

DECENTRALISED DEVELOPMENT OF RURAL INFRASTRUCTURE

LESSONS FROM THE SEILA EXPERIENCE IN CAMBODIA 1996 – 2001

Julian Abrams (UNOPS / Partnership For Local Governance)

*Building E, Council for the Development of Cambodia, Government Palace, Wat Phnom, Phnom Penh
post c/o UNDP, P.O. Box 877, Central Post Office, Phnom Penh, Cambodia
e-mail: julian@Seila.bigpond.com.kh*

Keywords: *decentralisation, rural infrastructure.*

Abstract

The Seila 1 Programme implemented over \$9M worth of small-scale rural infrastructure projects through an experimental system of decentralised planning, financing and project implementation. Local Development Funds were allocated to Commune Development Committees, which used participatory methods to plan projects and to manage project implementation. Benefit : cost ratios were attractive compared to those achieved by traditional modes of project implementation. This paper reviews the experience and lessons learned, and suggests ways in which the scope of project types, suitable for this methodology, could be extended.

1.0 Introduction

The Seila¹ Programme is an inter-Ministerial² programme of the Royal Government of Cambodia. The first stage of the Seila Programme was defined in an experiment in decentralised rural development, and was implemented from 1996 to 2000. A second phase of the Seila Programme was approved for 2001 - 2005, with the objective of mobilising resources to support the Royal Government's policy reforms in decentralised and deconcentrated governance.

A central element of the first stage of the Seila Programme was the creation of Commune Development Committees (CDC), composed of the Commune³ authorities plus elected representatives of Village Development Committees (VDC). The CDC developed and implemented a Commune Development Plan (CDP). Participating communes received annual grants, called the Local Development Fund (LDF), which could be applied to eligible development priorities identified in the CDP.

By 2001 a total of 307 communes in 10 provinces had benefited from the LDF, with total disbursement being around \$US 9.3 million. In February 2002 each Commune or Sangkat in Cambodia elected a Council. These Councils will take over responsibility for participatory local planning following a mandated process similar in many respects to the Seila Local Planning Process, and will receive predictable annual fiscal transfers through a Commune / Sangkat Fund managed by a Fund Board instituted by sub-decree.

At the outset, the Local Development Fund was conceived largely as an incentive to Communes to implement the planning process, and an opportunity to build capacity at the local level in planning and management of projects. The actual project outputs, while important, were seen as being a secondary benefit, and the Seila Programme in many cases supported parallel activities delivering the same outputs through Provincial Government departments or NGOs.

This paper presents evidence that the LDF investments were competitive with similar outputs delivered by other implementation methodologies, in terms of quality, impact and cost effectiveness. The paper discusses the conditions necessary for a decentralised development fund to achieve these goals in the context of low levels of technical capacity and general socio-economic development, and suggests

¹ Seila is not an acronym, but a Cambodian word meaning "foundation stone."

² The Ministries represented on the Seila Task Force are: Ministry of Economics and Finance; Ministry of the Interior; Ministry of Rural Development; Ministry of Agriculture, Forests and Fisheries; Ministry of Water Resources and Meteorology; Ministry of Women's Affairs.

³ A commune is a rural sub-district. There are 1620 communes and sangkats (the urban equivalent) in Cambodia, with an average population of around 8000 people.

352.283 ABR

002145

352.283

ABR

sh: DαD

steps that could be taken to extend the scope of development interventions for which a fund of this type can be effective.

