

JOINT EVALUATION REPORT
ON
THE JAPANESE TECHNICAL COOPERATION FOR THE PROJECT OF THE
INFORMATION AND COMMUNICATION TECHNOLOGIES (ICTS) CAPACITY
BUILDING AT THE UNIVERSITY OF THE SOUTH PACIFIC

JAPAN INTERNATIONAL COOPERATION AGENCY, JAPAN

THE UNIVERSITY OF THE SOUTH PACIFIC
AND
THE REPUBLIC OF THE FIJI ISLANDS

MARCH 11, 2005

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LIST OF ANNEXES

LIST OF ACRONYMS

CS	Computing Science
DFL	Distance and Flexible Learning
DFLSC	Distance and Flexible Learning Support Centre
IT	Information and Technology
ICT	Information, Communication and Technology
ITS	Information Technology Services
IT R&T	Information Technology Research and Training
JICA	Japan International Cooperation Agency
MDB	Multimedia Database
ODA	Official Development Assistance
PDM	Project Design Matrix
R&D	Research and Development
RHCE	Red Hat Certified Engineer
RHCT	Red Hat Certified Technician
R&T	Research and Training
UEC	University of Electro-Communications
USP	The University of the South Pacific

1 Outline of the Evaluation Study

1-1 Objective of the Final Evaluation of the Project

Information and Communication Technologies Capacity Building at the University of the South Pacific Project (hereafter referred to as “the Project”) will be completed at the end of June 2005. Therefore, the Japanese Evaluation Team (hereafter referred to as “the Japanese Team”) was dispatched to the Republic of the Fiji Islands to conduct the Final Evaluation of the Project. The Japanese Team and the Fiji Evaluation Team (hereafter referred to as “the Fiji Team”) confirmed the achievement of the Outputs, the Project Purpose and the Overall Goal of the Project and evaluated the Project based on the Five Evaluation Criteria (Relevance, Effectiveness, Efficiency, Impact and Sustainability).

The Final Evaluation focused on:

1. the impacts – both positive and negative – resulting from the Project at the University of the South Pacific (hereafter referred to as “USP”),
2. the possibility of maintaining the improvements (sustainability) after the termination of the Project period, and
3. the extraction of lessons learned for the JICA future project formulation.

1-2 Members of Evaluation Team

(1) The Fiji Team

Name	Title	Section
Prof. Rajesh Chandra	Acting Vice-Chancellor	Management
Dr. Esther Williams	Pro Vice-Chancellor	Management
Dr. Hing Kan	Deputy Head of School	Senior Lecturer of Engineering Department, SPAS
Mr. Joe Natau		Ministry of Education, Government of Fiji
Dr. Ian Jones	Senior Quality Assurance Coordinator	Planning and Development Office
Mr. Jito Vanualailai	Head	MaCS
Prof. Christian Omlin	Professor	MaCS
Dr. John Hosack	Associate Professor	(for IT Research)
Mr. Atish Chand	Lecturer	MaCS (but for IT Research)
Dr. Eileen Tuimaleali'ifano	Director	CELT
Mr. Kisione Finau	Director	ITS
Mr. Sam Fonua	Manager	ITS
Fr. John Bonato	Director	DFLSC
Mr. Valentine Hazelman	Online Instructional Designer	DFLSC

(2) The Japanese Team

Name	Title	Section
Mr. Osamu Makino	Team Leader	Senior Advisor of the JICA
Prof. Toshio Kosuge	Distance Flexible Learning	Professor, Department of Human Communications, Graduate School of Information Systems, University of Electro-Communications
Ms. Makiko Komazawa	Evaluation Analysis	Research and Evaluation Section, Earth and Human Corporation Ltd.
Ms. Mari Ichikawa	Cooperation Planning	ICT Team, Group II, Social Development Department, JICA

1-3 Schedule of the Final Evaluation

The Japanese Team visited Fiji and Vanuatu from February 21, 2005 to March 12, 2005. Both the Japanese and Fiji Teams had conducted the following activities for the final evaluation study.

Date	Time	Activities
22 Feb (Tue)	AM	Visit to JICA Fiji Office
	PM	Preparatory Meeting with the USP staffs including 3 long-term experts
23 Feb (Wed)	AM	Meeting with 3 long-term experts
	PM	Collecting information at the Laucala Campus (Suva site)
24 Feb (Thu)	AM	Collecting Information at the Laucala Campus (Suva site) of USP,
	PM	(Observation of facilities and Interviews with C/Ps, academic staffs, students and graduates)
25 Feb (Fri)	AM	Move to Lautoka
	PM	Collecting Information at USP Centre (Lautoka site) of USP, (Observation of facilities and Interviews with C/Ps, academic staffs, students and graduates)
		Move to Suva
26 Feb (Sat)	AM	Arrangement of Materials and Data
	PM	
27 Feb (Sun)	AM	Preparation of Reports
	PM	
28 Feb (Mon)	AM	Collecting Information at the Laucala Campus (Suva site) of USP, (Observation of facilities and Interviews with C/Ps, academic staffs, students and graduates)
	PM	Move to Nadi
1 Mar (Tue)	AM	Move to Port Vila, Vanuatu
	PM	Meeting with Professor Robert Hughes Collecting Information at the Emalus Campus (Vanuatu site) of USP, (Observation of facilities and Interviews with academic staffs)

