

Technical Assistance and Capacity Development at the School of Agriculture Prek Leap

An Institutional Case Study

Working Paper 17

Chan Sophal and So Sovannarith
with Pon Dorina



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Responsibility for the ideas, facts and opinions presented in this research paper rests solely with the authors. Their opinions and interpretations do not necessarily reflect the views of the Cambodia Development Resource Institute.

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Abstract

Arising from ashes left by the Khmer Rouge regime, the School of Agriculture Prek Leap (SAPL), like many other government institutions, has relied heavily on foreign assistance for its development. Apart from material support, technical assistance (TA) has played a major role in building both individual and institutional capacity. There is no doubt that TA has brought tremendous improvements in instructors' capabilities, curricula, and institutional arrangements, however, this study found an obvious lack of cost-effectiveness if one considers the enormous amounts spent by TA projects.

Responsibility for the underachievement of TA appears to be attributable to both the donors and SAPL. On the donors' side, the sudden influx of projects introduced many ideas and objectives that were not owned by the School. Since SAPL was desperate for TA and funding, it was incapable of controlling the donors who planned projects as they saw fit and revealed nothing about their budgets. This led to a situation in which it might be asked who was actually running SAPL?

The study also found that the huge sums spent on TA would have yielded higher results had the managerial capacity been better developed and the right financial incentives been in place. Managerial capacity was not adequately developed because, with one exception, projects concentrated on developing instructional capacity and the curriculum, not the skills of SAPL management.

Regarding financial incentives, government salaries were so low, that most TA projects felt obliged to supplement counterparts' salaries in order to ensure that they devoted their time to the project and not to a second job. Although this approach suited donors' requirements, it did not benefit the School because the instructors whose salaries were not supplemented by donors, resented the supplements. Although the creation of a salary fund which pooled donors supplements improved matters somewhat, it is clear that many counterparts were engaged in TA projects primarily to earn the salary supplements and/or to learn skills that would enable them to get better jobs elsewhere.

The study found that there is a pressing need for strengthened management capacity at SAPL to prepare for the future when donors cease their assistance to the School. The biggest challenges lie in how to ensure high quality courses and instruction and also achieve financial sustainability. As long as government fails to pay adequate salaries, the School will continue to lose its best-trained staff to other employers. Also, as long as donors continue to plan projects independently and keep budgets and expenditures secret, the management of SAPL will not be in complete control of the School.

The study concluded that while TA is still badly needed at SAPL, and will be for some years to come, in order to develop management capacity, donors must collaborate with SAPL management in planning and administering projects and providing information about all aspects

of projects, including their budgets and expenditures. Although the School could begin working towards financial sustainability by charging fees, this will only be possible if courses and instruction are of high quality.

Acronyms and Abbreviations

Acronyms

ACR	Australian Catholic Relief (later Caritas Australia)
ADB	Asian Development Bank
ADDA	Agricultural Development Denmark Asia
AEA	Adviser in Educational Administration
AFD	Agence Française de Développement
AFDI	Agriculteurs Française et Développement International
AIT	Asian Institute of Technology
CAAEP	Cambodia-Australia Agricultural Extension Project
CCFD	Comité Catholique contre la Faim et pour le Développement
CIAP	Cambodia-IRRI-Australia Project
CIDSE	Coopération Internationale pour le Développement et la Solidarité
EMP	Education Management Planner
GTZ	Deutsche Gesellschaft Fuer Technische Zusammenarbeit
LAM	Lycée Agricole Le Mans
MAFF	Ministry of Agriculture, Forestry and Fisheries
PAFAARC	Programme d'Appui à la Formation Agricole et Agronomique au Royaume du Cambodge
RUA	Royal University of Agriculture
SAPL	School of Agriculture at Prek Leap
TA	Technical Assistance
TAAAs	Technical Assistance Advisers
UQGC	University of Queensland Gatton College
VSO	Voluntary Service Overseas
WB	World Bank

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Introduction

Since the mid-1990s, the total value of technical assistance (TA) provided to the School of Agriculture Prek Leap (SAPL), has been far above the budget the government provides to the School. Although no exact figures are available for either the government budget or the budgets provided by donors, we estimate that the total for donor's assistance must be at least five times more than what the government provides. Given the large sums spent at SAPL on technical assistance, it is important to assess whether SAPL is getting optimum benefit from this.

As part of CDRI's research project on *Technical Assistance and Capacity Development*, this case study on SAPL attempts to provide an in-depth look at what technical assistance has achieved at SAPL in terms of capacity development. If TA has failed to maximise capacity development at SAPL, what are the reasons for this under-achievement?

It is been assumed that the ultimate goal of SAPL (and of the external assistance provided to it) is to produce qualified and skilled agricultural technicians who will contribute to raising agricultural productivity in Cambodia, and with it, standards of living. Building capacity at SAPL is therefore the means to achieving this goal, and has been considered the end result or output of technical assistance.

As defined in this research project, the term "capacity" refers to "the ability of individuals or organisational units to perform functions effectively, efficiently and sustainably." This case study attempts to assess the impact that TA projects have had on the capacity of individual instructors, sections and the institution as a whole. The study also looks into the problems that have limited the achievement of maximum success at SAPL. One important aspect of the case study has been an examination of how different technical assistance projects have worked together in the institution. Have they complemented each other or have they pulled in different directions? How have the issues of donor coordination and sustainability been addressed?

This working paper attempts to answer these questions in four parts. Chapter One gives the history of SAPL and of the external assistance provided to it. Chapter Two assesses the impact of technical assistance on capacity development. Chapter Three discusses the issues and constraints limiting the success of technical assistance, while Chapter Four deals with management challenges and strategies. Chapter Five draws conclusions and makes recommendations. The current levels of capacity at SAPL, and discussions about individual projects, are summarised in the Appendix.

Research Methodology

The current case study is part of a larger CDRI research project on *Technical Assistance and Capacity Development*. It is based on available documents, and on interviews and surveys that were conducted over three weeks in June and July 1999.

Several pieces of written work, including SAPL's development plans, project reports and memoranda of understanding, were used for basic information about SAPL and about the external assistance projects provided to the School. Since these did not provide enough information, the senior managers at SAPL provided additional documents.

Four groups of people involved in technical assistance were interviewed to obtain in-depth information. These groups were:

- **The senior managers of SAPL**—Interviews were conducted with the Director, Deputy Director, Chief of the Study Office, Chief of the Administration Office, and Acting Chief of the Planning and Accounting Office. These were conducted primarily to obtain an overall assessment of the impact of TA on capacity development and management issues.
- **The technical assistance advisers (TAAs)**— Interviews were conducted with eight current TAAs (four of whom are Cambodian) and nine former TAAs (five of whom were interviewed by e-mail). These were conducted primarily to gather the TAAs' views on the over-all performance of TA projects, and the problems they encountered while implementing them.
- **The section heads**— Interviews were conducted with the heads of the seven sections receiving TA. These were conducted primarily to get the views of the junior managers (who worked closely with the TAAs) on the overall success of the TA projects and their impact on management issues.
- **The instructors engaged by TA projects**— Interviews were conducted with a total of 13 instructors (one or two from each of seven sections receiving TA). These were conducted primarily to gather information about instructors' experiences and on the impact of the TA projects in which they participated.

In addition to these interviews, all the groups listed above and the other instructors were given a questionnaire in which they were asked to rate the current levels of capacity of both individuals and SAPL as a whole, the impact of TA on the development of individual and institutional capacity, and the needs for further improvement. In total, 67 instructors, four senior managers and 12 former and current TAAs (10 expatriates and two Cambodians) responded to the questionnaire.

The selection of 67 instructors out of 83 was not undertaken at random. The initial intention was to survey all the instructors, but a few were not available during the research

period. However a sample of 80 percent can be considered a fair representation of the views of all of the instructors.

In addition to the research described above, meetings were held between the research team, the management of SAPL and a number of TAAs to discuss the initial findings of the study. The draft was also circulated to all the TAAs who participated in the study to obtain their comments, clarification if required, and any information they wished to add.

Chapter One

School of Agriculture Prek Leap and External Assistance

1.1. Background on the School of Agriculture Prek Leap

The School of Agriculture Prek Leap (SAPL) is located seven km northeast of Phnom Penh on the banks of the Mekong River.¹ The School is a separate department of the Ministry of Agriculture, Forestry and Fisheries (MAFF).

The School was established in 1950, and until 1975 offered two-year certificate and three-year diploma courses that produced “Agricultural Agents” and “Controllers” in agriculture and related fields. During the Pol Pot regime (1975-79), the campus was turned into a military camp and prison. The School reopened in late 1984, after being used as the district headquarters for Kandal province.

From 1984 to 1988, the School had about 40 support staff and administrators, but none of its own instructors. Prior to 1975, it had around 50 staff but only four appear to have survived the Khmer Rouge era and none returned to teach at the School when it reopened. Consequently, the School had to rely almost entirely on Vietnamese assistance for both the curriculum and instructors, although a few MAFF technical staff also did some teaching. Between 1984 and 1988, the School offered one-year certificate courses and two-and-a-half year diploma courses in Agronomy, Animal Health and Production, Hydrology, Forestry, Fisheries, and Meteorology.

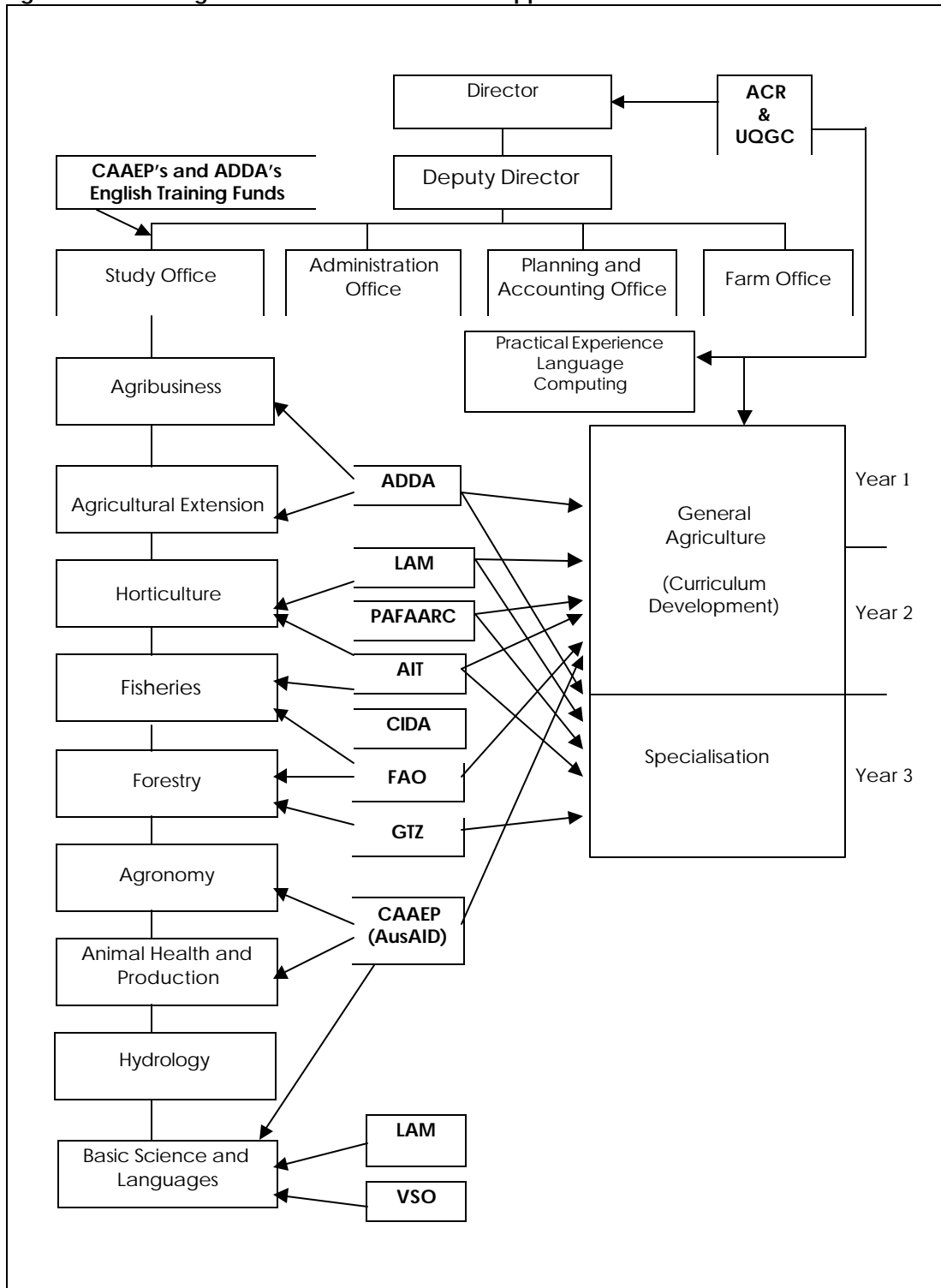
As the Vietnamese withdrew in 1988/89, MAFF started assigning more of its technical staff to teach part-time at SAPL. The School also started to find its own instructional staff to gradually replace the part-time instructors from MAFF. By 1995, SAPL had enough full-time instructors. Most of these had just graduated from SAPL itself or the Royal University of Agriculture (RUA), but needed further training in order to be able to teach.