2.0 The Seila Local Planning Process (LPP)

The details of the LPP evolved continuously during the lifetime of the Seila 1 Programme, but the essential steps of the process were as follows (1):

Planning Phase	Implementation Phase
Step 1: Orientation (Commune level)	Step 6: Project Proposal Preparation (Commune level)
Step 2: Identification of priorities (village meeting)	Step 7: Project Appraisal (Provincial level)
Step 3: Formulation of 3 – year Commune Development Plan (Commune Level)	Step 8: Procurement by competitive bidding and Project Agreement preparation (Commune level)
Step 4: Integration of Commune Development Plans with plans of Provincial Departments and NGO's ("District Integration Workshop").	Step 9: Project Agreement Approval (Provincial level)
Step 5: Formulation of 1-year Commune Investment Plan (Commune level)	Step 10: Project Implementation
	Step 11: Reflection Workshop (Commune)

The key elements of the process were grassroots participation in identification and prioritisation of projects, and planning, financing and implementation management by the CDC. Facilitation Teams of Provincial Government staff assisted the process. Neither the CDC nor the facilitators had the capacity to carry out cost-benefit analyses or to use other sophisticated planning tools. For this reason the process was purposefully non-analytical. Although experiments were made with various matrix ranking systems, planning decisions were essentially by consensus or majority vote of the CDC after discussion.

To increase the local ownership and to encourage local resource mobilisation initiatives, a local contribution to project costs of at least 10%, of which at least 3% must be in cash, was a condition of access to the Local Development Fund.

3.0 The Seila Local Development Fund

The Local Development Fund (LDF) was an annual grant provided by the Seila Programme to participating communes. Administration of the fund, including project approval functions, was by the Executive Committee of the Provincial Rural Development Committee, known as ExCom. ExCom also provided technical assistance to Communes through a Technical Support Staff (TSS) team consisting of officials seconded from Provincial Departments of Public Works, Water Resources or Rural Development. Some of these officials had formal engineering qualifications, but the requirement was for a high school education and some experience in infrastructure projects.

Although the LDF was a discretionary grant to be applied to priorities identified in the Commune Development Plan (CDP), restrictions were placed on the type of projects for which the Fund could be used. Eligible projects were defined as "physical, visible, durable public goods"(1). Although this rule was interpreted flexibly, the great majority of LDF investments were small scale infrastructure in the roads, water supplies, school building and irrigation sectors.

Table 1: Summary of LDF investments by type ⁴	
Sector	Total investment (000's)
1 Infrastructure (roads and community buildings)	\$5,191
2 Education (principally school buildings)	\$1,427
3 Water & Sanitation	\$1,307
4 Agriculture (principally irrigation)	\$1,247
5 Health projects (clinics)	\$44
6 Other projects	\$18
Total of all projects	\$9,234

⁴ Source: Seila Programme Local Development Fund database

4.0 Quality, Impact and Cost-Effectiveness of LDF Investments

4.1 Quality of LDF Investments

An internal evaluation of the quality of LDF project outputs in Banteay Meanchey and Battambang Provinces carried out in 1999 resulted in the following classification (quoted in the Intech Associates report):

Classification of Project	Battambang	Banteay Meanchey
Good quality meeting standards	45%	25%
Some problems, but generally satisfactory	43%	56%
Poor quality, could be improved	12%	17%
Unacceptable	1%	2%
Percentage of projects 1996 – mid 1999, checked during survey	93%	96%

Intech Associates (2) reported that "the project works are generally well executed...the works executed have been good value for money and are comparable to similar rural upgrading programmes in the region..."

4.2 Impact of LDF investments

Intech Associates report (2) found that "the planned benefits have been delivered in terms of providing all-season access and reducing travel time on roads, increased irrigation opportunities, better access to drinking water and the provision of primary school classrooms. There are, however, some doubts as to whether the project has given sufficient attention to ensuring that roads will be maintainable in the future... The study investigations have demonstrated that the majority of LDF investments have been of relevance to the communities and their efforts to improve their standards of living. The costs have been at an appropriate level of investment and the maintenance liabilities will in general be manageable by the communities themselves. The notable exception has been the investments in gravel / laterite roads..."

4.3 Cost-effectiveness of LDF investments

Cost-effectiveness is taken here to have two components: the economic rate of return on investments and the appropriateness of the cost of the investments.