2 Mar (Wed)	AM	Meeting with Mr. Paul Sami, Head of Asia/Pacific Division and Mr. Ivong Basil, Department of Foreign Affairs Meeting with Mr. John Niroa, Director Secondary, Technical and Further education, Ministry of Education Collecting Information at the Emalus Campus (Vanuatu site) of USP, (Interviews with academic staffs and students)
	PM	Collecting Information at the Emalus Campus (Vanuatu site) of USP, (Interviews with academic staffs and students)
3 Mar (Thu)	AM	Collecting Information at the Emalus Campus (Vanuatu site) of USP, (Observation of facilities and Interviews with academic staffs)
	PM	Move to Nadi
4 Mar (Fri)	AM	Move to Suva Attending the AARNet Inauguration at USP Meeting with the RR and staff of the JICA Fiji Office and 2 long-term experts and 1 short-term experts
	PM	Visit to Professor Rajesh Chandra Collecting Information at the Laucala Campus (Suva site) of USP, (Observation of facilities and Interviews with 2 long-experts and 1 short-term experts)
5 Mar (Sat)	AM	Move to Labasa Collecting Information at USP Centre (Labasa site) of USP, (Observation of facilities and Interviews with academic staffs and students)
	PM	Move to Savusavu Collecting Information at the Savusavu Sub Centre of USP, (Observation of facilities and Interviews with academic staffs) Move to Suva
6 Mar (Sun)	AM	Preparation of a draft of Minutes of Meeting (M/M) and the Joint Evaluation Report
	PM	
7 Mar (Mon)	AM	Collecting Information at the Laucala Campus (Suva site) of USP, (Interviews with C/Ps of DFLSC and CS Dept)
	PM	Collecting Information at the Laucala Campus (Suva site) of USP, (Interviews with C/Ps of ITR and ITS)
8 Mar (Tue)	AM	The Joint Evaluation Meeting
	PM	Visit to Ms. Alumita Taganesia, Chief Executive Officer, Ministry of Education
9 Mar (Wed)	AM	Meeting by the USP-Net with the short-term expert in Vanuatu Visit to the USP-Net Control Room
	PM	Editing the M/M
10 Mar (Thu)	AM	Visit to Professor Anthony Tarr, Vice-Chancellor of USP
	PM	Joint Coordinating Committee (JCC)
11 Mar (Fri)	AM	Signing of the M/M
	PM	Visit to the Embassy of Japan Report to JICA Fiji Office
12 Mar (Sat)	AM	The Japanese Team leave for Tokyo
	PM	

1-4 Method of Evaluation

1-4-1 Procedure of Evaluation

According to the “JICA Evaluation Guidelines,” the basic evaluation procedure consists of

three steps. The first step is to confirm the achievements of the Project in terms of inputs, activities and outputs stated in the PDM and to examine the implementation process of the Project. The second step is to judge by the Five Evaluation Criteria, namely relevance, effectiveness, efficiency impacts and sustainability, the contents of which will be described later. As the third step, based on the results of the steps 1-2, recommendations for the Project during the Project period and after the completion of the Project and lessons learned from the Project for future or similar projects are extracted.

1-4-2 Criteria of Evaluation

The five criteria for evaluation under the JICA Evaluation Guidelines are as follows.

1. Relevance:

Whether the Project is suited to the priorities and policies of the target group, recipient and donor countries ODA needs.

2. Effectiveness:

The extent to which the Project purpose has been achieved via the Outputs of the Project itself.

3. Efficiency:

Productivity of the implementation process. Outputs -qualitative and quantitative- in relation to the inputs.

4. Impact:

Positive and negative, primary and secondary long-term effects produced by the Project, directly or indirectly, intended or unintended.

5. Sustainability:

Whether the benefits of an activity are likely to continue after donor funding has been withdrawn, centering on the self-reliance of the project.

1-4-3 Sources of Information

The following sources of information were used for this evaluation study.

(1) Survey of the documents

- A series of the Minutes of Meetings signed by the USP Authorities and JICA during the preparatory phase.
- Project Consultation team report by JICA in May 2003.
- The Project Document
- USP documents.

(2) Interview

- Interview with counterparts, lecturers, staff and students of USP and other authorities in Fiji.

- Interviews with Japanese experts
- (3) Questionnaires
 - Questionnaires for counterparts and students.
- (4) Observation
 - Visit to the Laucala Campus in Fiji, Emalus Campus in Vanuatu, the USP Centers (in Lautoka and Labasa) and Sub-Center (in Savusavu)
 - Observation of facilities, machines and equipment.
 - Observation of DFL courses and learning objects.

1-4-4 Project Design Matrix (PDM)

The joint evaluation team used the current Project Design Matrix (PDM) as a basic tool of evaluation, which was revised in November 2003 showing in ANNEX1.

2 Outline of the Project

2-1 Background of the Project

The University of the South Pacific (hereafter referred to as “USP”) was founded in 1969, and its main campus is located in Suva, Fiji. USP was founded by 12 countries of the South Pacific region. Since the foundation, distance education has been carried out for over 30 years. The present number of students is 9,118 and out of those, 4202 (46%) students are studying as distance education learners.