The Current Structure

At present, SAPL has 181 staff, including 83 instructors. The management structure consists of four Offices under the leadership of the Director, and supported by a Deputy Director. These are: (1) the Administration Office, (2) the Study Office, (3) the Planning and Accounting Office, and (4) the Farm Office (see also Figure 1).

¹ Prior to 1975, the School was named Lycée Agricole de Prek Leap. After reopening in 1984, it had an English name: Prek Leap Agricultural College (PLAC), until it was renamed the School of Agriculture Prek Leap (SAPL) in 1996. Since 1984, the Khmer name has remained the same.

Figure 1. SAPL's Organisational Structure and TA Support



The School has 10 academic sections.

- Agribusiness
- Agricultural Extension
- Agricultural Mechanisation
- Agronomy
- Animal Health and Production
- Basic Science and Languages
- Fisheries
- Forestry
- Horticulture
- Hydrology

Each section is comprised of three to 10 instructional staff, including a leader and deputy leader. Among the 10 areas of specialisation, Agribusiness, Agricultural Extension and Horticulture are relatively new. They were established in 1995, at the time that the curriculum was drastically revised and the role of SAPL was redefined.

All these sections are under the direction of the Study Office. Until 1997, this large room was the only work space for about 100 staff from all sections. Currently each section has a separate office, but remains officially under the control of the Study Office. In the new organisational structure, that was awaiting approval from MAFF at the time of this study, the 10 sections listed above were to be under the direct control of the Director and Deputy Director. In the meantime, the Study Office is gradually transferring more administrative responsibilities to the sections.

The Role of SAPL

The mission of the School (modified to accommodate the name change) is extracted from the Development Plan and presented in Box 1.

Box 1. The Mission Statement of SAPL

The main role of the School of Agriculture Prek Leap is to lead the development and teaching of applied courses in agriculture and related areas (for example aquaculture, forestry, the management of natural systems, agribusiness, food technology etc). These courses should meet the needs of Cambodia's private and public sectors for competent and practical people who have been trained in these areas.

The School of Agriculture Prek Leap will do this by providing a range of courses for the education, training and retraining of various groups. These include students, farmers, existing staff of agriculture and related ministries, and private sector employees.

Special attention will be given to the needs, capacities and potential of women.

The School of Agriculture Prek Leap will also undertake applied research relating to the adaptation and adoption of new technologies.

From this base, the School of Agriculture Prek Leap will use a cooperative approach to assist the development of applied agricultural and related programs across Cambodia.

Source: Ministry of Agriculture, Forestry and Fisheries 1995, p.4

Currently SAPL offers courses leading to a Diploma Level I (two years) and a Diploma Level II (three years), in 10 specialisations. In addition, over the last few years, the School has developed and delivered several short courses for the staff of MAFF, and for international and non-governmental organisations.

Instruction and Curriculum Evolution

As stated previously, from 1985 to 1989, the School relied entirely on outside instructors. About 80 percent were from Vietnam and 20 percent from MAFF's technical departments. The curriculum was designed by the Vietnamese and instruction was largely limited to dictating material from textbooks while students wrote it down.² Practical experience was limited.

From 1989 to 1994, the School relied less on instructors from Vietnam and more on local instructors who were hired part-time. MAFF was also asked to assign graduates as full-time instructors. The previous curriculum and instructional style continued.

From 1995 to 1999, when the School finally hired enough full-time instructors, major changes were made to the curriculum. During this period, the country was changing from a centrally-planned economy to a market-oriented one. With external assistance, the School's physical and institutional infrastructure were developed or strengthened. The SAPL Development Plan was written in mid-1995, and revised in 1998.

Capacity-building requirements at SAPL stemmed not only from the need to improve human resources, but also from the need to develop a curriculum that would support sustainable agriculture. As Russell *et al* (1999) put it, "Devising a curriculum for sustainable development entails training the human resources to undertake the design, implementation, and continuous refinement of a curriculum that applies the principles of sustainable development to the local context" (Russell *et al* 1999:130).

1.2. The capacity of SAPL before the influx of technical assistance

In order to provide a fair evaluation of how much SAPL gained from internationally-funded technical assistance in the early 1990s, it is important to understand the capacity levels of the instructors, sections and management of SAPL during these years.

As mentioned above, between 1985 and 1989, SAPL depended almost entirely on Vietnamese instructors. From 1989 to 1994, a number of technical staff from MAFF taught at SAPL, but most were part-time, and did not teach regularly. In the first half of the 1990s, SAPL began seeking full-time instructors and each year hired dozens of university and college graduates under the government's policy of centrally-planned labour distribution. These new graduates formed the majority of SAPL's instructional staff.

By 1995, SAPL had sufficient full-time instructors, but faced the challenge of training them to teach. Having just graduated from the two-and-a-half year Diploma course at SAPL or the four-year Bachelors degree course at the Royal University of Agriculture, new instructors were not necessarily ready to teach. First, the Vietnamese or Russian-made curriculum had to be modified to accommodate a market-oriented economy. Second, the training standards at the institutions where the new instructors had taken their own degrees were generally weak, especially in providing practical training. Third, the abrupt replacement of the Vietnamese and Russian instructors also meant a deterioration in training quality in Cambodian institutions. As the Vietnamese or Russian instructors left, a number of their students were assigned to replace them. These substitute instructors were not well prepared to carry on with the instructional jobs and faced the additional challenge of translating the Vietnamese and Russian materials into the Khmer language. Last, but not least, there was no consideration of the quality or grades of the graduates appointed to become instructors at SAPL in the 1990s. They were simply appointed by the government. The above-mentioned circumstances resulted in extremely-varied levels of capacity at SAPL, and made it difficult

² This is a common practice in Cambodian classrooms and can take up more than 80 percent of classroom time. Instruction at Prek Leap continued this way until 1996 when "student notes" were first produced, and given (later sold) to students.

for TA projects aiming at capacity development. The situation was recalled by a TAA who worked as an Education Management Planner from early 1993 to late 1994:

...the biggest problem was the confidence of the instructors...many had received either very poor training or no training in the subject they were supposed to teach...so they were very reliant on text books and very fixed lesson plans...if they came to teach at all (many were paid but in fact never came to teach)...

Table 1.1 below summarises the assessments made by seven expatriates intensively involved in the capacity development of SAPL between 1993 and 1998. These former advisors were asked to rate levels of capacity at SAPL at the individual, section, and the School levels prior to the implementation of their respective TA projects. Most of the seven TAAs rated almost all aspects of capacity at SAPL below *satisfactory*, indicating the overall poor capacity of the instructional staff and management.

Table 1.1. TAAs ratings of individual instructors, sections and the School

	Number of Responses					Weighted Index (1---5)
	Very weak 1	Weak 2	Satis- factory 3	Strong 4	Very strong 5	
At the individual level						
Eagerness to learn	0	2	3	2	0	3.0
Ability to work	0	4	2	1	0	2.6
Willingness to work in a team	0	7	0	0	0	2.0
Technical capacity	2	4	1	0	0	1.9
Confidence to work	3	3	1	0	0	1.7
Motivation to work	2	5	0	0	0	1.7
Participation in curriculum development	5	1	1	0	0	1.4
Exposure to outside experiences	5	2	0	0	0	1.3
Practical experience	6	1	0	0	0	1.1
Financial support from workplace	6	1	0	0	0	1.1
At the section level						
Discipline	1	2	3	1	0	2.6
Material management	3	1	1	2	0	2.3
Intra-section co-operation	2	4	1	0	0	1.9
Leadership	3	3	0	1	0	1.9
Personnel management	3	3	1	0	0	1.7
Ability to work	2	5	0	0	0	1.7
Exposure to outside experiences	4	3	0	0	0	1.4
Financial support	6	1	0	0	0	1.1
At the School level						
Discipline	0	1	5	1	0	3.0
Leadership	1	1	3	2	0	2.9
Personnel management	2	2	2	1	0	2.3
Material management	2	3	1	1	0	2.1
Inter-section co-operation	2	3	2	0	0	2.0
Transparency in financial management	3	4	0	0	0	1.6
Financial support	5	2	0	0	0	1.3

Source: surveys conducted with 7 former TAAs, June and July 1999

1.3. The external assistance provided to SAPL

Since it was reopened in 1984, SAPL has received a great deal of external assistance from multilateral donors, bilateral donors and non-governmental organisations. Beginning around the mid-1980s, Coopération Internationale pour le Développement et la Solidarité (CIDSE) provided infrastructure support (electricity, water and building renovations). Vietnam provided the curriculum, instructors and technical advisors. Then in 1987, French assistance started to come in through Lycée Agricole Le Mans (LAM). Most of the external assistance began after the mid-1990s (see Table 1.2)³.

The way in which external assistance was provided to SAPL appears to have varied according to the type of assistance. Bilateral assistance came to SAPL through MAFF and was registered at the Council for the Development of Cambodia (CDC). However, NGO assistance was reported to have been provided directly to SAPL, with the approval of MAFF. In general, needs were identified by SAPL for both infrastructure development and for technical assistance projects. However, according to the management of SAPL, donors assumed the design, implementation and monitoring of the infrastructure development projects, in consultation with SAPL. SAPL and MAFF participated in the evaluation of the infrastructure projects.

In contrast, SAPL assumed a greater role in implementing technical assistance projects. However donors still had the dominant role in designing, monitoring, and evaluating TA projects, and long delays occurred before projects were ready to implement. For instance, the Cambodia/Australia Agricultural Extension Project (CAAEP) was designed in 1994, but was not implemented until 1996. Due to considerable changes in circumstances at SAPL, the delay appears to have caused implementation problems.

³ For information and discussions about individual projects, please see the Appendix.

Chapter Two

Impact of Technical Assistance on Capacity Development

In evaluating the impact of technical assistance on capacity development in this study, we focused on the technical assistance that was provided to SAPL in the 1990s. Although the Vietnamese assistance from 1985 to 1989 was within the scope of the study, it was not included in the evaluation because it was provided many years ago and was not of the type provided in the 1990s.

In recognition of the huge loss of human resources during the Khmer Rouge period, the Vietnamese government agreed through MAFF to provide assistance to SAPL through a college in Vietnam. The assistance included provision of curricula and instructors to teach the students at SAPL through interpreters, but these were not necessarily technical specialists. The Vietnamese also provided an expert to advise the Director of SAPL and sent a number of SAPL officials to Vietnam to attend a three-month training course in management. At the time they left, the Vietnamese instructors, who made up about 80 percent of the instructional staff at SAPL, had provided no training in instructional skills, and MAFF therefore had to find technical experts from its relevant departments to substitute for them.

Our study found that all the technical assistance projects provided to SAPL after the Vietnamese left, were intended to develop capacity at SAPL. For the purposes of this study, we define “capacity” as the capacity of individuals (managers and instructors), as well as the capacity of the institution (the institutional infrastructure and curricula). Only one project, the Australian Catholic Relief (ACR)-supported institutional strengthening programme focused entirely on improving institutional management. The rest of the projects dealt primarily with improving the capacity of individuals and of curricula, although they also contributed to improving institutional management (at both the section and the School levels).

Our study also revealed that TA projects worked specifically to develop the capacity of individuals and of the institution in order to increase the number of Cambodians qualified to work in agriculture and related fields. According to some TAAs, individual instructors and section managers were treated as counterparts because the TAAs worked directly with them to improve their courses, etc¹. There was, however, less emphasis on developing counterparts' capacity to replicate the work of the TA advisors. This chapter therefore assesses the combined impact of TA projects in this regard. Because it was not the intent of this study to evaluate the performance of individual projects, this chapter assesses the overall impact of all

¹ Ten of the technical assistance advisors interviewed for the study responded that they had spent quite a large proportion of their time training their counterparts or the instructors that were supposed to be trained under their projects. Some of this training also included indirect and informal training.

