

*PROJECT NO. 874-0009*

**EVALUATION OF  
VANUATU FISHERIES DEPARTMENT  
COMPUTER REHABILITATION PROJECT**

prepared for

USAID/SUVA

by

Jeffrey M. Stander  
Computer Systems Manager  
Tuna and Billfish Assessment Programme  
South Pacific Commission  
Noumea, New Caledonia

11 April 1988

**INTRODUCTION**

This evaluation was undertaken at the request of USAID, who provided the terms of reference for the project.† This report follows these terms of reference item-by-item. During the period November 19 to November 24 the project documents and proposals were reviewed at the Forum Fisheries Agency in Honiara, Solomon Islands. At this time interviews were conducted with FFA computer services staff. The evaluation was continued in Port Moresby, Papua New Guinea from 30 November to 2 December.

**IMPLEMENTATION OF THE PROJECT — how did it proceed?**

FFA staff indicated that approvals needed from USAID were timely and that USAID was responsive. The financial transactions also appeared efficient. Equipment and software were delivered on site by FFA personnel. The only problem noted was that expenditures by project on an item-by-item basis were not available. The FFA Accounts Manager being on duty travel at the time made it difficult to unravel exactly how much had been spent on each project and when. The information is there and everything appears to be in order, but it would be beneficial to keep separate budget accounts for each project.

The project is well-conceived and well-organized and appears to be effective in meeting its goal of introducing computing technology into the Vanuatu Fisheries Department.

---

† see attached

## THE APPROPRIATENESS OF THE PROJECT

### HARDWARE SELECTION

The VFD project is exceptionally appropriate for its stated mission. Although more expensive than most similar hardware on the market, the choice of Hewlett-Packard systems, as discussed in the proposal, makes sense if for no other reason than their proven reliability. Their implementation of PC software is also very straightforward to the average user, the manuals are unusually clear, and their peripherals are well-integrated with the system unit. It is true that the short-term higher costs of HP equipment are outweighed by long-term savings in time and money because of HP's record of reliability.

### SOFTWARE SELECTION

LOTUS 1-2-3
MS WORD
MSDOS Ver 3.1 (now upgraded to 3.2)
BASIC Interpreter
MS-DOS macro assembler
Executive Memomaker
Gallery Collection (Chart & Draw)
Microsoft Windows
Aldus Pagemaker
Reflection 3
dBase III+
Norton Utilities
Training Software

Table 1. Principal Software Provided

Principal software provided is listed in Table 1. This collection of software meets the basic requirements for word processing, data base management, spreadsheet and management utilities. In addition, there are advanced programs (Gallery, Pagemaker, Windows) which may be useful, depending on the development of VFD expertise and a perception of need. A suggested addition would be a fast disk backup program like *Fastback* and the *PCTOOLS* suite of utilities, which covers much of the Norton tools, but allows very easy file and disk system maintenance.

### TRAINING PROGRAMS

Training was provided for 5 staff members at Management Technology Education in Sydney. The VFD Research Director (also the *de facto* Computer Manager), two data entry/secretary personnel, and two research personnel attended a one week course in Sydney which covered 1 day of DOS, 2 days of LOTUS, and 2 Days of dBase. The VFD Computer Manager has also had two weeks additional training with other funding. Although FFA staff were on-site to help install the equipment, no more formal training has been provided direct from FFA. Whereas this particular training is totally appropriate, a longer training period would have been justified, and was provided for in the original proposal.

## FACILITIES USAGE

The NEC Portable is used by VFD Director primarily for report writing, contract development and other administrative tasks. LOTUS 123, Executive Memomaker, and dBaseIII are all used on this machine.

The other four computers, all Vectras, all based at VFD HQ, are used extensively for word processing (MS Word and Executive Memomaker), DBMS (dBase II & III), spreadsheets (Lotus), PageMaker, MS Windows, and Gallery have not yet been incorporated into the common usage of the VFD computer project. This implies that the Laserjet printer is currently underutilized, but given the duration of the project, it is only a matter of time until the PageMaker and MS Windows are utilized.

The VFDP, the Biological data base, regular word processing, and in-house budgeting all use the existing computers. By *Information Problem Areas* (Sec. 4 in the Proposal), usage is rated in Table 2 and 3.