USP has delivered distance education by a blend of mail and audio tutorials using HF wave. In 1998, USP received a Grant Aid of the Japanese government titled "University of South Pacific Communication System Improvement Plan" and created the USP-Net with the cooperation of the governments of Australia and New Zealand. As a result, interactive distance education became possible between the hub center (located at the main campus in Suva, Fiji) and remote centers in the 12 member countries.

Preceding the Okinawa Summit in July, 2000, the Japanese government expressed its plan to give comprehensive cooperation in the information technology (IT) field for developing countries under the ODA, including introducing distance education systems and setting 30 IT core centers worldwide. Under this initiative, the USP-Net was created as one unit connecting to the core centers.

In addition, USP requested upgrading of the equipment of the USP-Net and development of capacity in the computer science field. Based on the implementation study discussion in June 2002, the “Information and Communication Technologies (ICTs) Capacity Building at the University of the South Pacific Project” was launched in June 2002, with a three-year implementation period.

2-2 Summary of the Project

The Project implementation period is 3 years, from July 2002 to June 2005. According to the PDM, the Project design is as follows.

2-2-1 Overall Goal

USP is enhanced as a center of educational excellence for human resource development through the qualitative and quantitative improved education service.

2-2-2 Project Purpose

More students will receive an improved educational experience through the enhanced IT capacity of USP.

2-2-3 Outputs

1. Computing Science (CS) Component

More students will take various up-to-date CS courses under the tutelage of capable academics, both in distance and face-to-face mode.

2. Distance and Flexible Learning (DFL) Component

More external students will take better DFL courses, particularly using IT.

3. IT Research and Training (R&T) Component

Short-term model training courses will be implemented based on research on IT utilization and needs in the South Pacific Region.

2-2-4 Abstract of the Project

USP is responsible for implementation of the Project. The Project consists of three components: namely, Computing Science (CS), Distance and Flexible Learning (DFL), and Research and Training for IT (IT R&T).

The CS component aims to improve the quantity and quality of CS lecturers from member countries, to create a variety of courses both in distance and face-to-face mode, to strengthen USP-Net, and to maintain CS laboratories.

The DFL component carries out training for USP personnel in the development of multimedia teaching materials for Distance and Flexible Learning (DFL), the development of e-learning model courses and development of database of learning materials.

The IT R&T component develops an academic research mechanism on ICT research for socio-economic development and utilize the research results, such as for education or policymaking.

3 Performance of the Project

Through the evaluation study, the Joint Evaluation Team assessed the performance of the Project at the time of the final evaluation as follows.

3-1 Achievement of the Inputs

Inputs of both Japanese and USP sides are summarized as follows.

3-1-1 Japanese side

- | | |
|-------------------------------|--|
| 1) Long term experts | 4 persons in total |
| 2) Short term experts | 13 persons in 2002, 9 in 2003, and 5 in 2004 |
| 3) Major Equipment | Computers, a video camera, equipment related to computer network at Laucala Campus, USP center at Lautoka and Labasa, Tonga Centre in Tonga and Alafua Campus in Samoa and Emalus Campus in Vanuatu in 2002 and 2003. Routers and equipment related to IP phone in Laucala Campus, Samoa, Vanuatu, Kiribati, Tonga and Solomon Islands |
| 4) Operating cost | Fj\$ 1,1141,000 |
| 5) Acceptance of C/P training | 3 persons in 2002, 3 in 2003 and 2 in 2004 |

To achieve above, the expenditures of Japanese side was about Fj\$4,979,000 in total by the end of February 2005.

3-1-2 USP side

- | | |
|--------------------|---|
| 1) Personnel | 49 persons in total for 3 years |
| 2) Main facilities | Class rooms, laboratories, the multimedia center and the Project office and Centers, etc. |
| 3) Major Equipment | USP-Nets and PCs in laboratories |

3-2 Achievement of the Outputs

Results of the achievement of each output based on the indicators in the PDM can be examined as follows. The underlines indicate the verifiable indicators stated in the PDM.

Output 1: Computing Science Component

Output 1 is “More students can take various up-to-date CS courses by right number of capable lecturers both in distance and face-to-face mode.”

Indicators:

1- 1) Improvement of quantity and quality of CS lecturers.

Quantity: number of lecturers from member countries

Target: from 1 in 2001 to 3 in 2005 in CS department.

Result: 2 lecturers, 3 assistant lecturers and 8 tutors in the semester 1 of 2005.

It has been achieved.

Quality: academic background of lecturers

Target: from 1 Msc in 2001 to 2 Msc and 1 PhD in 2005.

Result: 2 Msc in the semester 1 of 2005.

It has been partially achieved at the evaluation time. One local lecturer is scheduled to enter the doctoral course from April 2005 with Japanese government scholarship and one tutor is expected to enter masters course from October 2005 in Japan. Thus, the target can be achieved when those two will come back and join the faculty again. In addition, recruiting new tutors from new graduates with postgraduate diplomas was promoted. Six higher graded graduates were hired as tutors and were expected to enter the MSc course after at least one year of tutor work. A female graduate assistant was also hired.