TA projects since 1993.²

Two groups responded independently to the survey questions: the SAPL instructors (including the section heads) and the TAAs. As a result of their assessments, the impact of TA projects on capacity at the individual, section and the School levels was revealed. Respondents were asked to rate the impact of TA on a scale of five: (1) very weak, (2) weak, (3) satisfactory, (4) strong, and (5) very strong. In addition, a weighted index was calculated to indicate the relative strength of the impact of TA on different aspects of capacity.

2.1. Impact of technical assistance on instructors

It should be noted that of the 67 instructional staff surveyed, 52 had worked with TA projects that provided specific support to the sections. The donors included Agricultural Development Denmark Asia (ADDA), the Asian Institute of Technology (AIT), the Cambodia/Australia Agricultural Extension Project (CAAEP), Programme d’Appui à la Formation Agricole et Agronomique au Royaume du Cambodge (PAFAARC), Lycée Agricole Le Mans (LAM), Deutsche Gesellschaft Fuer Technische Zusammenarbeit (GTZ), the Food and Agriculture Organisation (FAO), the Canadian International Development Agency (CIDA) and Voluntary Services Overseas (VSO). However, all instructors participated in the curriculum development process that was largely supported by ACR and University of Queensland/ Gatton College (UQGC). In Table 2.1.a. below, these 52 instructional staff rated the combined impact of the projects that supported their sections and the impact of the ones that supported the School curriculum as a whole.

Table 2.1.a. summarises the instructors' ratings on the impact of technical assistance on their capacity. Overall, the instructors reported that technical assistance had significantly impacted various aspects of their capacity, although only a few of them rated it as *very strong*. In particular, the TA projects appear to have had the greatest impact in enhancing the capacity of instructors to develop curricula. They also promoted the instructors’ *eagerness to learn, attitude to work, willingness to work in a team* and *confidence to work*. The area that TA projects appeared to have impacted least was *financial support from the workplace*. Most instructors considered this limitation a major weakness of all the TA projects (see Appendix).

Table 2.1.a: Overall impact of technical assistance on instructors, as seen by the instructors

	Number of Responses					Weighted Index (1 – 5)
	Very Weak	Weak	Satisfactory	Strong	Very Strong	
	1	2	3	4	5	
Participation in curriculum development	0	3	19	18	12	3.8
Eagerness to learn	0	5	19	19	9	3.6
Confidence to work	0	2	20	25	4	3.6
Attitude to work	0	7	12	28	5	3.6
Willingness to work in a team	1	5	18	20	8	3.6
Practical experience	0	7	21	23	0	3.3
Technical capacity	0	9	22	19	2	3.3
Instructional skills	3	8	17	22	2	3.2
Exposure to outside experiences	2	10	21	15	4	3.2
Financial support from workplace	5	19	25	3	0	2.5

Source: surveys conducted with 52 instructors who had worked directly with TA projects at SAPL, Phnom Penh, June and July 1999

It should be noted that the responses of the instructors and the TAAs regarding the impact of TA on instructor’s capacity, were not entirely comparable. First, none of TAAs in the

² The instructors' views on the strengths and weaknesses of the individual TA projects on which they worked, are presented in the Appendix.

Fisheries Section (comprised of nine respondents) were available for interviews. Second, in some sections, only one TAA was available to respond, while in others only two responded. Third, four of the TAAs made their assessments in reference to all the instructors involved in curriculum development, while others referred only to the instructors that were assisted by their project. Nonetheless, the responses of the 12 TAAs were similar to the responses of the 52 instructors presented above.

On the whole, the TAAs rated the impact of technical assistance on the instructors more highly than the instructors did themselves (see Table 2.1.b. below). In particular, a higher proportion of the TAAs reported that technical assistance had enriched the instructors' *practical experience* more strongly than the instructors themselves reported. However, the TAAs seem to agree with the instructors that technical assistance had the least impact in improving *financial support* for instructors. But according to many of the TAAs, this should not be considered as a failure of technical assistance since it was not the intention of technical assistance to provide salary supplements to instructors (for more on the issue of salary supplements, see Chapter Three).

Table 2.1.b: Overall impact of technical assistance on instructors, as seen by TA advisers

	Number of Responses					Weighted Index (1 – 5)
	Very weak (1)	Weak (2)	Satisfactory (3)	Strong (4)	Very strong (5)	
Practical experience	0	1	0	7	4	4.2
Participation in curriculum development	0	0	2	7	3	4.1
Eagerness to learn	0	0	5	4	3	3.8
Exposure to outside experiences	0	1	4	4	3	3.8
Attitude to work	0	0	5	6	1	3.7
Technical capacity	0	0	7	4	1	3.5
Confidence to work	0	0	7	4	1	3.5
Willingness to work in a team	0	2	5	3	2	3.4
Financial support from workplace	1	1	5	5	0	3.2

Source: surveys conducted with 12 current and former TA advisers to SAPL, Phnom Penh, June and July 1999.

2.2. Impact of technical assistance on the section level

In assessing the impact of technical assistance on the capacity of the section, as well as the School, both the instructors and the TAAs referred not to themselves but to a third party. Thus their responses reinforce each other very well. It is interesting to see similar answers from the two groups of independent respondents.

Table 2.2.a: Overall impact of technical assistance at the section level, as seen by instructors

	Number of Responses					Weighted Index (1—5)
	Very Weak (1)	Weak (2)	Satisfactory (3)	Strong (4)	Very strong (5)	
Intra-section cooperation	0	5	16	23	6	3.6
Leadership of section heads	0	6	13	25	4	3.6
Overall instructor capacity	0	0	27	21	1	3.5
Material management	0	5	25	20	0	3.3
Personnel management	2	5	22	20	1	3.3
Exposure to outside experiences	1	13	20	14	2	3.1

Source: surveys conducted with 50 instructors working directly with TA projects at SAPL, Phnom Penh, June and July 1999.

As shown in Table 2.2.a. above, the 50 instructors who had worked directly with TA projects reported *satisfactory* or *strong* impact on their section management and leadership. As mentioned previously, this was due mainly to the assistance that certain TA projects provided directly to most of SAPL's sections.

Similar to the assessment of the impact of TA on the instructors, the responses of the TAAs concerning section management, tended to vary slightly from those of the instructors. Notably, the TAAs thought the provision of opportunities for exposure to outside experiences resulted in the greatest impact at the section level, while the instructors rated it lowest (Table 2.2.b. below).

Table 2.2.b: Overall impact of technical assistance at the section level, as seen by TA advisers

	Number of Responses					Weighted Index (1 – 5)
	Very Weak (1)	Weak (2)	Satisfactory (3)	Strong (4)	Very strong (5)	
Exposure to outside experiences	0	2	4	4	2	3.5
Overall instructor capacity	0	0	7	4	1	3.5
Leadership of section Heads	0	1	6	4	1	3.4
Personnel management	0	1	6	5	0	3.3
Intra-section cooperation	0	1	6	5	0	3.3
Material management	0	4	2	5	1	3.3

Source: surveys conducted with 12 current and former TA advisers to SAPL, Phnom Penh, June and July 1999.

2.3. Impact of technical assistance at the School level

Both the instructors and the TAAs rated the impact of TA on the School’s management and leadership as *satisfactory*, which was relatively lower than the impact on individual instructors and sections.

The answers of the 50 instructors concerning the impact of TA at the School level were more dispersed. With significant numbers in the *weak* or *very weak* categories, the responses averaged around the *satisfactory* level. About 80 percent of the respondents especially noted that the TA projects had *satisfactory* or *weak* impact on the School leadership and on transparency in financial management (Table 2.3.a.).

Table 2.3.a: Overall impact of technical assistance at the School level, as seen by instructors

	Number of Responses					Weighted Index (1–5)
	Very weak (1)	Weak (2)	Satisfactory (3)	Strong (4)	Very strong (5)	
Inter-section cooperation	1	10	17	14	3	3.2
Discipline	3	8	13	18	1	3.1
Personnel management	4	8	22	10	3	3.0
Material management	4	9	21	9	4	3.0
Leadership	3	11	18	11	1	2.9
Transparency in financial management	3	18	14	6	1	2.6

Source: surveys conducted with 50 instructors working directly with TA projects at SAPL, Phnom Penh, June and July 1999.

The TAAs appeared to share similar views with the instructors about the impact of TA at the School level. Their answers were as divided as those of the instructors (Table 2.3.b). Nonetheless, a higher proportion of the TAAs than of the instructors rated the impact on the School leadership as better than *satisfactory*. Half of the TAAs, compared with a quarter of the instructors, reported *strong* or *very strong* impact on the School’s leadership.

Ratings by both instructors and former TAAs that TA had less impact at the School level, is supported by some current TAAs. The latter revealed in separate interviews that the School’s management had not kept pace with instructor capacity development. Consequently the underdeveloped management had limited the success of TA projects, both in terms of capacity development, and in terms of strengthening the institution (see Chapter Three).

Table 2.3.b: Overall impact of technical assistance at the School level, as seen by TA advisers

	Number of Responses					Weighted Index (1–5)
	Very weak (1)	Weak (2)	Satisfactory (3)	Strong (4)	Very strong (5)	
Personnel management	1	1	5	3	2	3.3
Leadership	1	1	4	5	1	3.3
Discipline	0	1	7	4	0	3.3
Financial support	0	1	9	2	0	3.1
Material management	0	5	3	4	0	2.9
Inter-section cooperation	1	1	8	2	0	2.9
Transparency in financial management	1	4	3	3	1	2.9

Source: surveys conducted with 12 current and former TA advisers to SAPL, Phnom Penh, June and July 1999

2.4. Impact on instructors' capacity according to methods of capacity development

Capacity development was undertaken in various ways at the School site, outside the School and overseas. Our study found that quite a number of methods of capacity development were employed by the TA projects. Table 2.4 below shows the extent of each method. It also reflects the effectiveness of each by indicating the levels of capacity gained.

Most of the 50 instructors surveyed received all of the methods employed at the School. However, ratings on the effectiveness of each method varied considerably, with the higher capacity gains from (1) *learning from undertaking the work*, (2) *asking specific questions of the advisors* and (3) *doing practical work*. Not as many instructors gained much capacity from *informal group discussions*, *inter-section discussion workshops* and *short courses by outside instructors*.

In general, the TA projects appear to have provided relatively fewer opportunities for the instructors to learn from outside the School. More than half of the 50 instructors reported some capacity gains from *doing practical work*, *participating in workshops*, *short courses*, and *study tours* outside the School (Table 2.4 below).

Little capacity development seems to have taken place outside the country. At the time of the study, none of the 50 respondents had undertaken any long-term degree courses as a result of TA projects. Only four or five overseas trips had been offered to participate in workshops or short courses. However in 1999, 19 instructors went on study tours overseas, largely due to the study tours ADDA organised to Vietnam. Most rated their capacity gains from these study tours as *average* or *little*, suggesting that study tours to other countries were less effective than in-country study tours.

Despite the survey results, two of the SAPL instructors were undertaking Masters courses at the Asian Institute of Technology in Thailand, with funding from ADDA. Another instructor had completed a postgraduate course in the Netherlands, but had left for a better-paying job with an NGO. Very few instructors received scholarships to undertake postgraduate training overseas because most could not speak English well enough.

Table 2.4: Methods of capacity development and the capacity gained from them, as seen by instructors

Question: Which methods of capacity development have you received from the TA project(s)? For those methods you have not received, tick "No".

Method of Capacity Development	Number of Instructors (out of total 50)							
	No	Total	Yes					Weighted Index (1----5)
			Capacity Gained					
			Zero	Little	Ave.	Above Ave.	A lot	
		1	2	3	4	5		
<i>In Cambodia</i>								
<u>At the School</u>								
Learning from doing a lot of work	2	48	0	7	23	13	5	3.3
Asking specific questions of advisor	8	42	0	9	14	16	3	3.3
Doing practical work	9	41	0	9	17	11	4	3.2
Intra-section discussion workshops	7	43	0	6	24	11	2	3.2
Informal group discussions	8	42	0	12	20	9	1	3.0
Short courses by outside instructors	13	37	0	13	16	5	3	2.9
Inter-section discussion workshops	21	29	0	15	8	5	1	2.7
<u>Outside the School</u>								
Long-term degree courses	48	2	0	0	0	0	2	5.0
Study tours	15	35	0	8	9	11	7	3.5
Doing practical work or experiments	18	32	0	8	12	8	4	3.3
Short courses	20	30	0	7	12	7	4	3.3
Participating in workshops	15	35	0	13	10	12	0	3.0
Communications with other colleges	19	31	0	21	5	4	1	2.5
<u>Overseas</u>								
Short courses	45	5	0	0	1	2	2	4.2
Participating in workshops, conferences	46	4	0	1	2	1	0	3.0
Study tours	31	19	0	7	9	3	0	2.8
Long-term degree courses (Msc...)	50	0	0	0	0	0	0	..