- 4.1 Village Fisheries Development Program (VFDP) (H)
- 4.2 Biological and Technical Research (M)
- 4.3 National Tuna Industry (N)
- 4.4 Assessment of Marine Products Markets and Export Potential (N)
- 4.5 Support Industries and Services for VFDP (P3)
- 4.6 Espirtu Santu Operations (P3)
- 4.7 Economics and Planning (N)
- 4.8 Accounting and Administration (H)

Table 2. Usage by Information Problem Area.  
N=no usage, M=med. usage, H=high usage, P3=phase 3 usage

- 4.1 Village Fisheries Development Program Administration (V)
- 4.2 Research Unit (V)
- 4.7 Economics and Planning (V)
- 4.8 Secretarial Service (V)
- 4.8 Management (N)

Table 3. Usage by Functional Area. P1 and P2 computers.  
V=Vectra N=NEC M=MSiSpeed

This leaves several functional areas in VFD to be supplied with computers under Phase III. The Vectra which was to be the LAN file server under the original Proposal, although unallocated, would be useful as a workstation in either Research or Economics.

## THE IMPACT OF THE PROJECT — what has it achieved?

Given that the project is not yet complete, it has already had an impact on the backlog of fisheries data, has eased the workload of the secretarial staff, allowed management and principal officers access to basic computer tools and, most important, appears to be on target for a carefully planned introduction of computer technology into the VFD.

### OBJECTIVES MET

Given the following *Information Problem Areas*, the Phase I/II USAID program has met its specific objectives have been met as noted below:

#### 4.1 Village Fisheries Development Program

The VFDP data base is now up to date. All new data are entered on a routine basis. The current level of data input is about 1000 new forms (trip records) per month. No reports have been generated by the DB, but that is forthcoming.

Some accounting for the VFDP has been done using Lotus.

#### 4.2 Biological and Technical Research

The ORSTOM forms for length/frequency analysis have been incorporated into VFDP trip records, but the old forms have not yet been converted into records under dBaseIII.

The data for the small scale fish survey are not yet entered into the new hardware. There are 2 years worth of fishery data yet to be entered.

#### 4.3 National Tuna Industry

Logsheets and Landing Reports are received from DWFN vessels. Logsheets are passed to SPC for entry into the Regional Database. Landing reports are currently not entered. VFD has desires to analyze their own data and will be requesting processed logsheet data from SFC on compatible media.

#### 4.4 Assessment of Marine Products Markets and Export Potential

VFD is currently without a marine economist, but this post is under recruitment. It is planned that Market Analysis will proceed as planned in the near future.

#### 4.5 Support Industries and Services for VFDP

The store is currently at Port Vila Fisheries, while the Repair Centre is located next to the VFD offices. The implementation of information systems at these facilities is slated for Phase III.

#### 4.6 Espirtu Santu Operations

This is set for Phase III. It is planned that purchase of two modems will facilitate immediate computer-to-computer data links.

#### 4.7 Economics and Planning

The impact of computer rehab in this area awaits recruitment of an Economics Officer. It is essential that this person either have well-developed computing skills or be able to take advanced training in such.

#### 4.8 Accounting and Administration

Most correspondence is performed using the word processors. While much of the routine accounting records are done in Lotus, there are still more procedures that could profitably be converted. The computers available are now adequate for secretarial needs.

## EQUIPMENT USAGE

This is described in the previous section

## SIGNIFICANCE OF CURRENT USAGE

The USAID computers have had a profound and positive effect on the VFD. For one, they are now in the mainstream, using hardware and software compatible with what is being used in the rest of the region. For another, they have the capability (and are using it) to develop their data entry and data management capabilities.

The VFDP (dBase III), the biological research (dBase III), and the administrative (word processing and spreadsheet) units are all benefiting from the equipment.

## CONTRIBUTION TO FISHERIES MANAGEMENT IN VANUATU

In the judgement of the evaluator the introduction of computer technology *and training* is a highly productive endeavour. Word processing always seems to be the first reason why microcomputers are desired; it is the least significant reason. It does provide higher quality output and easier review-and-revise operations, but it still remains a fancier form of typewriter.

The real advantages to development of computer capabilities lie in the areas of data management and analysis. Raw data collected from coastal and offshore fisheries may be processed and stored in a more manipulable form. Transmission of the same data to regional agencies is more efficient, and most important, the way is clear for on-site analysis for stock assessment and management.