1- 2) Improvement of quantity and quality of CS courses at Fiji main campus

Quantity: number of CS courses

Target: from 18 in 2001 to 21 in 2005.

Result : 21 for third year students courses and 8 post-graduate (for fourth year students) courses including two satellite course (CS493 in 2004 and CS491 in 2005) collaborated with University of Electro-Communications (UEC) in the first semester of 2005.

It has been achieved.

Quality: number of enrollments of CS courses

Target: from 3,157* in 2001 to 4,400* in 2005.

Result: 5,019 for under-graduate courses and 73 for post-graduate courses in 2004.

It has been achieved.

(Those target numbers were refined because the original data was not accurate.)

1- 3) Improvement of quantity and quality of CS courses in distance mode

Quantity: number of CS courses in distance mode

Target: from 1 in 2002 to 3 in 2005.

Result: CS222, a blended e-learning course, was developed and offered in the semester 2 of 2004 and also CS221 for the semester 1 of 2005. Two more blended e-learning courses (CS224, CS332) are planned for the semester 2 of 2005. In addition, CS121 as blended e-learning course and 3 VBC course (CS111, CS122, CS112, CS211) are offering. All CS courses will be provided through DFL by the end of 2006.

It has been achieved.

Quality: number of enrollments in distance mode

Target: 273 in 2001 to 375 in 2005.

Result: Total of 445 enrollments in DFL mode in the first semester of 2005, comprising 65 for CS111, 345 for CS121, 8 for CS211, 7 for CS221 and 20 for CS222.

Although the target number implies the total enrollment of a year, the first semester of 2005 achieved this target number despite the change of register system and difficulties of registering through the internet.

1- 4) Improvement of computer laboratory (accessibility) and the USP-Net

Operation hour using the latest software

Result:

Laucara Campus

CS Large lab (34PCs) : 9am - 10pm (Su-Sa)

CS Small lab (16PCs) : 9am - 10pm (Mo-Fr)

Post-graduate lab (20PCs) : 2pm - 9pm (7 days)

(Four 64bit computers were provided and using a server. Net BSD and Fedora core 3 operating system was installed in the post-graduate lab in 2004)

Lautoka (20PCs) : 8am-4.30pm (Mo-Fr), 9am-1pm (Sa)

Lambasa (20PCs) : 8am-4.30pm (Mo-Fr), 9am-1pm (Sa)

Tonga (23Cs) : 9am-5pm (Su-Sa)

Samoa (20PCs) : 9am-5pm (Su-Sa)

For those computer labs, the latest softwares were installed with the Project support.

It has been achieved.

Number of engineers who operate fully IP-based USP-Net

Target: from 0 in 2003 to 8 in 2005.

Result: 0 at the evaluation period because IP-based USP-Net was not been implemented yet.

It has not been achieved.

Output 2: Distance and Flexible Learning Component

Output 2 is “More external students can take better DFL courses, particularly using IT.”

2- 1) Establishment of operational course development management system

Target:

Course development model for e-learning course created by Feb. 2004.

Course development procedures for e-learning course documented by May 2004.

One e-learning model course is developed implementing the above procedures by Jan. 2005

Result:

First, a kind of course development model based on the discussion with the whole stakeholders was set up. One e-learning model course (CS222) was developed with line with this model despite of heavy shortage of staff. Then, the following course development procedure, including CS221, followed the same procedure. Currently, a written model procedure for blended e-learning course development is finalizing with corroboration between DFL and CS department.

2- 2) Improvement of quantity and quality of DFL model course development

Quantity: number of model courses

Target: 3 in 2005

Result: CS222, a blended e-learning course, was developed and offered in the semester 2 of 2004 and also CS221 for the semester 1 of 2005. Two more blended e-learning courses (CS224, CS332) are planned for the semester 2 of 2005.

It can be achieved by the end of the Project.

Quality: Evaluation by students and staff

Result: CS222 course was evaluated at the end of semester 2 of 2004. In general, according to the evaluation report on CS222 with 360 respondents, most students were satisfied with CS222 materials. Preferences of each material are summarized in the table bellows. Looking at percentages of accumulating respondents of “best things so far” and “very useful,” the highest one is Text with 81%, the second highest is Web-CT with 74% and the third one is Tutorials with 64%.

Table: Satisfaction with CS222 Course Materials (N=360)

	Web-CT	Text	CD-Rom	Lectures	Tutorials	Website
Best things so far	19%	14%	6%	5%	8%	8%
Very useful	54%	67%	29%	32%	56%	39%
Useful	24%	17%	53%	53%	27%	46%
Little useful	2%	2%	8%	9%	7%	5%
Not useful	0%	0%	4%	2%	3%	2%
Total	100%	100%	100%	100%	100%	100%

The result shows the student’s high satisfaction with quality of DFL model course.

Pass rate for CS222

Target: 65% in 2005 (55% in international measurement).

Result: 92% of the students who participated the examination.

It has been achieved.

Completion rate (participants of examination per enrollments) for CS222

Target: 85% in 2005 (75% in international measurement).

Result: 99% for CS222 in the second semester of 2004.

It has been achieved.

Number of enrollment for CS222

Target: 273 in 2001 to 375 in 2005

Result: 393.