The data available on the economic return on LDF investments was that estimated by Intech Associates (2), based on a sample of 83 projects. Estimated economic internal rates of return were as follows:

Overall Economic Benefits based on Sample of LDF Projects			
	Roads	Irrigation	Water Supply
Sample Projects EIIR	40.9%	21.2%	13.9%
Value as % of total cost	56.1%	12.7%	14.6%
Weighted Whole Project EIIR: 27.7% (accounting for 83% of the overall LDF costs)			

Lebo and Schelling (3) quote 10-12% as the minimum threshold level of ERR below which projects are normally considered uneconomic.

Cost-effectiveness also requires that the same benefits could not have been obtained at less cost. Comparisons of costs of similar outputs between projects tend to be unreliable and controversial; however, the author is confident, from observations and comparisons that have been undertaken, that cost of LDF outputs are similar to or below the costs of equivalent outputs implemented by other projects, in the same areas of Cambodia, during the same period. Estimated costs of LDF projects, before procurement, were calculated from the costs of materials, labour, transport and machine services, quoted in local markets. To the estimated direct cost to the contractor, a margin of only 5% for the contractor's profit, was added. Nevertheless it was found that actual bid prices were commonly below these estimates. A study of the LDF contracting system (4) recommended that contractors

should be encouraged to bid higher prices, by increasing the "profit margin" in the estimate (which was known to the bidders) to 15%, the concern being that the contractors were not making a sufficient profit to sustain their business. On this evidence, it is concluded that the costs of LDF project outputs are close to the minimum consistent with acceptable construction quality and an acceptable level of reward to the contractor.

The cost of technical assistance should be considered in assessing overall cost-effectiveness. Intech Associates (2) estimated technical assistance costs, including international and national advisers, and government staff seconded to the Seila Programme, as 19.2% of the investment cost. This figure is high compared to the typical cost of engineering design and supervision services, but is similar to TA costs in other rural infrastructure interventions with an institutional as well as an investment focus.

4.4 Weaknesses of LDF investments

Amongst a great deal of debate that has taken place about the merits and demerits of the LPP / LDF systems, both within the Seila Programme and its donors, and outside, two principal criticisms stand out. Both of these are discussed in the report by Intech Associates (2).

One major criticism has been the failure to ensure that sustainable maintenance arrangements are in place. The project philosophy was that insofar as possible the local community should be encouraged to undertake maintenance responsibilities. The economic assessment quoted above appears to demonstrate that this was physically feasible: the estimated benefits from the projects considerably exceed the maintenance costs. However, the institutional arrangements required for some of the benefits to be recycled as maintenance costs are not generally in place, and these arrangements do not come about spontaneously or as a result of cajoling of the beneficiaries by programme staff.

A second criticism has of been the failure to maximise use of labour-intensive technologies, which can add employment generation to the benefits of the project outputs. The project methodology did not include a strong element of technological innovation. Instead, the focus was mainly on working with and attempting to improve the quality of output from technologies already familiar to local small contractors and engineers.

5.0 Lessons learned

It is contended that the LDF investments were able to achieve competitive levels of quality, impact and cost-effectiveness despite the low level of technical inputs at both planning and implementation stages. However, it is not contended that this methodology could be applied to any type of project output or in any context, with the same satisfactory results. The decentralised approach is particularly well suited to rural infrastructure projects as these are generally simple to manage, and of limited duration and scope, and the outputs are "natural" public goods which cannot easily be appropriated by any section of the population. The approach is less well suited to projects delivering services or directing benefits to private households.

The following paragraphs describe the conditions which the author considers to have applied to the LDF projects and to have been major factors in their success.

5.1 Simple, durable technology

The most successful types of project were the most straightforward. Concrete road structures (pipe culverts, box culverts, drifts and small bridges) can be the key to providing year-round basic access to a village. Properly designed and constructed, these structures have an indefinite use life with minimal maintenance costs. Another highly popular and successful output type was concrete ring wells, which, although less than ideal from a hygiene point of view, provide access to water at low cost and with high sustainability. In the irrigation sector, perhaps the most successful type of project involved replacing temporary diversions, rebuilt annually from local materials by the farmers, with concrete structures. Such projects almost always cost less than \$100 per irrigated hectare, with \$20 - \$50 being typical. The farmers have good understanding of the operating requirements and realistic expectations of the benefits. The maintenance burden is less than the effort previously required to maintain temporary structures.