Source: surveys conducted with 50 instructors working directly with TA projects at SAPL, Phnom Penh, June and July 1999.

Chapter Three

Constraints on Capacity Development ¹

Despite the fact that technical assistance has contributed significantly to the development of SAPL, many of those interviewed recognised that much more could have been achieved if certain conditions had been met. Several reasons were given for this. In most cases, the constraints were due to limitations in absorptive capacity on the School's side. However, a few problems were attributable to the donor's side, and others to both sides.

Having struggled in a difficult environment for about one and a half years, the Education Management Planner (EMP) in 1994 described his experience at SAPL as:

...rich and rewarding, frustrating beyond belief, challenging, stimulating, exciting, depressing, aggravating, and relentless. Put 'incredibly' in front of each word...

(Coghlan, cited by Poussard, 1995, p.73)

3.1. Lack of facilities

Severe lack of basic facilities was one of the major problems that limited the success of technical assistance, at least until 1998 when the Chinese-funded buildings were put into use. When SAPL reopened in 1985, the School operated with continuing shortages of electricity, water, transportation, classrooms, offices, office supplies, equipment, housing and toilets for students and staff. Such deficiencies posed major obstacles to optimising technical assistance and, to a significant degree, diverted funds to provide these basic requirements.

The earlier that technical assistance personnel worked at SAPL, the greater were the difficulties they faced with lack of infrastructure. As Mr. Coghlan put it,

...major recurring problems had nothing to do with teachers...but in finding ways of maintaining day-to-day services; a huge amount of time was spent in keeping water supplies going, in keeping generators and computers and photocopiers going, getting telephones in, and keeping them working...

Problems such as these were cited by most TAAs as major disruptions in the application

¹ This Chapter reports several problems related to the implementation of technical assistance since 1993. The more recent situation is outlined in Chapter 4 in subsections 4.3. (The issue of sustainability) and in 4.4. (The need for further external assistance).

of technical assistance. The Advisor in Education Administration (AEA) from 1995 to 1998, whose main duties were to assist the Director with institutional strengthening and formulate SAPL's Development Plan, also had to spend a great deal of his time dealing with infrastructure problems.

According to SAPL managers, lack of facilities and lack of maintenance were a result of insufficient funding. By the time this study took place, the School had secured a large amount of infrastructure, due mainly to Chinese grants and World Bank loans. Nonetheless, the School was still facing problems of insufficient electricity and water supply. As recently as late 1999, deficiencies in electricity and water supply did not allow fans, air-conditioning or toilets for both staff and expatriates. Lights were available for offices, but not for classrooms. It appeared that neither the government nor donors could provide these basic facilities. Today SAPL's facilities are more or less adequate, but funds for on-going maintenance are still too small.

3.2. Weak human resources

As mentioned in Chapter One, most of the current instructors were assigned to SAPL immediately after they graduated from local training institutions (most came from RUA and SAPL, with a few from universities in Vietnam and Russia). For a variety of reasons, the educational capacity of Cambodian institutions was weak. Also, the Vietnamese and Russian methods of instruction and curricula had to be adjusted when Cambodia began the transition to a market economy. When the Russian instructors left, RUA faced a difficult transition, resulting in a deterioration of training quality. Most of the current SAPL instructors graduated during this earlier period. Some TAAs reported that some of the instructors, especially those with Bachelor's degrees, "had a fixed mind set and their past training was technically wrong." This made it harder for the TAAs to retrain them.

This problem was exacerbated by the fact that SAPL instructors were not recruited based on the School's criteria. Instead, MAFF assigned new college and university graduates to teach at SAPL with no consideration of their qualifications or their grades. Thus teaching staff had varying levels of skills and upgrading their capacity was not easy for the TAAs, who were used to working with better trained staff in their own countries.

3.3. Poor incentives and social norms

Because employment opportunities are few in Cambodia, many people enrol in university not because they have a genuine interest in a subject, but because they hope the degree will help them to find a government job with opportunities to earn additional income "under the table". This extra income ensures that they earn enough to support themselves. Unfortunately, since the 1980s, the teaching profession has not been very popular because it offers almost no chances to earn extra income beyond the low government salary.

This negative attitude towards teaching was evident among those working at SAPL. For many it was not their choice to become instructors at SAPL. Most had been assigned to the School during the late 1980s and early 1990s. Later they were disappointed to see that friends who had graduated with them were growing rich in other jobs. The Director of SAPL recognised this problem and reported that:

The staff always want to move to other posts in both the government and non-government sectors.

The problem of poor financial incentives was really central to the low commitment of staff

to SAPL and their low motivation to participate in the development process – circumstances which made it difficult for the TAAs to implement their projects. This was especially true in the early years of technical assistance when no salary supplements were offered. This problem is well reflected in the following quote from one of the former TAAs.

The constant struggle was finding enough staff who were able to stay at the College long enough to do the work required... all staff had other jobs... so often they did not come for days...

In the past few years, agreement by most donors to pay salary supplements has increased the motivation and participation of instructors. But even this solution has caused problems. In 1997 and early 1998, variation in salary supplements and inequitable distribution of supplements caused further problems at SAPL.

3.4. Loss of trained staff to other employers

Largely due to the low salaries, capable staff have tended to leave the School, even when donors offer salary supplements. At least 20 full-time instructors, whose capacity was developed directly or indirectly by TA projects, have left the School since 1994. Most of these instructors now work in the non-governmental sector where salaries are much higher. Many TAAs and SAPL staff have said that “most of the better-trained leave the School”. While loss of 20 staff is not a large number, and they are not a net loss to Cambodia, the loss to SAPL is significant because these were among the best-qualified staff. Also, it was not the intention of donors’ capacity-building efforts to enable SAPL staff to move on to other jobs.

Because capable staff kept moving on, providing training was not very effective. One of the former TAAs highlighted this by saying that

...the problems were the political dimensions of deciding who was going to be trained... there seemed to be a very clear sense that the main purpose of getting trained was to get a qualification to gain other employment, or to gain a trip out of Cambodia...there was little sense of training leading to a teaching job at the college.

Both the School and donors recognised that loss of capable staff was a major ongoing problem. But there was not much they could do without the Government improving incentives. Based on the limits of donors’ funding and the desire to maintain equity between staff, SAPL made a policy limiting a donor’s supplement to \$85 per month for each active instructor. Even with the salary supplement, the salary that SAPL instructors earn is so small that capable staff continue to leave the School for better-paying jobs and this situation is likely to continue for some time.

To combat the problem of continually losing staff, the School has adopted a policy of training as many people as possible, rather than a few staff very well. Whenever possible, the School requires that two instructors receive training in the same subject in case one leaves. One of the current TAAs revealed that the School had become reluctant to send its instructors for overseas training because those with Master’s degrees were even more likely to leave for better-paying jobs outside the School. At the same time it has been recognised that restricting scholarship opportunities would not be beneficial for Cambodia as a whole. It would be a waste of Cambodian talent if the School did not encourage capable instructors to apply for scholarships such as the Australian Development Scholarships of AusAID, which are provided only to government staff and require government approval.

3.5. Lack of government support

Both financial and institutional support from government have been far from adequate. This fact was central to almost all problems at SAPL. It was the reason why external assistance came in, but it has also reduced the success of technical assistance.

The poor budget from government has meant inadequate facilities and lack of other prerequisites necessary for technical assistance to achieve its goals. The poor budget required donors to divert funds from technical assistance to both salary supplementation and the provision of basic facilities. This in turn caused many additional problems which the School and donors had to sort out. Although it took time for some TA donors to understand the necessity for topping up the salaries of staff, a few donors still resisted the idea. At the time of the study, at least one of SAPL's donors did not want to contribute to instructor salary supplementation, and one of the TA chiefs stated that "the School was more interested in funding than technical assistance".

The management of SAPL explained that coordinating a sudden influx of technical assistance projects was a new and challenging experience for them. Difficulties in managing a diverse group of donors were more challenging for SAPL's management because there was no donor coordination unit at the ministry level nor a government code of conduct concerning development assistance. SAPL management appears to have dealt with problems on a case-by-case basis, with little help from MAFF.

3.6. Weak management

Some of the TAAs interviewed found management at SAPL unsupportive of the capacity-building process and they attributed the under-achievement of technical assistance to SAPL's weak management. One of the current TAAs said that "planning skills at all levels were poor". He also noted that most of the TAs concentrated on developing instructors' capacity, with little emphasis on training SAPL's management. SAPL managers countered this criticism by stating that it was very hard for the School to plan when it had almost no budget, and when it was dependent on a range of donors who themselves planned independently.

Senior TAAs providing advice on management issues said that they were able to induce little change in SAPL's management system and there was a need to plan for its development. As mentioned in subsection 2.3 above, the overall impact of TA on the School's management and leadership was rated lower than on individual instructors and sections.

According to some of the TAAs and instructors interviewed, the School did not do enough delegating. Power was largely concentrated at the highest level, and responsibilities were unclear. At the lower level, faculty had little power. As the SAPL managers highlighted, "they were young in both age and experience". Some TAAs working directly to assist the sections complained of lack of support from the people who were supposed to be their counterparts. Many reported that management failures seemed to have been caused by poor administrative support and weak discipline of staff. However, given the state of funding from government, failures were probably inevitable. The management of SAPL stated that:

...in the situation in which no one could rely on one job for survival, the School could not impose very strict discipline on the staff. Otherwise, it would be the only government entity that does this.

The staff and TAAs also claimed that the handling of the salary supplementation issue, which turned out to be very disruptive to the implementation of TA, was an indication of

SAPL's weak management. While it is not clear who was to blame for the problems, in 1997/98 resentments over salary supplementation became so bad that they severely disrupted development processes in general, and the training of counterparts in particular. One of the former TAAs recalled that instructors spent a great deal of time talking about their resentments over the imposed supplementation policy and they had little energy to do anything else. The AEA pointed out that the failure of the TAAs to recognise the constraints facing SAPL management and to unitedly support them during this difficult period did not encourage strong management at the School.

3.7. Language and cultural problems

Language and cultural barriers were another constraint to achieving maximum capacity development. Misunderstandings could easily arise from language differences. Very few TAAs could speak Khmer and few SAPL staff could speak much English. Therefore, communications had to go through translators who were very scarce in number. This problem worsened when, as mentioned earlier, staff with a good command of English left to take better-paying jobs.

The insufficient English of teaching staff also limited their chances of receiving training conducted in English, whether overseas or local. To date, only a handful of instructors have been able to undertake studies overseas. A great deal of assistance has been provided to improve the English skills of staff so that they can utilise teaching resources in English and take part in overseas training, but with limited success.

Differences in culture and education also appear to have interfered with the work of the TAAs. It usually took some time for the TAAs to begin to understand the complex environment at SAPL and the complexities of the Cambodian government system. A former senior TA advisor, who worked at SAPL for 18 months, reported that

... the Director and staff worked under a range of management and coordination models, all of which were quite different from the ones I was used to. At the same time, the director was clear that he wanted to move to something like an Australian or American system. But he and staff were used to French, Russian, and Vietnamese systems – all of which were very authoritarian.

By the time this advisor adapted to the system, another one had replaced him and reported similar problems again,

A major difficulty in managing my role was convincing the Director during the first year or so that I needed to understand the total environment that he and SAPL were operating in if I was to make worthwhile suggestions on how to implement changes in that environment... It took a considerable period before adequate trust was developed to allow the Advisor's role to be of most value.

3.8. Differing nature of TA projects and conflicts between donors

As presented in Chapter One, SAPL has received many technical assistance projects from different donors. While all the TA projects have had capacity development of the School and staff as a common goal, they varied considerably in terms of approach and transparency.

Transparency and the attitude of donors

The senior managers of SAPL reported that, with the exception of two projects (three years of upcoming assistance from AIT and PAFAARC II), they did not know the total budget of any completed or current project. Even more surprising, more than half of the 12 former and current expatriate advisors who were interviewed stated that they also did not know the total budget of their respective projects. In retrospect, senior managers at SAPL recognised that it would have led to greater success in implementing and monitoring projects if project budgets had been disclosed to the School and the time frame and expected output of projects had been set out clearly.