It has been achieved.

Turn around time for assignment (average 1 week by the end of 2004)

Result: On-line course assignment such as for CS222 and the law courses at Emalus campus in Vanuatu can return its result interactively. Other modes take much more times. For example, according to the evaluation report on CS222, 44% of students received the results within 14 days while 55% of them more than 2 weeks. Even 13% of them received after 30days.

This is an area for improvement.

2- 3) Building repository of learning material – Virtual Learning Environment

Quantity: number of multimedia learning objects indexed to MDB (100 by Jan. 2005)

Result: 80 objects were indexed so far and other 19 were ready to be indexed. However, visual objects have not been indexed due to lack of capacity of the server. And up-grading of capacity of servers is under consideration.

It is not sure to be achieved by the end of the Project.

Quantity: number of items index to MDB (2200 by Jan. 2005)

Result: 2000 multimedia learning items were indexed. It is expected that over 2200 items will be indexed by the end of Project.

It can be achieved by the end of the Project.

Output 3: Component of IT Research and Training Component

Output 3 is “Short-term model training courses are implemented based on research on IT utilization and digital divide in the South Pacific Region.”

1) Mechanism of R&T is established by October 2002

Result: Mechanism of ICT R & T (proposal collection, screening, monitoring, peer reviewing, supporting, editing, publishing, and circulating) was designed by October 2002 and implemented during the first round ended in end of March 2004.

It has been achieved.

2) The first 3 research reports are completed by July 2004

Result: The first report was published in June 2004, the second one in January 2005 and the third one in February 2005. Two more reports will be published by the end of March 2004. Report publishing was little delayed.

It can be achieved by the end of the Project.

3) The implementation of the first 2 short-term model training courses are started: 1 by February 2004 and another by February 2005

Result: The 1st Workshop titled “Economic Impact of E-Commerce Strategies for the Marketing Small and Micro Tourism Enterprises” was held in Feb 2004. Second workshop titled “Regional workshop on ICT in Education” was held in January 2005. USP is especially keen to follow the second workshop and this is the good case to utilize research result and contribute to community.

It has been achieved.

Evaluation by participants of model training courses

Result: An evaluation at the each model course has been implemented, and report making is under process.

It needs further efforts to achieve by the end of the Project.

3-3 Achievement of the Project Purpose

The Project Purpose is “More students can receive improved education service through the enhanced IT capacity of USP,” The verifiable indicators for the Project purpose in the PDM were examined as follows.

Target 1: Increase in the number of qualified graduates who have up-to-date and practical IT knowledge and skills: 130 graduates/year in 2000 to 195 graduates/year in 2005 (50% increase)

Result 1: The number of graduates of CS and IS graduate degree courses are 198 in 2002, 213 in 2003, and 240 in 2004, respectively. The number of graduates in 2002 is beyond the target number stated as indicator. The number of graduates has increased by 7% in 2003 and 21% in 2004 compared to 2002. The number of 280 can be expected to be 280 in 2005 which is about 40 % increase from 2002 by simple extrapolation.

Target 2: Development of capacity of Distance and Flexible Learning course development utilizing multimedia technology (Procedure of DFL development is established and courses are developed just by staff)

Result 2: The procedure of the development of e-learning course materials has been established through the development of two e-learning courses that were created by USP staff with coordination and support of JICA experts. The utilization of multimedia technology for development of DFL materials is in progress through the development of multimedia learning objects. Multimedia database is installed. Preparing & indexing of course guide and multimedia learning objects are carried out.

Target 3: Development of capacity of IT research and training (Many qualified research proposals inquiring utilization of IT for socio-economic development are collected at USP, and the result of researches are publicized successfully and utilized for short-term model training courses and generating awareness.)

Result 3: Some qualified research proposals inquiring utilization of ICT for socio-economic development were collected during 3 years and ICT research reports are getting published successfully. Utilization of research result is a little slow and initiated by experts. Positive impact was reported, which greatly impacted on Fiji government and communities in terms of generating awareness of ICT and is expected to lead capacity building of ICT research and training. Out of the Project activities, four research papers were presented at International conferences.

In short, although there are some problems to be solved from now, it is summarized that the project purpose has almost reached the level of the targeted level.

3-4 Achievement of the Overall Goal

The Overall Goal of the Project is “USP is enhanced as a center of excellence for human resource development through the qualitative and quantitative improved education service.” The verifiable indicators for the overall goal in the PDM were examined as follows.

Target 1: Increase in the number of applicants for both higher education and continuing education

Result 1: The number of enrollments is increasing from 14,324 in 2002 to 15,393 in 2003. It could say that increase of variety of DFL courses through IT usages contributed to the increase number of students.

Target 2: Increase in the number of offering of the qualified jobs for graduates

Result 2: Since there is little statistical data available, it is difficult to conclude if qualified jobs for graduates are increased or not. USP side commented it was too early to assess this matter because the obvious improvement of education services just began from last year. However, many students who the Japanese Team met mentioned that graduation with USP degree added great values them for job markets, and it was most important reason to study at USP program. So possibilities of offering of the qualified jobs for graduates could be quite high.

