervention blueprint, in practice this is rarely the case. We are forced to continuously modify, negotiate, and generally 'craft' our way along if we are to carry out an activity – and to do it well. The Logical Framework Planning approach is also an excellent tool for addressing issues of accountability, and in evaluating whether or not a project has met its initial expectations. In the case of the "Wells for Africa" project, it has helped me to understand how our organization was accountable both 'upwards' (to donors) and 'downwards' (to beneficiaries). The LFP allowed me to maintain contact with the different groups involved, and devise ways to use the information gathered for the maximum benefit of stakeholders.

The process of using LFP also helped me to understand that the wider objective of the "Well for Africa" project – improving health – was an integral part of achieving the overall goal of 'development'. According to the UNDP, this depends on the real wealth of a nation; its people; and their capacity to create an enabling environment for the enjoyment of long, healthy, and creative lives (UNDP, 1999, p.1). Providing access to improved water was the equivalent of giving villagers the first step on the ladder to achieving this goal. The project allowed me to focus on the four questions that address capacity building: Which capacities are to be built? Whose capacities are to be built? What aims are achieved in capacity building? And what process can capacities be built? (Open University, 2001, p.48). The initial interventions carried out by "Wells for Africa" proved to be not only a learning process for beneficiaries, it also improved my own capability of achieving future success in development interventions and it helped the donors see that their money was accomplishing the aims for which it was intended.

The wells improved the health of the residents of the rural community, reducing the debilitating effects of water-borne disease which were compromised their possibility of enjoying the aforementioned long, healthy, and creative lives. The Logical Framework Planning approach revealed how such steps toward the improvement of a specific health concern could effect long term social change, it helped the process of project planning and evaluation, and it helped me – hopefully the LFP can be useful to others who wish to get involved in development interventions. At the 2005 Huron University College graduation ceremonies, author Joan Barfoot advised graduates to "be curious not cynical" (personal communication, June 14, 2005). As a student at the 2005 InSight Conference stated, IDS students are "allergic" to anything to do with business and management (personal communication, June 4, 2005). The goal of this paper has been not only to explain the LFA and its uses, but also to convince students not to be cynical about the methods and perspectives of 'outside' disciplines. Rather, students should be curious about these disciplines and how their insights can help one to achieve one's goals, whatever they may be.

REFERENCES

Coleman G. (1987). Logical framework approach to the monitoring and evaluation of agricultural and rural development projects. *Project Appraisal 2*(4): 251-259.

Open University. (2005) TU870: Capacities for managing development reading (Part II). *Global Program in Development Management*. Retrieved August 1, 2005 from the World Wide Web: http://gdm.open.ac.uk/dmworldwide.htm.