Conversely, projects with innovative or unfamiliar technology, or considerable operation and maintenance requirements, were less successful. "Improved" drinking water ponds with filter galleries and pumped offtakes were used as intended only until maintenance work was required, after which the users returned to dipping water from the pond with a bucket. Pumped irrigation schemes, requiring management of the pump and collection of user fees to pay for fuel, also had a low success rate.

5.2 Good match with development priorities of population

Given a limited "menu" of project outputs which could be successfully implemented, a key condition for success was that these outputs matched with the actual priority demand of the local population.

A study (5) carried out in 2001 determined the order of priorities (for infrastructure projects) amongst rural Cambodian women and men to be: roads, water supplies, irrigation, health clinics, school buildings, markets, community buildings and pagodas. This is a good match well with the actual allocation of LDF funds by the CDCs, except that few health facilities were constructed. The reasons for this omission were that there was an existing master plan (of the Ministry of Health) for rural health clinics, and that clinics outside this plan would have had great difficulties in obtaining staff and operating budgets.

5.3 Maximising cost-effectiveness in design

From the outset of LDF it was recognised that the pursuit of high engineering standards, without reference to the level of additional benefits achieved per additional cost, is not appropriate when the objective is to allocate scarce funds in the most effective manner to alleviate poverty. The very high economic costs of engineering failure, which are the reason for adoption of high safety factors in developed countries, do not exist in the rural engineering context. Except where human life may be endangered, there is an acceptable level of failures, and this is recognised in the practice of all rural engineering projects, even though it is rarely discussed explicitly. Increments of quality mean increments of cost, and diminishing increments of benefit, and the ideal would be to choose the level of quality that equates marginal cost to marginal benefit.

Conversely, it was feared at the outset that CDC's faced with the task of spreading their limited budgets as widely as possible, would seek to minimise costs at the expense of acceptable standards of engineering. Any quality improvement, above the levels of normal practice, would have to be "sold" to the project owners. However, it was found that CDCs were appreciative of designs resulting in visibly strong, durable project outputs, and were surprisingly well able to distinguish between a worthwhile improvement in quality and an unnecessary luxury.

5.4 Standardisation of designs and procedures

The majority of the Technical Support Staff (TSS) team members do not have real capacity for independent design of structures. Although the workload of a TSS member (responsible for one district, or about 7 communes, with a total annual construction budget of \$50,000 to \$100,000) is not large in financial terms, the difficulties imposed by designing and supervising construction of a large number of geographically dispersed small project outputs, often in remote rural areas, can be considerable.

Therefore, effort was devoted to developing a standardised system for design and implementation. At the heart of this system is a technical manual consisting of standard design drawings, in the Khmer language, with variable dimensions, cross-referenced to standard specifications and tables of quantities for cost estimation purposes. This manual is also produced as an interactive computer program which incorporates automatic English-Khmer translation of drawings, and an automatic cost estimation system. This system (known as the "Seila Templates" has proved popular within the Seila Programme, with other agencies working in rural infrastructure in Cambodia, and has been adapted for use outside Cambodia⁵. The design details included cover about 90% value of all LDF project outputs, and these designs have actually been used for around 70% of all LDF projects.

In addition to the technical design materials, standardised procedures were adopted for carrying out feasibility studies, and for construction monitoring and reporting.

Heavy use of standardised designs and procedures is open to the criticism that, as the technical teams lack a full engineering understanding of the designs they are using, mistakes will inevitably result. Whilst this is true, the number of errors which would have occurred if standard designs had not been provided, would have been much larger.