As for control over projects, most of the TAAs interviewed said it was shared. However, a few TAAs and SAPL's management revealed that donors were in greater control of projects. All agreed that donors always managed the funds. Only funds for instructor allowances were provided through SAPL's accounting system. The rest of the funds were managed and disbursed completely by the donors, with little information provided to the School. As the AEA put it,

The Director and I sought to have other donors be as open as possible with SAPL as to how their funds were managed. Although donors wanted complete transparency from SAPL, they didn't seem to see the mutual need to keep the Director aware of their financial dealings.

While other donors agreed to spend a specified amount of funds on salary supplementation, GTZ, which had a small proportion of its total technical assistance budget in a forestry project at SAPL, did not do the same. The GTZ advisor gave two reasons for this. First, it was not the German government's policy to include salary supplementation in a technical assistance package. Second, SAPL's policy of requiring donors to contribute to salary supplementation was not recognised by MAFF, GTZ's counterpart agency.

Conflicts between donors

Conflict between donors was another problem attributed to the donors. This also interfered with the development process.

In 1994, according to the management of SAPL, the Comité Catholique contre la Faim et pour le Développement (CCFD) and LAM, who both received funding from the same donor in France, had strong disagreements over procedures for providing assistance to SAPL. As a result, CCFD's technical assistance to SAPL was terminated.

In 1997 and 1998, CAAEP, which supported two sections of SAPL, did not work well with the Australian Catholic Relief (ACR)/Caritas Australia-funded institutional strengthening programme. The latter provided the Advisor to the Director of SAPL and the Advisor for overall curriculum development. The conflicts occurred primarily because the CAAEP advisors worked with two of SAPL's 10 sections and the ACR-funded Advisor in Educational Administration worked directly with the Director of SAPL. Based on in-depth interviews with the parties involved in the conflicts, including SAPL, contributing factors to the conflicts included:

Disagreements over the policy on salary supplementation

To deal with the problem that donors provided only a fraction of staff with varying supplements, the AEA proposed an "Activities Allowance Scheme". After consultation with donors (including CAAEP) and their agreement at a Donors Meeting, the policy was adopted by SAPL. The scheme required all donors to contribute their supplements to a common pool. The School would then redistribute the money to all the staff based on the activities they performed. This meant that the 20 instructors designated to work closely with CAAEP would

receive less than the \$120 CAAEP proposed to pay them.

The CAAEP advisors did not endorse the pooled supplements because they wanted their 20 instructors to receive sufficient money to ensure that they would work hard enough on the project to yield results. As one of the CAAEP advisors put it, “our objective was not to make everyone happy, but to see results”. Thus, although CAAEP initially agreed to implement the scheme and support it for nine months, CAAEP wanted to change. After four months of negotiations which failed to convince CAAEP to agree to the common pool system, SAPL had no choice but to let CAAEP implement its plan as originally designed because it was the largest donor.

Different ideology and beliefs

The AEA wanted to have all the power retained by the Director, but the CAAEP advisors said they wanted to empower the sections by decentralising the power. In addition, one of the CAAEP advisors believed that it was not appropriate for bilateral projects to be coordinated by an NGO project, which he thought was weaker than the bilateral ones. Because he believed that the Director’s decisions were made primarily by the coordinating donor, he did not strictly obey them. However, the AEA reported that "new donors tended to tell the School what to do rather than help the School to achieve its objectives". The SAPL senior managers affirmed that all decisions were made by SAPL management and that the AEA, in order to achieve a sustainable system, did not interfere with management’s decision-making.

Chapter Four

Management Challenges and Strategies

All the problems mentioned above have resulted in great challenges for the management of SAPL. Due to its poor resources, both in terms of human and financial capacity, the School has had to rely heavily on foreign assistance. Donors have not only provided training and funding, they have also coordinated other donors. The current study revealed that unless the School develops the capacity itself to coordinate donors and guide them towards SAPL's goals, the School's integrity and sustainability will continue to be in doubt. Some of the TAAs expressed this concern as follows:

We consider that one of the greatest challenges facing Prek Leap is to maintain its institutional integrity in a financial environment where much of the funding comes from external agencies. He who pays the piper calls the tune, and this can lead to situations where one wonders who it is that really runs the College.

Russell *et al* (1999).

4.1. The issue of coordination

The following quote from the former Education Management Planner highlights the issue of coordination at SAPL when there were many foreign donors.

Probably the largest difficulties were not inside Cambodia at all, but were imposed by foreign time frames, foreign policy imperatives, foreign decisions about how money was to be spent and when, foreign decisions about who was to run programs...these were a source of great difficulty, and often local people seemed to find it hard to understand these constraints.

SAPL and donors appear to have recognised that different donors had different policies and objectives, and therefore there was a need for coordination. A Development Plan was produced in 1995, after consultation between ACR and UQGC and between SAPL and MAFF. In 1998, this plan was revised and updated by the advisor to the Director. The Plan was used as the model when communicating with donors and prospective donors. However, there were still attempts to ignore it. The former Advisor in Educational Administration (AEA) reported that:

There was a tendency for some donors to not fully comprehend the requirements of the Development Plan and therefore to attempt to deviate from it at times. When this occurred, it was handy for the Director to be able to refer such a donor to the Plan.

Still, coordination of donors was no easy task for SAPL managers for the following reasons. First, the managers of SAPL acknowledged that dealing with an influx of many donors was a new experience for everyone at the School. The resulting need for skills in negotiation, cross-cultural communication and English added significantly to the challenges facing the School. Second, there was neither a donor coordination unit nor a coordination policy at MAFF or in the government itself that the School could consult in negotiating with donors. Third, most of the major TA projects at SAPL, (i.e. those of CAAEP, AIT, PAFAARC, FAO, and GTZ) were small components of larger ones provided to other departments in MAFF. This made it less possible for the components at SAPL to follow the School's guidelines. Finally, the School faced a critical dilemma: either to reject donors at a time when the School desperately needed their funding, or to accept their assistance even though their approaches or policies were interfering with the creation of a coherent system in the School.

To help resolve this problem, SAPL requested that an expatriate advisor be appointed to assist the Director in coordinating the diverse group of donors. From 1993 to 1998, this position was held for two consecutive periods by Australians, and funded by ACR/Caritas Australia, with AusAID and UNDP support. The terms of reference for the second period of funding for this position included:

- *to provide technical support and advice to the Director for the institutional strengthening of the School and development of its Development Plan;*
- *to assist with the development of improved curricula in line with the requirements of the SAPL Development Plan (1995);*
- *to assist the Director to manage the various forms of financial and technical support provided by a diverse group of donors; and*
- *to liaise with donors to encourage maximum cooperation and coordination between all donors to assist the Director to manage SAPL's development process.*

In practice, the AEA faced difficulties both in empowering the Director to be more self-directed and in convincing other donors that decisions were made by the Director, not by the AEA. He wrote:

A major consideration in management was to allow the Director to manage his School. All advice was given in the sense that he could decide whether to implement it, adapt it or reject it...

Coordination of the six other donor groups operating at SAPL during the project was a considerable on-going problem ... and was a major factor for implementing my role as advisor to the Director, with its implied coordination role for the other foreign language-speaking donors.

Some TAAs disagreed with having their work coordinated by another donor. They believed that the School's senior managers should assume this role. One of the former TAAs complained that the AEA wanted to control everything. This concern was reflected in the following complaint by the AEA:

It was difficult, at times, to convince other donors that I had a good understanding of the Director's feelings and that I could represent them in an unbiased fashion.

However, in recognition of its communications problems and the need for credibility with various donors, the School's management believed it needed (and still needs) an expatriate to coordinate the donors. They stated that expatriates are more credible to foreign donors and can explain things better in English.

Interviews with the section heads at SAPL indicated that they believed that the presence of the AEA reduced management's capacity to make decisions at SAPL. Some junior managers noted that when the AEA was appointed, decision-making and policy formulation were based on consultations with the AEA. When these decisions and policies were introduced, implementation did not go smoothly because no one, including the junior managers, was well informed about new policies and plans. They also remarked that after the AEA left, junior managers were involved in policy discussions and formulation, and thus implementation was smoother. However, one of SAPL's senior managers argued that during the time when the AEA was in place, discussions focused primarily on negotiations with donors, which he believed required no participation from junior managers. After the AEA left, junior managers were included in policy discussions and formulation because these concerned operations of the School.

Many of the senior people interviewed suggested that it was very hard to coordinate a diverse group of small donors and conflicts were almost inevitable. To avoid coordination problems in future, they recommended that SAPL work with just one big donor. However, while he agreed with this idea, one of SAPL's senior managers calculated that the total amount of assistance required for SAPL would be too much for a single donor to fund. Speaking in Khmer he added, "*Sok chet pibak chea cheang ot*", which means that putting up with difficulties in coordination was better than having nothing.

4.2. The issue of coherent systems: coordinating the salary supplementation system

It has been well recognised that if the development of SAPL is to be sustained, all activities aimed at developing the School must contribute to creating a coherent system. Thus, one of the greatest challenges for SAPL will be determining how to create a coherent system in a new and complex environment.

In 1995, in anticipation of potential problems arising from diverse donor practices, ACR assisted MAFF and SAPL to write a Development Plan that would facilitate the coordination of a number of donors. As a result, there was almost no duplication of work, although there were deficiencies in the aid provided to certain sections of SAPL.

Perhaps the only situation where the School was unsuccessful in pulling all donors together was over the question of salary supplementation. It seems that the problem of salary supplementation was underestimated and it turned out to be a "big headache" for all stakeholders. This problem was particularly disruptive of development processes between 1996 to 1998.

First, not every donor was willing to budget for salary supplementation, although they were convinced to do so by the AEA and SAPL management. Second, each donor wanted to pay only for the few staff who were assigned to work with them. Over the previous ten years, the total number of staff at SAPL had increased dramatically to a total of nearly 200. There was also a problem deciding which staff would get the supplements. Third, different donors offered different rates for supplements, which created an equity problem that the management of SAPL and the AEA then had to resolve. One of the former TAAs said that the Director of

SAPL, who was inexperienced in dealing with the issue, "was in the middle trying to please everyone". The Director conceded that:

there were two contradictions: those who were provided the supplements always wanted to have these as adequate as possible, but those who were not provided [with supplements] would sooner or later be jealous.

As SAPL management was concerned about both sides of the issue, they adopted a policy of trying to be fair to everyone. This policy required all of the contributing donors to put their supplements into a common fund, called the "Activities Allowances Scheme". After subtracting 15 percent as a reserve for the future, the total funds in the Scheme were redistributed to every staff member who was involved in teaching the revised curriculum, and the amount each received was based on his or her activities at SAPL. The maximum supplement was set at US \$85 per person, per month.

Certain donors were reluctant to pool the funds they had set aside for the staff working on their projects. There was also a general concern that if the supplements were too small, they would not be effective in winning the commitment necessary to achieve project objectives. CAAEP did not agree with the idea at all and insisted, as it had originally planned, on paying each of its 20 staff a supplement of US \$120 per month. As mentioned in Chapter Three, this resulted in conflicts.

Of course the instructors that had been designated to work for certain donors at a higher supplement were not at all pleased to have their supplement reduced. As a result, tension between staff and management at SAPL increased. At one point, the instructors went on strike for a few weeks to protest a range of issues, including that of salary supplements.

Some of the former and current TAAs interviewed said that "*the common pool system was not clearly explained before, but now it is OK*". However, when asked whether the new system had solved problems, one of the current TAAs replied "*I don't know if it is a solution or not*".

The senior management of SAPL suggested that conflicts, such as the one over salary supplementation, had helped improve management of the School. As a result of efforts to resolve the supplementation issue, management has become more successful in coping with other problems by enforcing existing policies and making new ones. Our study also found that instructors were ultimately pleased with the system when their respective donor-funded projects ended, and the common supplement pool enabled them to continue receiving a salary supplement.

With no one currently occupying the AEA's position, the School has relaxed the common pool system and allowed donors to operate independently. At present, each donor pays 15 percent of its salary budget to supplement the salaries of administrators, and another 15 percent to provide supplements for those sections at SAPL that do not receive donor support. Donors are not required to put their salary budget into one common pool, but they are instructed to limit the supplements they provide to \$85 per month. The School also hopes to receive funding in future for those few sections that presently do not receive any external assistance. When this occurs, there will be no longer be a requirement for donors to pay the 15 per cent contribution towards supplements all sections.

4.3. The issue of sustainability

At SAPL, the term "sustainability" was specially understood to mean two things – having competent instructors who could teach relevant curricula and having adequate, ongoing funding. Thus far, technical assistance projects at SAPL have worked towards both of these goals. Unfortunately, little success has been achieved in reaching either.