Target 3: Increase in the number of papers read at international meetings and published with international academic journal

Result 3: Even though research culture at ICT at USP is not mature, the Project has

succeeded in increasing papers published and awareness raised in ICT for education with papers presented, articles published, and TV, radio and newspapers coverage. Considering this growing, USP set up one-year research leave system for faculty from this year. Thus it is expected that continuous-organizational USP supports can strengthen R & D at USP.

4 Implementation Process of the Project

The Project consultation team dispatched from JICA in May 2003 and both USP and the team have conducted the review of the Project progress. The both sides concluded that the Project had been going on smoothly as almost planned despite some delayed activities. On the base of this understanding, its both sides identified pending matters and suggested the following priority areas for the Project activity up to the end of the Project.

A. Pending matters

Delay in delivery of equipment for DFL courses, shortage of staff members required for course development, and highly frequent change in C/Ps are pending matters. Further efforts must be made to achieve the goal by the end of the project.

B. Priority Areas for 2003

a) Training on Linux

In order to ensure the sustainability of the Project outcomes after the completion of this project, the acquisition of the qualification by staff members to educate others to use Linux (RHCE) is important. To achieve this, it was decided that consultants as short-term experts would be sent from Japan to USP to conduct training courses for greater number of trainees of USP staff.

b) Distant Education

It is strongly requested the increase of staff members required for course development and the fixed C/Ps to whom techniques would be transferred from Japanese experts.

c) Need for IP of the USP-Net

Responding to needs of higher speed of the USP-Net, the test and verification of the IP of The USP-Net were conducted, and necessary equipment for IP including 6 servers were installed.

C. Revision of PDM

Reflecting the results of the consultation study, modifications of PDM were made basically on indicators. The revised PDM were approved at the Joint Coordinating Committee (JCC) held in November 2003 and activities were underway in accordance to the revised PDM.

After the consultation study till now, almost all issued were solved with efforts of both USP and Japanese sides except upgrading of the USP-Net. At the time of final evaluation, realization of upgrading the USP-Net is only one but most significant issues to be solved as soon as possible.

5 Results of Evaluation by Five Criteria

By analyzing the outputs of the Project, the Joint Evaluation Team was able to assess the project against the five criteria of relevance, effectiveness, efficiency, impact, and sustainability. A summary of discussion follows.

5-1 Relevance

5-1-1 Relevance to Regional Needs

ICT has strong potential for island states to facilitate information communication and to develop new Industries. The need for the enhancement of ICT is extremely high among the member countries.

USP has maintained its status as a leading higher educational institution in the region. At present, USP plays an important role as the core for human resource development. The increased number of students indicates stable demands of USP education as a whole. Considering these situations, the Project is in line with the region's needs.

5-1-2 Consistency with the Japanese government policies

At the G8 Kyushu-Okinawa Summit held in July 2000, one of the agenda items was the importance of training human resources by making positive use of ICT. The Japanese government presented Japan's initiatives in promoting ICT in the region. Considering this, this Project is consistent with the policies of the Japanese government.

5-1-3 Relevance with the JICA Project Implementation Plan

JICA Project Implementation Plan for Fiji places priority on capacity-building in localities through education and other activities, while for Samoa, human resource development by IT training is the major aim. JICA also intends to promote intra-regional cooperation. From these points of view, this Project is in line with the JICA plans.

5-1-4 Adequacy of technical levels

The Project provided technical skills and equipment suited to the levels of USP staff. Thus, the level of technical support and equipment provided by the Japanese side was adequate.

5-2 Effectiveness

Considering the Project Purpose: “More students can receive improved education service through the enhanced IT capacity of USP,” it can be concluded that effectiveness of this Project is high based on the following findings.

In terms of CS component, the number of graduates has been steadily increasing. The quality of education provided by CS Department, utilizing up-to-date IT technology (including the new PC labs and classroom links to UEC via satellite), has been improved from the previous years after overcoming staff shortages. Two members of the staff went to Shinshu University, in Japan, for specialized training on the delivery of online courses. The Department has now largely overcome the severe shortage of teaching staff that limited it in 2002, and now has the capacity to increase its student numbers.

In terms of the DFL component, a multimedia lab was set up and equipped at CELT and DFLSC, with further equipment being distributed to the Media Centre and various departments throughout the Schools at USP. There is almost a full complement of staff at DFLSC with roughly 6-7 course development teams. Greater experience has been gained by staff under the DFL component as a result of collaborative work with the JICA experts. Three counterparts under the DFL component were sent by JICA to Japan for training in multimedia and video production. On returning, they shared their knowledge and skills. Improved capacity for on-going training of DFL staff can also be expected to sustain future capacity building.

Now DFLSC can develop DFL courses through the use of various multimedia technologies and USP-Net. Combinations of modes include print based courses with audio and videoconferencing, videobroadcast courses, blended e-learning courses which utilize CD-ROMs and Web-CT. There are about 200 courses offered through DFL per semester. A multimedia database (MDB) was set up to build a repository of learning objects. It is expected that the use of this repository will increase considerably when greater bandwidth is available to the regional Centres and open beyond USP access.