At this time, VFD is primarily in a data-entry mode. With the recruitment of a Sr. Research Officer and Economics Officer (both expected to have computer skills), the analysis of the data should proceed as planned. This should give VFD the ability to conduct stock assessment on its inshore fishery resources, process its own longline statistics, analyze harvest of shellfish (particularly Trochus and Green Snail) and utilize market data. The implications for better management are obvious.

## WIDER ISSUES: what can be learned from this project?

### FUTURE COMPUTER DEVELOPMENTS

Phase III implementation should proceed as soon as the equipment is needed by VFD. It is suggested that attention be paid to the training component with an eye to advanced training (e.g. 2 week to 2-month attachments at SPC or FFA or advanced regional training programs) for Research and Economics officers (beyond basic skills) and possible follow up training (maybe on-site) for secretarial and other support staff. This advanced training would be in lieu of the proposed 10-week consultancy.

Attention should be given to the "consumables" component of the project, with a planned supplies and routine maintenance budget being established.

### APPROPRIATE USAID FOLLOWUP

Training, consumables, hardware maintenance, software support and hardware and software upgrades will continue to be an ongoing requirement. USAID might consider a method whereby the region as a whole had access to the above under a support program at FFA or elsewhere.

One suggestion this reviewer has is for a employment of a "roving" computer expert who could visit the countries involved to follow up on the installation and staff development. This person would on-site consultation to solve computer-related problems. Since not all of the 10 countries involved in the FFA/USAID project have received their hardware, a phased approach to this suggestion would provide 3 to 4 weeks of consultation per country per year over the lifetime of the project.

## IMPLICATIONS FOR IMPLEMENTATION OF OTHER USAID FISHERIES COMPUTING PROJECTS

Clearly, the training component of the Project is the significant one. Here in Vanuatu the selection of personnel for training was very good. The danger is that the training may be wasted if that person moves on without passing on knowledge to their successor. It is very easy to waste thousands of dollars training the wrong personnel. Fortunately, this is not the case with Vanuatu.

It is important that all of these Computer Projects make sure that the training is thorough. If anything, there needs to be more training — there is a tendency to *undertrain*. But what kind is best?

Experienced computer users are self-starters on new software products. After acquiring a software package, the “intuitive” user simply begins using the package, sometimes working through a tutorial, often referring to the manual only when something isn’t obvious.

It thus appears as important to encourage enthusiasm and confidence than as to provide rote training. The basic training be experienced trainers is essential, but advanced training and access to consultation is equally important.

Therefore, after the initial training, the establishment of on-site followup training with a fisheries-oriented “consultant” may well be better than another training trip to Sydney or Auckland. Other options exist — attachment training or joint training workshops with SPC or FFA. Attachments have drawbacks in that they are often wasteful of the host staff time and often stressful on the student. A better method is to organize regular training workshops with at least 5 students in attendance. The provision of these advanced services would greatly enhance the impact of this already successful Program.

## CONCLUSION

The Vanuatu Computer Rehabilitation Project is doing very well in fulfilling its goal. It is well-thought out and is administered well. Vanuatu Fisheries Department has greatly benefited from the technology introduced and is likely to maintain its level of computer capability into the future.

**TERMS OF REFERENCE FOR THE  
EVALUATION OF USAID  
COMPUTER REHABILITATION PROJECTS**

**a. IMPLEMENTATION OF THE PROJECT — how did it proceed?**

- Were any approvals needed from USAID timely?
- Were the financial transactions efficient?
- Were the expenditures properly accounted for?
- Were the equipment and software delivered effectively?
- Did the staff have effective access to training?
- Was the overall organization of the project effective?
- Were there any other difficulties or constraints in the implementation of the project?

**b. THE APPROPRIATENESS OF THE PROJECT — was it well designed?**

- Was the hardware the right choice?
- Was the right software provided?
- Were training programs appropriate?
- Was the budget appropriate?
- What level of use is made of the facilities?

**c. THE IMPACT OF THE PROJECT — what has it achieved?**

- Has it met the objectives set?
- What is being done with the equipment?
- How significant is the work that is being done?
- Where can it be expected to contribute to the better management of the country's fisheries resources?

**d. WIDER ISSUES — what can be learned from this project?**

- How should work in this area proceed in future within the fisheries department?
- What followup might be appropriate for USAID?
- What can be learned for the implementation of other USAID fisheries computing projects in the South Pacific?
- What can be learned for improving the development of fisheries computing capacity in South Pacific island countries generally?
- What other points can usefully be drawn from the project?