When asked whether donors had addressed the issue of sustainability, the Education Management Planner (1993-94) wrote:

...especially towards the end of my time the word 'sustainability' became very fashionable, but very few people seemed to have good ideas as to how it might work...

His successor (1995-98) also stated that:

All paid lip service to sustainability, but in practice this seemed to be forgotten in order to meet short term goals.

The idea that technical assistance should develop the capacity to replace itself was not entirely applicable at SAPL. In order for counterparts to replicate the work of expatriate technical advisors, funding levels would have to be much higher. In the past few years, certain donors such as AIT, AusAID, PAFAARC II and LAM have provided assistance to enable SAPL to develop agricultural production units, but at the time of this study, returns from these investments were far too small to cover overall operational costs.

Both SAPL management and donors reported that they worked to achieve sustainability. On their side, donors listed the following achievements:

providing instructors with technical knowledge and practical skills which would remain after completion of projects;

offering English language training to enable instructors to pursue further studies overseas or access study materials and references in English;

developing and investing in agricultural production units that would contribute to the financial sustainability of the School; and,

developing instructors' capacities to run short courses that would generate income for the School.

Many donors suggested that students begin paying fees so that the School would have more income. Having discussed several possible sources of income, a long-time technical advisor asserted that *"the School can be sustainable if it wants to"*. The School itself has always been concerned about sustainability, especially financial sustainability. Now that the capacities of individual instructors, sections and the School have improved considerably, the School is seeking financial sustainability through the following means:

encouraging direct external investment in agricultural production units which can generate income;

improving the efficiency of SAPL agricultural production units by making them quasi-autonomous (from 1999 on, leases for farms were auctioned off to School staff. In future, to improve efficiency, outsiders will also be allowed to bid for leases);

earning revenue through the provision of short courses;

exploring the possibility of running private courses; and

preparing to implement the Government's new regulation that requires students to pay fees.

A major constraint for the last two strategies is the currently-limited market for agricultural technicians. So far, the private sector has not grown large enough to employ

enough SAPL graduates. According to the Director of SAPL, the School keeps guessing about the demand for graduates each year. Unless employment opportunities for SAPL graduates increase (which is not very likely given the level of investment in the agricultural sector), the prospects for generating fees from private courses and formal courses will not be great.

This leads to a challenging question. If the prospects for employing graduates continue to be dim, should the School maximise the use of its limited resources by reducing its services and training fewer students, but training them very well? Or should the current levels of enrolment be maintained because there appears to be a great need for agricultural graduates who can introduce appropriate agricultural technology? If it is agreed that Cambodia needs agricultural technicians, but farmers cannot afford to hire them, is it the responsibility of the government to provide appropriate employment for agricultural graduates?

4.4. The need for further external assistance

Donors have played a major role in advancing SAPL along the road to development. This includes the provision of new curricula that are more market oriented and improvements in the capacities of instructors, sections and the School, as mentioned in Chapter Two.

Table 4.1. Requirements for further improvements

	Number of Responses				Weighted Index (1----4)
	None 1	Little 2	Some 3	A lot 4	
<u>At the individual level</u>					
Technical capacity	0	3	12	52	3.7
Practical experience	0	2	15	49	3.7
Exposure to outside experiences	0	6	11	48	3.6
Participation in curriculum development	0	5	19	42	3.6
Confidence to work	1	4	18	40	3.5
Teaching skills	0	7	22	37	3.5
<u>At the section level</u>					
Exposure to outside experiences	0	9	15	38	3.5
Personnel management	0	4	32	28	3.4
Overall instructor capacity	0	6	24	35	3.4
Intra-section cooperation	2	5	27	31	3.3
Leadership of section heads	1	9	23	30	3.3
Material management	2	5	30	27	3.3
<u>At the School level</u>					
Transparency in financial management	1	7	13	38	3.5
Personnel management	1	7	21	33	3.4
Leadership	2	7	13	37	3.4
Inter-section cooperation	0	8	20	33	3.4
Material management	0	9	20	32	3.4
Discipline	1	11	16	30	3.3

Source: surveys conducted with 67 SAPL instructors, Phnom Penh, June and July 1999

However, despite these accomplishments, the management of SAPL believes that the School will continue to need technical assistance for at least another three years before it will be able to sustain itself. In addition, in order to be able to keep up with technological developments, the School will need technical assistance for some years to come.

The current study found that SAPL still requires external assistance to achieve long-term sustainability. If government allowed the School to charge fees, the problem of under-funding could be alleviated. However, this depends on whether the job prospects for graduates are

good enough to attract fee-paying students. Strengthening human capacity at all levels at SAPL remains an ongoing challenge.

Table 4.1. above summarises the expressed need for further improvements in the overall capacity of SAPL. Despite the positive impact of TA projects discussed in Chapter Two, an overwhelming majority of SAPL's instructors felt that they still needed considerable help to improve their technical knowledge, their practical skills, and to provide them with exposure to outside experiences. Similarly, most of the instructors believed that the section as well as the School management needed *some* or *a lot* of improvement in many aspects. The responses of 11 TAAs and 67 instructors to the same questions reflect a uniform call for improvements.

Table 4.2. below summarises instructors' need for each method of capacity development. At the School site, *short courses by outside instructors*, *doing practical work*, and *asking specific questions of advisors* were viewed as most needed by over 80 percent of the instructors. *Long-term degree courses* and *study tours* in Cambodia, as well as overseas, were also rated highly by most instructors.

	Number of Responses					Weighted Index (1-----5)
	None 1	Little 2	Ave. 3	Above Ave. 4	A lot 5	
<i>In Cambodia</i>						
<u>At the School</u>						
Short courses by outside instructors	1	1	3	12	34	4.5
Doing practical work	1	1	6	11	36	4.5
Asking specific questions of advisor	0	1	7	18	27	4.3
Learning from doing a lot of work	1	1	11	18	23	4.1
Intra-section discussion workshops	1	3	14	17	20	3.9
Informal group discussions	3	1	19	18	12	3.7
Inter-section discussion workshops	2	8	17	18	10	3.5
<u>Outside the School</u>						
Study tours	2	1	4	10	38	4.5
Doing practical work or experiments	2	1	7	10	36	4.4
Long-term degree courses	1	4	6	6	37	4.4
Short-courses	1	2	9	13	31	4.3
Participating in workshops	2	2	8	12	32	4.3
Communications with other colleges	2	4	14	21	14	3.7
<u>Overseas</u>						
Study tours	2	0	4	11	36	4.5
Short courses	2	1	2	10	37	4.5
Long-term degree courses (MSc etc.)	3	0	3	9	37	4.5
Participating in workshops, conferences.	3	0	3	16	29	4.3

Source: surveys conducted with 55 SAPL instructors, Phnom Penh, June and July 1999

Chapter Five

Conclusions

On the whole, technical assistance has resulted in remarkable improvements at SAPL. As one of the senior managers at SAPL put it, "without technical assistance, there is no way the School would have managed to come up to the current level of capacity". The major achievements attributable to SAPL's technical assistance projects include:

- Strengthened capacity of instructors and sections (including foreign language training—English and French—and overseas postgraduate training). This is an intangible achievement of TA projects, and therefore not precisely measurable.
- A more market-oriented curriculum. A concerted effort has been put into developing the curriculum. Although the present curriculum is still in the process of development and refinement, it was judged to be much better than the old one.
- Comprehensive course notes were produced for distribution to students. This was a major achievement of the TA projects, and especially of the project-funded allowances that compensated instructors' while they worked on developing the notes. Although these will need to be updated from time to time, SAPL managers believe that these are critical prerequisites for further improvement of the School.
- Expanded and strengthened agricultural production operations. As part of the technical assistance projects of CAAEP, AIT, PAFAARC and LAM, a number of agricultural production operations have been established or strengthened. These include a fish farm, a piggery, a poultry operation, a mushroom farm, a vegetable farm, a fruit orchard and commercial flower production. These provide not only practical experience to the instructors and students at SAPL, but also badly-needed income for the School.
- Improved management. This was a valuable outcome of technical assistance provided to SAPL. Although the management capacity of SAPL is still considered under-developed, improvements, due mainly to ACR's Institutional Strengthening Programme, have been reported by all respondents.

On the negative side, our study revealed that greater accomplishments could have been achieved at SAPL, given the large amounts of technical assistance provided. This under-achievement was considered the fault of both SAPL and of the donors. The problems associated with the School or the government side were perhaps inevitable, given the realities of poor public funding. However, the problems attributed to the donor side could have been resolved more satisfactorily if all the donors had been more cooperative.

It was unanimously agreed that implementation of technical assistance would have been smoother and more successful if certain pre-requisites had been met. These include the right incentives and effective management mechanisms. Instead, technical assistance projects had to build on very low levels of capacity, in circumstances that provided few incentives to improve. These led to other negative consequences such as loss of capacity from the School,

loose adherence to discipline, and motivation which was driven only by desire for money. All combined to make the tasks of management extremely burdensome.

On the donors' side, our study found that the development of SAPL might have been greater had all of the donors been more transparent, coordinated and cooperative in creating a coherent system. It was revealed that the School could not fully play the role of coordinating the donors due to its limited expertise and experience in this role. However, for smooth development in future, it is imperative that the School increasingly assume this coordinating role.

Currently SAPL is well endowed with newly-established buildings, laboratories and agricultural production operations, all with the necessary water and electrical systems installed. While the problem of lack of physical infrastructure has been overcome, SAPL continues to face the issue of sustainability. The chronic problem of lack of reliable funding may be partly overcome by the government's new policy to allow tertiary institutions to charge fees. However, SAPL's long-term success in generating sufficient income to cover costs will depend on the following two conditions.

First, there has to be a sufficient demand for SAPL's courses, especially in an environment in which there are numerous private university courses available. Eventually, the demand for SAPL's courses will be determined by the employment prospects of its graduates. This raises the issue of how to determine how many agriculture graduates Cambodia will require in future, and in what types of agriculture? Market demand for agricultural graduates is likely to remain weak in the medium term since agricultural producers are not ready to employ them. If it is recognised that Cambodia needs a large number of agricultural technicians in order to develop the agricultural sector, then the government should consider a policy of employing more agriculture graduates.

Second, the long-term success of income generation for SAPL will be directly affected by the quality of its services. This raises the issue of internal efficiency at SAPL. In a competitive environment, SAPL needs to meet acceptable standards of training in order for its graduates to be employed. Our study indicates a great need for further improvements in the quality of human resources and for concrete actions to retain capable staff. While adequate government support is not in sight in the medium term, external assistance continues to be the sole means of further capacity development at SAPL. If the problems of a poor incentive system, incompetent management and lack of coordination are not addressed adequately, then further external assistance will have limited success. In addition, as a result of Cambodia's new competitive environment, the capacity already developed will continue to be lost to other employers.

Appendix

I. The Current Levels of Capacity at SAPL

Tables A.1.a. and A.1.b. below summarise ratings of various aspects of the capacity of individual instructors¹. Overall, around 80 percent of the instructors surveyed rated different aspects of their capacity as either *strong* or *average*. The rest rated their capacity as *very strong* or *weak*, although of these, most reported that they were very eager to learn and had a strong commitment to work.

Responses concerning exposure to outside experiences were the most dispersed, reflecting the different opportunities provided by different TA projects. Quite exceptionally, about two thirds of the 67 instructors surveyed reported that they currently had *very strong* or *strong* participation in curriculum development, which is a major ongoing task at SAPL.

Overall, nearly half of both instructors and current TAAs rated capacity at the individual and section levels as *very strong* or *strong*. However, only one third of the instructors and one of the six current TAAs said that the capacity at the School level was *very strong* or *strong*. Most responses were in the *average* category or below.

Both the instructors themselves and current TAAs reported that most instructors were very eager to learn, willing to work in teams and had positive attitudes to work, despite poor financial support from their employer. However, it appears that the instructors had relatively less confidence in their own ability to work.

¹ It should be noted that instructors' and TAAs' assessments of current instructors and sections (in Tables 2 and 3) are not strictly comparable. This is because each of the six current TAAs was asked to assess only the instructors in the section where he/she worked. In fact, the six current TAAs assessed only five sections consisting of some 35 instructors, while a total of 67 instructors from nine sections participated in the survey. However, this does not apply to the assessments of capacity at the School level. For that, both the instructors and the current TAAs provided their views about the same third party. Moreover, the assessments of the results of TA, and of the need for further improvements, which were presented earlier, were made by 12 TAAs who covered seven sections, and by the senior management of SAPL.