Therefore, it can be said that the capacity of DFL course development has improved through the utilization of multimedia technology and JICA expert assistance. Furthermore, when documentation of course development procedures for e-learning courses is finalized and shared with the USP staff involved in distance and flexible-learning, it can be expected that the capacity of DFL course development will strengthen in the future.

Reviewing the IT R&T component, the Project provided the opportunities in support of research, including a planned workshop on research skills. The Project also gave guidance in research procedures, encouraged research motivation of academic staff, and raised awareness of the importance of research and the utilization of its results. Although some of the research proposals did not meet all of USP’s requirements during the Project period, good

progress was made in cultivating a research culture at USP in the field of ICT and related subjects.

Overall, it can be concluded that the Project purpose has been substantially achieved, as have the objectives for each of the three components. Moreover, each component obtains synergistic benefits from the other components. For example, CS academia supported DFL course development, DFL provided better course materials, IT R & T provided opportunity for research in developing CS curriculum, and technical staff of ITS were supported to improve the ICT educational environment.

5-3 Efficiency

It can be said that efficiency of the Project is comparatively high based on the following.

5-3-1 Japanese side

Equipment which the Japanese side provided suited the USP needs and is utilized very well on a daily basis. However, the survey of 45 counterpart staff members (30 responded - refer to ANNEX 20) indicated that USP-Net, which was provided partly by Japanese Grant Aid, is in urgent need of an upgrade in order to fully take advantage of the positive results of this Project.

Really up-to-date ICT experts are limited not only in Japan but also over the world. To cope with this situation, the Japanese side tried to dispatch many and varied short-term experts in up-to-date fields with appropriate timing. This contributed to achievement of the outputs more efficiently.

5-3-2 USP side

The senior management level of USP was highly involved in the Project and committed with ownership. This is one of the most important factors for project achievement and efficiency. The high enthusiasms, receptivity and skills of USP staff in both teaching and technical applications (at the USP main campus in Fiji and the other centres), also contributed to the high efficiency.

On the other hand, USP had difficulty in filling all staff positions in 2002. This caused delay of the progress of the Project activities and it was negative factor for efficiency. It was observed that limited number of lecturers and tutors at the centres placed constraints on the learning opportunities for remote students. Even using multimedia materials, interactive face-to-face consultation, tutorials in lab, and/or video/audio tutorials, are required to maximise learning.

Although the Project provided the latest equipment, almost of all equipment is maintained and utilized well.

5-4 Impact

In addition to partial achievement of the overall goal as the expected-positive impacts as mentioned in achievement section, there are some unexpected-positive impacts on regular USP education that have occurred. However, no negative impact has been observed.

5-4-1 Expected-positive impacts

One of expected positive impacts is the Overall Goal: “USP is enhanced as a center of excellence for human resource development through the quantitative improvement of educational service.” As the achievement session mentioned, this Overall Goal has been partially achieved. In some respects it is too early to fully assess the impact of this goal, as relatively few graduates have benefited from the full Project.

5-4-2 Other impacts

The most important and unexpected impact is that the Project promoted the government’s awareness of the importance of ICT. Now Fiji government has realized the importance of ICT and put emphasis in its policies. Furthermore, it can be said that the Project indirectly contributed to the awareness of the importance of ICT in member countries through USP and Fiji government.

In CS component, the collaboration mechanism between USP and UEC in Japan was developed through implementing satellite–interactive–courses. Regarding the Red Hat courses, six Red Hat Certified Engineers (RHCE) certificates and two Red Hat Certified Technician (RHCT) certificate were obtained by the USP staff. and these staff members will be expected to provide the Red Hat academy for students in the future. Provision of internationally standardized practical certification positively impacted on Fiji ICT community.

In IT R&T component, the Regional Workshop based on the research titled “Evaluation of Computer Science Curriculum in Fiji Secondary Schools” gave step to improved ICT education in the secondary schools within the region, particularly with the involvement of the Ministries of Education in the Pacific region. Some of the USP member countries are planning to prepare their own curricula arising out of the Workshop. The findings of this research were also presented in the PTC 2005 Conference in Honolulu. The research titled “Educational Multimedia for the South Pacific” got remarkable attention internationally, regionally and within Fiji. In December 2004, the researcher was invited for a presentation to the Educational Development Centre Conference at United Nations in New York.

5-5 Sustainability

After the Project end, the outcomes produced by the Project can be sustainable because of the following reasons.

5-5-1 Management aspect

USP has a solid educational body and keeps high reputation in the South Pacific region. Its management system is stable. Thus, USP management function is quite sustainable as long as there are no outside factors such as political confusion.

5-5-2 Technical aspect

Technical transfer from the Japanese side at CS, DFL and ITS divisions contributed improvement of level of technique in terms of utilization and maintenance of equipment. USP is continuously expected to take full responsibility for maintenance and replacement of equipment provided by the Project after the termination of the Project.

5-5-3 Financial aspect

The financial situation of USP is stable as shown the table below. And continuous government supports from 12 member countries and increased students’ fee income can be anticipated. Thus, USP can be financially sustainable.