5.5 Transparency in procurement

From 1998 onwards all LDF projects were implemented by private sector contractors working under contract to the CDCs. Most of these contractors were individuals or small companies based at the Province or District level. Procurement was by competitive bidding amongst contractors from a pre-qualified list, maintained at Provincial level. Bidding was conducted at an open meeting in the

⁵ Peter Guest, WFP, pers. com

Commune or in the District town. In most cases the stages of orientation, bid submission, bid opening, bid evaluation and announcement of the result were completed in a single half-day session. Various bid evaluation procedures were experimented with, but it was found that the simplest option, which can be summarised as "lowest realistic bid" yielded results as satisfactory as any more complex procedure. Simplicity resulted in transparency. This aspect of the system furthered the wider programme objective of promoting good governance, and was greatly appreciated by contractors and by other stakeholders.

No satisfactory solution was found, to the persistent problem of collusion between bidders. This problem was most severe with contracts for road earthworks, as the number of suitable contractors in any province is generally small.

6.0 Potential for extension

6.1 Institutionalisation

A participatory planning system similar in many respects to the Seila LPP, and a discretionary fund allocated to Communes, are now integral parts of the Royal Government of Cambodia's decentralisation policy. To maximise the effective use of the funds, there is a need for technical guidelines that can be followed by Communes and their technical advisers, in designing and implementing projects, and by the Provincial technical departments in discharging their mandated planning approval and technical clearance functions (6). There is also a need for clearer definition of the division of responsibilities between the Commune Councils and the Provincial level of government.

6.2 Capacity building for planning

Although the LPP / LDF experience has demonstrated that, at an appropriate level, rational and successful planning decisions can be made through a participatory process with a minimum of technical analysis, there is scope in for improvements to be made by the introduction of simple, user-friendly analytical planning tools. Perhaps the clearest case is in the roads sector, where improved understanding by the Commune Councils, of the long term cost and benefit implications of different investment options, might substantially mitigate the "maintenance cost problem" attendant of road investments, discussed above. The IRAP planning tool has been introduced by ILO and the Ministry of Rural Development for planning of the higher tertiary road network, and there is potential for adaptation of this methodology to the planning tasks faced by a Commune Council responsible for managing the sub-tertiary part of the network.

6.3 Public-private partnership

Public-private partnership arrangements could have the twin benefits of alleviating the problem of sustainability in operation and maintenance of Commune level infrastructure, and mobilising private capital to complement the resources of the Communes. Thus, both the range of project types that can be successfully implemented, and the value of the projects, would be increased. A suitable approach would be for the Commune to invest in durable infrastructure (for example, development of a water source and distribution network) and for a private operator, under contract to the Commune, to provide machinery and operating costs (for example, provide and operate a pump) in return for the right to collect an agreed level of user fees. Suitable project types might include rural electricity schemes, piped water supplies, pumped irrigation, management of market facilities, ferries and toll bridges, and perhaps waste disposal facilities.

References

1. Local Planning Process/Local Development Fund (LPP/LDF) Operations Guidelines (unpublished). Seila Programme of the Royal Government of Cambodia, 1999.
2. Tracey-White, J and Petts, R (Intech Associates), 2001: Study into the socio-economic impact of the Local Development Fund / Local Planning Process 1996 – 2000. Report for United Nations Capital Development Fund.
3. Lebo, J and Schelling, D (in progress). Design and Appraisal of Rural Transport Infrastructure: Ensuring Basic Access for Rural Communities. World Bank Technical Paper No. 496
4. Klerx, G and Lay, C (2001) Small Contractor Survey Report for United Nations Office for Project Services on behalf of World Bank.
5. Helmers, K and Wallgren, P (2001) Social Assessment and Design of Poverty Targeting Measures Report for United Nations Office for Project Services on behalf of World Bank.
6. Royal Government of Cambodia (2002) Inter-Ministerial Prakas No. 098 PRK on Commune/Sangkat Development Planning