Table A.1.a. Current levels of capacity of instructors, sections and the School

	Number of Responses					Weighted Index (1----5)
	Very weak 1	Weak 2	Satisfactory 3	Strong 4	Very strong 5	
At the individual level						
Eagerness to learn	0	2	6	20	39	4.5
Participation in curriculum development	0	3	20	28	14	3.8
Confidence to work	0	2	23	35	6	3.7
Willingness to work in a team	1	9	23	23	11	3.5
Teaching skills	0	8	23	31	5	3.5
Technical capacity	1	9	28	25	4	3.3
Practical experience	0	12	27	25	3	3.3
Exposure to outside experiences	10	8	14	25	10	3.3
Financial support from the workplace	18	27	18	4	0	2.1
At the section level						
Intra-section cooperation	1	5	12	34	15	3.9
Leadership of section heads	0	2	17	34	11	3.8
Overall instructor capacity	0	3	33	26	2	3.4
Personnel management	3	4	30	23	7	3.4
Material management	2	6	26	28	4	3.4
Exposure to outside experiences	9	13	26	15	3	2.8
Financial support to Sections	24	21	13	8	0	2.1
At the School level						
Inter-section cooperation	7	17	14	19	7	3.0
Discipline	9	10	19	22	4	3.0
Personnel management	12	10	20	19	4	2.9
Financial support	5	17	19	14	3	2.9
Leadership	10	15	18	17	3	2.8
Material management	10	13	24	17	1	2.8
Transparency in financial management.	14	20	16	7	4	2.5

Source: survey conducted with 67 current instructors at SAPL, June and July 1999

Table A.1.b. Current levels of capacity of instructors, sections and the School

	Number of Responses					Weighted Index (1----5)
	Very weak 1	Weak 2	Satisfactory 3	Strong 4	Very strong 5	
At the individual level						
Participation in curriculum development	0	0	2	2	2	4.0
Exposure to outside experiences	0	1	1	1	3	4.0
Eagerness to learn	0	1	1	2	2	3.8
Motivation to work	0	1	2	2	1	3.5
Confidence to work	0	1	4	0	1	3.2
Technical capacity	0	2	2	2	0	3.0
Willingness to work in a team	0	3	1	1	1	3.0
Practical experience	1	2	2	1	0	2.5
Financial support from the workplace	1	2	3	0	0	2.3
At the section level						
Ability to work	0	0	2	3	1	3.8
Material management	0	0	2	4	0	3.7
Exposure to outside experiences	0	1	2	1	2	3.7
Financial support	0	0	4	2	0	3.3
Personnel management	1	0	3	2	0	3.0
Intra-section cooperation	0	1	5	0	0	2.8
Leadership	1	1	2	2	0	2.8
At the School level						
Discipline	0	0	5	1	0	3.2
Leadership	0	0	6	0	0	3.0
Personnel management	0	1	5	0	0	2.8
Financial support	0	1	5	0	0	2.8
Inter-section cooperation	0	2	4	0	0	2.7
Transparency in financial management	2	0	2	2	0	2.7
Material management	2	1	3	0	0	2.2

Source: surveys conducted with 6 current TA advisors at SAPL, June and July 1999

II. Technical Assistance Projects and their Assessments by Instructors

2.1. Vietnamese Assistance from 1985 to 1989

Responding to the great loss of manpower in Cambodia during the Khmer Rouge period, Vietnam provided a coordinator and short-term instructors from 1985 until 1989. The Vietnamese coordinator assisted the Director in managing and supervision, and in overseeing the cooperation between Vietnamese agricultural universities/colleges and SAPL instructors. Vietnamese instructors set up the curriculum and taught students (in one-year and two-year Diploma courses) and left their teaching materials behind. About 90 percent of teaching was done by Vietnamese instructors through interpreters and about 10 percent by staff from various departments under MAFF. In the late 1980s, a number of Vietnamese instructors were gradually replaced by staff from the Department of Agricultural Technology.

2.2. Australian Catholic Relief (ACR) / latterly Caritas Australia

From August 1993 until May 1995, ACR funded the position of the Advisor in Education with financial support from AusAID. For the positions of the Management/Planner and the Advisor in Curriculum Development (ACD), ACR obtained support from July 1995 until December 1996 from the United Nations Development Programme (UNDP). With this assistance, SAPL

prepared its Development Plan, which was approved by MAFF in 1995 and revised in 1998. A curriculum for the new Diploma Level II programme (a three-year course) was also developed.

The AEA assisted the SAPL Director in facilitating and coordinating the resource flows from all the donors. In May 1996, the Activities Allowance Pool was established and all donors were required to put all their salary supplements into this common pool. This was to be overseen by SAPL management who would provide donors with monthly reports accounting for the funds. The purpose of the common pool was to keep all instructors motivated and involved by giving them a supplement of up to \$85 per month. The maximum supplement was paid to those involved in preparing course outlines, student course notes, and the teaching plans required by the management of SAPL.

2.3. Lycée Agricole Le Mans (LAM)

LAM has been supporting SAPL since 1987. In the earlier years it built and equipped two laboratories for chemistry and biology. After that, LAM provided short-term technical assistance for instructors in basic sciences and vegetable production, both in Cambodia and in France. Furthermore, it provided salary supplements for two instructors in vegetable production and some equipment for the piggery. Since February 1996, SAPL has widened the provision of salary supplements to cover the six basic science and mathematics instructors and the two French-language instructors.

The costs of operating the vegetable production unit, salaries for two full-time Cambodian advisors and supplements for two horticulture instructors were provided by Agriculture Français et Développement International (AFDI), from April 1995 until August 1997.

LAM Assistance to the Basic Science Section

Strong points	Number of responses	Weak points	Number of responses
• helped build theoretical and practical knowledge	2	• little communication, the work was not clear	2
• activated staff considerably	1	• assistance was small	1
• provided experimentation	1	• financial management was not effective, which disrupted project implementation	1
• provided salary supplements	1	• salary supplements were not enough	1

Source: surveys conducted with 3 out of 6 instructors at SAPL, June and July 1999

2.4. Agricultural Development Denmark Asia (ADDA)

Since September 1996, ADDA, which is funded by DANIDA, has been supporting two main sections of SAPL—Agribusiness and Extension—plus English-language training. This is a three-year project, with a possible three-year extension if a new proposal is approved. A Danish expatriate advisor and a full-time local extension advisor have been developing capacity of the Agribusiness and Extension sections through an integrated approach. First, they motivated instructors to develop a curriculum in agribusiness/farm management and extension, and organised English-language training, training in teaching methods, and study-tours (both inside and outside the country). Second, they established an information centre, which utilises staff trained under the English-language programme to provide translations and assistance with the production of teaching materials and library resources. The project has also provided activity allowances for instructors.

ADDA Assistance to the Extension Section

Strong points	Number of responses	Weak points	Number of responses
• provided good training, workshops, curriculum dev..	8	• salary supplements were low	6
• provided study tours in Cambodia and overseas	9	• not enough teaching materials	3
• sent instructors to do short courses outside the School	2	• no clear policy, implemented in accordance with the School's policies	2
• provided computer training	2	• advisor did not take into consideration the different academic degrees of instructors	1
• provided material support	2	• no overseas training	1
• provided salary supplements	2		
• advisors are permanent	1		

Source: surveys conducted with 10 out of 10 instructors at SAPL, June and July 1999

ADDA Assistance to the Agribusiness Section

Strong points	Number of responses	Weak points	Number of responses
• provided training in the development of course content and teaching skills	4	• salary supplements were low	4
• guided the group well	2	• provided little practical work	1
• provided English training	2	• some instructors were not motivated because of the limited financial support	1
• planned well	1	• had no farm operation to use for student practice	1
• facilitated workshops well	1		
• solved problems well	1		
• cooperated well with the group	1		
• provided some knowledge in agribusiness	1		
• provided computers	1		

Source: surveys conducted with 7 out of 9 instructors at SAPL, June and July 1999

2.5. The Asian Institute of Technology (AIT)

Funded by DANIDA, AIT started supporting SAPL informally in 1993, with the intention of building capacity in the Fisheries Section. Phase I operated from 1996 until December 1998. The Memorandum for Phase II was approved in July 1999, providing the Fisheries section with two more years of assistance.

In Phase I, AIT provided a full-time local technical advisor and part-time expatriate technical advisor to build the capacity of the Fisheries section and instructors. The project has provided instructors with practical experience and motivated them to develop curriculum in fisheries as part of the general agriculture component in the Diploma Level II course. The project also helped prepare three- and six-month work plans. As part of capacity building, AIT supplied the Fisheries section with office furniture and facilities, and activities allowances for seven instructors. With AusAID funds, the project also provided capital for development of a fish farm.

In Phase II, which has a two-year commitment, AIT plans to grant US\$30,000. This will be used to enlarge the production capacity of the SAPL fish farm by developing another fish pond.

AIT Assistance to the Fishery Section

Strong points	Number of responses	Weak points	Number of responses
• helped develop a curriculum and courses	6	• allowances were low	4
• built fish ponds and a farm house	6	• did not provide language and computer training	3
• provided allowances for all development activities	3	• no advisor to help develop course subjects adequately	2
• provided study tours and research	2	• provided little human resources training	2
• raised the living standards of the instructors through income from fish farming	1	• did not train the non-teaching staff	1
• provided office materials	1	• the use of funds did not meet the target	1
• trained the instructors in and outside the country	1	• did not follow the School's policies completely	1

Source: surveys conducted with 8 out of 10 instructors at SAPL, June and July 1999

2.6. Cambodia/Australia Agricultural Extension Project (CAAEP)

CAAEP, which was supported by AusAID, commenced in March 1997 and ended in September 1998 after AusAID reviewed the project in November 1997. Two expatriate advisors specialising in animal husbandry and agronomy built and strengthened the capacity of two academic sections: Animal Health and Production Agronomy. Material, financial and technical assistance was granted to each section. This included office furniture and facilities, and funds for curriculum development for the two-year general agricultural component of the Diploma Level II course. Besides enhancing the technical and practical knowledge of the instructors, the project also provided about 25 instructors in Agronomy and Animal Production with English-language training.

CAAEP assisted SAPL to improve agricultural production operations (pigs, poultry, crop production and horticulture) in order to establish a small-scale commercial farm. Salary supplements (\$US 115 per month) were paid to instructors involved in the scheme. In addition,

CAAEP put 30 percent of its total salary funds into the School's common pool.

CAAEP Assistance to the Animal Health and Production Section

Strong points	Number of responses	Weak points	Number of responses
• provided good practical training	3	• terminated too early	7
• provided a production operation for raising pigs and chickens	2	• lack of technical training	1
• provided materials for practice	3		
• provided technical knowledge for curriculum development	2		
• provided material support	2		
• provided salary supplements	2		

Source: surveys conducted with 10 out of 10 instructors at SAPL, June and July 1999

CAAEP Assistance to the Agronomy Section

Strong points	Number of responses	Weak points	Number of responses
• provided materials for students to use in practise	2	• has not yet provided technical knowledge	3
• provided opportunities to improve technical knowledge by taking short courses	2	• salary supplements were low	3
• provided opportunities to do practicums in the provinces	2	• most documents were in English	1
• provided salary supplements, TA and computers	1		

Source: surveys conducted with 8 out of 8 instructors at SAPL, June and July 1999

2.7. Programme d'Appui à la Formation Agricole au Royaume du Cambodge (PAFAARC)

Funded by L'Agence Française de Développement (AFD), PAFAARC has supported SAPL since 1995. Phase II of the project has granted US \$100,000 for the period January 1999 to January 2001 (Phase I lasted two and a half years). In 2000, the project will strengthen capacity of the Horticulture Science instructors in curriculum development and also:

- provide field-trip support for the students,
- provide horticulture work and practice inside the School,
- offer training for the instructors leading to a Master's degree.

The project is intended not only to help produce qualified Cambodian officials, but also to increase their educational level in order to ensure that Cambodia will be able to support itself as soon as possible.

PAFAARC Assistance to the Horticulture Section

Strong points	Number of responses	Weak points	Number of responses
• effective assistance is addressing problems	2	• the project was short term	3
• provided construction and material support	2	• inadequate management	1
• improved human resources	1	• no teaching of how to write proposals	1
• budget to enable students to do field work	1	• no guidance in other techniques	1
• helped instructors to do research and provided equipment for students to do experiments	1	• study materials were not sufficient	1
• provided salary supplements	1		
• provided funding for computer training	1		

Source: surveys conducted with 6 out of 6 instructors at SAPL, June and July 1999

2.8. FAO/UNDP Forestry Inventory Project

The project (12-months duration in 1997) assisted the Forestry Section in developing the curriculum for the two-year general agricultural course for the Level II Diploma programme. Assistance included provision of part-time technical assistance, equipment and facilities to enable instructors to prepare and deliver their courses, and also salary supplementation.