Table: Five years comparative Recurrent Income and Expenditure (\$000’)

	1999	2000	2001	2002	2003
Total Income	46,902	4,972	52,093	55,772	63,298
Total Expenditure	46,855	48,153	50,788	54,588	60,533
Surplus for the year	47	1,319	1,305	1,184	2,765

5-5-4 Donors’ support

USP has been supported by several donors in terms of finance with 7-8% of the recurrent budget in the last 5 years and other technical supports. If this trend continues, USP can sustain the present level of CS and DFL education and possibly develop more.

6 Conclusion

As mentioned above, the Project has achieved most of the Outputs and the Project Purpose. In addition, a part of the Overall Goal of the Project have been achieved and the rest of them are expected to be achieved, if USP utilises the results of the Project such as the transferred technologies through the Project, the C/Ps of the Project and the mechanisms and systems developed by the Project.

The Project produced a number of positive impacts for the Pacific Region described in the previous chapter. Sustainability of the Project can be expected due to committed management, stable finances, continuous donor’s support, and improved technical infrastructure and capacity.

In conclusion, based on discussions in the prior chapters, it can be said that the Project will achieve its objectives by the end of the Project period. Therefore, the Joint Evaluation Team concluded that JICA technical cooperation will be terminated on June 30, 2005 as scheduled.

7 Recommendations

7-1 Recommendations relating to the remaining period of the Project

(1) To send a junior CS staff member to Japan to pursue a master's program at UEC and plan for continued collaboration in staff development.

(2) To deploy infrastructure and to develop skills for continued teaching collaboration with UEC via satellite and AARNET.

(3) To complete the development of two more DFL model courses, CS224 and CS332. In addition, to finalise the guidelines for course development procedures for e-learning, based on the development of CS221, CS222, CS224 and CS332. Furthermore, to share the development procedure within USP and regional communities.

(4) To plan, develop and execute a programme which will include workshops and seminars that will develop the capacity of academic staff at the University in research proposal writing, research methods and writing research reports in the area of ICT for socio-economic development. A short-term expert from Japan or equivalent will be dispatched for this purpose.

(5) To monitor DFL students' feedback on the delivery of DFL courses, and to act on the feedback.

(6) To institutionalize the MDB. JICA to send a short-term expert to advise on guidelines for utilization, setting standards for contents, and to assist in the preparation of action plan for implementation.

(7) DFL should arrange to provide broad access to the 2000 indexed learning objects.

(8) To promote the operational course management system, and to extend the progress to University Schools, Departments and Sections throughout USP member countries in developing model DFL courses.

7-2 Recommendations after the termination of the Project

(1) It is the responsibility of USP to ensure utilization and maintenance of the equipment that the Project provided.

(2) To ensure the urgent upgrade of the USP-Net and utilize the USP-Net to enhance the capacity of ICT in the 12 member countries of USP.

(3) To establish mechanisms and systems of grant research at USP utilising the outputs of the research results in course development, lectures, publication of papers in international journals, and developing an awareness throughout the region of ICT for socio-economic development.

(5) To cooperate with IT industries and the societies in the Pacific region in the field of research and development in order to contribute to the development of the societies in the Pacific region.

(6) Since the Japan-Pacific Center for Information and Communications Technology (ICT Centre) is planned to be constructed at USP by the Japanese Grant Aid, USP is expected to fully utilize the results of this Project for the development of the planned ICT Centre to further improve education quality through enhancing the capacity of ICT. In addition, to further develop the CS curricula with view to the opening the ICT Centre.

8. Lessons Learned

The lessons learned from the Project are extracted as follows;

(1) Strong ownership

It is worth noting that strong ownership, especially the ownership by Management of USP and by the C/Ps contributed to the success of the Project. The academic staff of USP have driven the Project, cooperating eagerly with the long-term experts.

(2) The Relationship between USP and UEC

The close and long-term relationship between USP and UEC contributed to the Project's smooth operation. This relationship makes possible implementing distance lectures using the satellite link between USP and UEC. It can be said that this good relationship assured the success of the Project.

(3) The timely dispatch of proper short-term experts

The Project identified technology needs in the region and the Japanese side took urgent actions to respond to these needs, providing appropriate short-term experts such as in the fields of networking security and Linux. These prompt actions ensured that the efficiency of the Project was maintained.

(4) Support from the government and Industry in the region

Due to strong back-up and support of the Project by the governments in the region, USP and JICA enjoyed success and smooth operation of the Project. In addition, involvement of Industry in the region is necessary to ensure the sustainability and strength of this project.

(5) Strong back-up and support system in Japan

The JICA Advisory Committee, consisting of the UEC, the NIME (National Institute of Multimedia Education), the University of the Ryukyus, the NICT (National Institute of Information and Communications Technology) and the Ministry of Internal Affairs and Communications, has played an important role in providing ideas for technology transfer and human resources for the Project.

(6) Flexible modification of the Master Plan

The technology of ICT field is changing so quickly in comparison with other fields. The trend requires quick and flexible modification of plans. Thus, JICA should monitor the progress of the project closely and take actions as soon as possible if situations change.

(7) More utilization of PDM

For the implementation of a project like this within a complex body like USP, the PDM should be fully communicated and shared with all stakeholders of the project in order to align people's efforts and monitor the project progress appropriately.

(8) Duration of the Project

The Project was successfully completed in three years. Consideration should be given to projects that are five years in length, as this would fit in well with university planning cycles.