FAO Assistance to the Forestry Section

Strong points	Number of responses	Weak points	Number of responses
• provided documents for research	3	• no full-time base at the School to assist in course development	3
• provided materials/ equipment for practical training	3	• had no clear policy in salary supplementation	2
• sent some instructors to do short courses in and outside Cambodia	1	• did not monitor and evaluate the project results	2
• guidance in how to plan	1	• low salary supplements	1
• improved knowledge of how to teach	1	• materials were not provided to the Section but the School	1

Source: surveys conducted with 5 out of 5 instructors at SAPL, June and July 1999

2.9. GTZ Forestry Human Resource Development

GTZ, which began granting support to the Forestry Academic Section, beginning in March 1998, has continued until now (August 1999), and is considering a possible four more years of funding. A Cambodian project assistant has worked with instructors in preparing the curriculum for the third-year specialisation course. The project has equipped the Forestry Section with furniture and facilities, and funded Forestry instructors' participation in English-language training organised by ADDA. GTZ does not have a policy of paying salary

supplements to counterparts. However, since January 1999, the project did pay a modest incentive for extra work in order to motivate participation in the project's training activities.

The Cambodian project assistant is a PhD student in Sustainable Forestry Management from the Technical University of Dresden in Germany. He was employed by GTZ from March 1998 until August 1999 to train Forestry instructors in technical knowledge and practical skills. He has organised and facilitated a number of study tours in Cambodia for instructors and students.

GTZ Assistance to the Forestry Section

Strong points	Number of responses	Weak points	Number of responses
• provided good guidance in subject development	4	• provided little money, no clear supplementation	4
• provided ideas and documents	3	• had difficulty in conforming with the School's policy	2
• provided materials	2	• monitoring was not sufficient	2
• monitored and evaluated subject development	1	• no development of technical knowledge	1
• provided the instructors with language and computer training	1	• No clear assistance	1

Source: surveys conducted with 5 out of 5 instructors at SAPL, June and July 1999

2.10. Voluntary Service Overseas (VSO)

This British NGO provided a volunteer English-language instructor to live on campus in order to develop the English-language capacity at SAPL. The English instructor trained four Cambodian English instructors in both English-language skills and teaching methodology, and taught English to the School's instructors and staff. In addition, the volunteer set up a self-help resource centre for both instructors and students. The assistance was planned for two years (1993 and 1994), but the volunteer resigned after the first year, apparently because of low motivation and commitment of the staff involved in the training.

VSO Assistance to the English Language Centre

Strong points	Number of responses	Weak points	Number of responses
• trained the English-language instructors in English and teaching methodology	3	• the assistance was for a short period	2
• established a self-help English Centre	3		
• provided documents and books for the Centre	1		

Source: surveys conducted with 3 out of 3 of the instructors at SAPL, June and July 2000

2.11. Church World Service (CWS)

In 1993 and 1994, this international NGO provided the Farm Office with technical assistance and material support in mushroom and vegetable production. One or two expatriate advisors visited the School on a regular basis to assist the instructors in mushroom and vegetable cultivation.

2.12. Cambodia IRRI Australia Project (CIAP)

CIAP has been engaged in building the capacity of SAPL instructors since 1993. CIAP provides no technical staff to work at the School, but invites some of the instructors working in the area of agronomy to attend its short courses in rice cultivation and related technology, both in Cambodia and abroad. One component of the training was English-language training, which prepared potential instructors for overseas training, especially for training at IRRI in the Philippines. Agronomy instructors at SAPL can also get funding from CIAP to undertake rice production experiments.

Apart from the above assistance, CIAP has provided substantial training in teaching skills to most of SAPL's instructors. It initially invited a few instructors from the School to train in Phnom Penh. Then it offered two short courses on the School site for about 60 instructors.

List of Key Informants

On the SAPL side

No.	Name	Position	Office
1	Thay Sun Heang	Director	The School of Agriculture Prek Leap
2	Touch Siem	Deputy-Director	The School of Agriculture Prek Leap
3	Mut Sitorn	Chief	Administration Office
4	Neang Sokhim	Deputy-Chief	Study Office
5	Yat Soeum	Acting-Chief	Planning and Accounting Office
6	Pich Sophin	Chief	Fisheries Section
7	Nou Keo Sothea	Deputy-Chief	Agribusiness Section
8	Pech Sithan	Chief	Agronomy Section
9	Chan Bory	Chief	Animal Health and Production Section
10	Uk Kunka	Chief	Extension Section
11	Leang Sambath	Chief	Horticulture Section
12	Sou Sontra	Chief	Forestry Section

On the donor side

No.	Name	Position	Project or Affiliation	Years at SAPL
<i>Expatriate</i>				
1	Charles Vanpraet	Team Leader	GTZ	N.A.
2	Damien Coghlen	Education Management Planner	ACR	1993-1994
3	Dennis West	Team Leader	CAAEP, AusAID	N.A.
4	Graeme Payne	Advisor in Education Administration	ACR/Caritas Australia	1995-1998
5	Iean Russell	Advisor in Curriculum Development	ACR, Gatton College	1995-1997*
6	Marie Berthelot	Advisor in Training	LAM	1987-present*
7	Marjorie Payne	Curriculum Development Advisor	ACR/Caritas Australia	1996-1998
8	Murray Maclean	Advisor in Animal Production	CAAEP	1996-1998**
9	Paul Mason	Advisor in Agronomy	CAAEP, AusAID	1997-1998
10	Patrice Salgarolo	Project Manager	PAFAARC 2	1999-present*
11	Per Rasmussen	Advisor in Training of Trainers	ADDA	1997-present
12	Terry Elliott	Advisor in Curriculum Development	ACR	1995-1996

Cambodian

13	Chan Sokha	Advisor in Fisheries	DoF/AIT	1998-present
14	Chen Da	Advisor in Fisheries	DoF/AIT	1995-1998
15	Heng Bunny	Advisor in Extension	ADDA	1997-present
16	Sam Inn	Advisor in Forestry	GTZ	1998-present
17	Sokhan Savuth	Assistant in Fisheries	CIDA	1998-1999

Note: * Part time or less ** Full time and then part time

Bibliography

- Coghlan, D. (1993), *Inception Report: Prek Leap Agricultural College* (Phnom Penh: Australian Catholic Relief) unpublished document
- Coghlan, D. (1996), "Managing agricultural development in an institutional fragmented society", *Development Research in Vietnam, Laos and Cambodia* (Adelaide: Flinders University-Adelaide University Project) unpublished document
- Ministry of Agriculture, Forestry and Fisheries (1995), *Prek Leap Agricultural College Development Plan* (Phnom Penh: MAFF) unpublished document
- Ministry of Agriculture, Forestry and Fisheries (1998), *Prek Leap Agricultural College Development Plan* (Phnom Penh: MAFF) unpublished document
- Payne, G. and K. Woodford (1997), Report on Activities Undertaken by the University of Queensland Institutional Strengthening Project at the School of Agriculture Prek Leap from January 1995 to April 1997, (Adelaide: University of Queensland) unpublished document
- Payne, M. (1996), Final Report: Curriculum Development Advisor, School of Agriculture Prek Leap for the Period 1 August - 31 December 1996 (Adelaide: University of Queensland, Gatton College) unpublished document
- Poussard, Wendy (1995), *The Dancing Road* (Sydney: Australian Catholic Relief)
- Prek Leap Agricultural College (1999), Summary of Annual Report in 1998 on Progress of SAPL C.D. for Fisheries Section (Phnom Penh: Prek Leap Agricultural College)
- School of Agriculture Prek Leap (1999), A Memorandum of Understanding Between School of Agriculture Prek Leap and Saint Mary's University on Aquatic Resource Management (Phnom Penh: SAPL)
- School of Agriculture Prek Leap (1999), Project Memorandum of Understanding Between the School of Agriculture Prek Leap, Ministry of Agriculture, Forestry and Fisheries, Kingdom of Cambodia and the Aquaculture and Aquatic Resource Management Programme, Asian Institute of Technology, Bangkok, Thailand on Fisheries Curriculum Development Management (Phnom Penh: SAPL)
- Russell, I., K. Woodford & Chan S. (1999), "A Curriculum for Sustainable Development in Cambodia", *Education for Sustainable Development: Getting it Right*, Development Studies Network (Canberra: the Australian National University)
- Russell, I. (1997), *Evaluation of Curriculum Development Program at the School of Agriculture Prek Leap* (Adelaide: University of Queensland, Gatton College) unpublished document
- Thay Sun Heang, and M. Patrice Salgarolo (1999), Plan d'action de la filière horticole de LAPL, (Phnom Penh: SAPL) unpublished document
- Thay Sun Heang, and M. Patrice Salgarolo (1999), Systeme de remuneration du personnel du LAPL, (Phnom Penh: SAPL) unpublished document
- The School of Agriculture Prek Leap (1999) "Paper on Activity Allowance Policy for SAPL Instructors", (Phnom Penh: SAPL) internal document
- Woodford, K., I. Russell, and C. Kilminster (1994), A Report on Curriculum Development Issues at Prek Leap Agricultural College in the Kingdom of Cambodia and Possible Linkages with the University of Queensland, Gatton College (Adelaide: University of Queensland, Gatton College), unpublished document

CDRI Working Papers

- 1) Kannan, K. P. (November 1995), *Construction of a Consumer Price Index for Cambodia: A Review of Current Practices and Suggestions for Improvement* (Working Paper No. 1) (out of print)
- 2) McAndrew, John P. (January 1996), *Aid Infusions, Aid Illusions: Bilateral and Multilateral Emergency and Development Assistance in Cambodia, 1992–1995* (Working Paper No. 2) (out of print)
- 3) Kannan, K. P. (January 1997), *Economic Reform, Structural Adjustment and Development in Cambodia* (Working Paper No. 3) (out of print)
- 4) Chim Charya, Srun Pithou, So Sovannarith, John McAndrew, Nguon Sokunthea, Pon Dorina & Robin Biddulph (June 1998), *Learning from Rural Development Programmes in Cambodia* (Working Paper No. 4) \$7.50
- 5) Kato, Toshiyasu, Chan Sophal & Long Vou Piseth (September 1998), *Regional Economic Integration for Sustainable Development in Cambodia* (Working Paper No. 5) \$6.00
- 6) Murshid, K. A. S. (December 1998), *Food Security in an Asian Transitional Economy: The Cambodian Experience* (Working Paper No. 6) \$9.00
- 7) McAndrew, John P. (December 1998), *Interdependence in Household Livelihood Strategies in Two Cambodian Villages* (Working Paper No. 7) \$9.00
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- 10) Gorman, Siobhan, with Pon Dorina & Sok Kheng (June 1999), *Gender and Development in Cambodia: An Overview* (Working Paper No. 10) \$6.00
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- 13) Ung Bunleng, (January 2000), *Seasonality in the Cambodian Consumer Price Index* (Working Paper No. 13) \$3.00
- 14) Toshiyasu Kato, Jeffrey A. Kaplan, Chan Sophal and Real Sopheap (May 2000), *Enhancing Governance for Sustainable Development* (Working Paper No. 14) \$6.00
- 15) Martin Godfrey, Chan Sophal, Toshiyasu Kato, Long Vou Piseth, Pon Dorina, Tep Saravy, Tia Savara and So Sovannarith (August 2000), *Technical Assistance and Capacity Development in an Aid-dependent Economy: the Experience of Cambodia* (Working Paper No. 15) \$10.00

- 16) Sik Boreak, (September 2000), *Land Ownership, Sales and Concentration in Cambodia* (Working Paper No. 16) \$7.00

Technical Assistance and Capacity Development at the School of Agriculture Prek Leap

As part of CDRI's research project on Technical Assistance and Capacity Development, this case study attempt to provide an in-depth look at what technical assistance (TA) has achieved at the School of Agriculture Prek Leap (SAPL) in terms of capacity development . If TA has failed to maximise the capacity development at SAPL, what are the reason for this?

This working paper attempts to answer this question in six parts. Chapter One gives the history of SAPL and of the TA provided to it. Chapter Two assesses the impact of technical assistance on capacity development. Chapter Three discusses the issues and constraints limiting the success of technical assistance, while chapter four deal with management challenges and strategies. Chapter Five draws conclusions. The current levels of capacity at SAPL, and discussions about individual projects, are summarised in the Appendix.

Chan Sophal, So Sovannarith and Pon Dorina are members of CDRI's research staff.

\$ 8.00