

**New Zealand Agency for International Development**

*In partnership with*

**Government of Vanuatu**

**External Review of the Vanuatu  
Education Management Information  
System (VEMIS)**

***FINAL REPORT***

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## Acronyms

|            |  |
|------------|--|
| AusAID     | Australian Agency for International Development  |
| DESP       | Department of Economic and Sector Planning   |
| EduTrain   | EU Education and Training Programme  |
| EFA        | Education For All  |
| EMIS       | Education Information Management System  |
| EPG        | Education Partners Group   |
| EU         | European Union   |
| GoV        | Government of Vanuatu  |
| IT/IS      | Information Technology/ Information Systems  |
| JICA       | Japan International Cooperation Agency   |
| KEMIS      | Kiribati Education Management Information System   |
| MDGs       | Millennium Development Goals   |
| MEYDT      | Ministry of Education, Youth Development and Training                                    |
| MFEM       | Ministry of Finance and Economic Management  |
| NZAID      | New Zealand’s International Aid and Development Agency                                   |
| OPAD, OGAD | Outie de Pilotage (Gestion) et d’Aide à la Décision                                      |
| PCC        | Project Coordinating Committee   |
| PEO        | Provincial Education Officer   |
| PINEAPPLES | Pacific Island Nation Education Analysis Policy Planning Leveraging Education Statistics |
| PIFS       | Pacific Island Forum Secretariat   |
| popGIS     | population Geographical Information System   |
| PRIDE      | Pacific Regional Initiative for the Development of Education                             |
| PRISM      | Pacific Regional Information System  |
| SIEMIS     | Solomon Islands Education Management Information System                                  |
| SPBEA      | South Pacific Board for Educational Assessment   |
| SPC        | Secretariat of the Pacific Community   |
| SWAp       | Sector Wide Approach   |
| UNESCO     | United Nations Educational, Scientific and Cultural Organisation                         |
| UNICEF     | United Nations Children’s Fund   |
| USP        | The University of the South Pacific  |
| VEMIS      | Vanuatu Education Management Information System  |
| VESAP      | Vanuatu Education Support Action Plan  |
| VESS       | Vanuatu Education Sector Strategy  |
| WAN        | Wide Area Network  |

## 1 EXECUTIVE SUMMARY AND RECOMMENDATIONS

The purpose of this external review was to assess how effectively the 2007 Vanuatu Education Management Information System (VEMIS) Project's design, mechanisms and implementation approach have been working and how to address identified areas of weakness or risk to sustainability. The goal of the review was to identify the achievements of the VEMIS project against agreed objectives so far, and to provide recommendations for follow-up to ensure planned results are achieved and sustained.

Overall, the External Review Team found that the contractor, UniQuest, and the Ministry of Education, Youth Development and Training (MEYDT) had done a very good job in introducing VEMIS to Vanuatu. All Project Objectives have been achieved to the extent that it was possible to achieve them in the time available. Respondents were uniformly positive about VEMIS.

However, it is much too early to evaluate whether or not VEMIS is improving education system monitoring and reporting, and enhancing the quality of short-term and longer term decision making in Government of Vanuatu ministries and departments, provincial offices, schools and pre-schools.

The VEMIS Project involved the completion of a total of 49 activities within 13 months. UniQuest and the MEYDT VEMIS Team completed all of these activities except for three, which they were unable to complete because of factors outside UniQuest's control. One of these activities was the production of the Digest of Education Statistics, so it was disappointing that, at the time of this Review, the MEYDT had not yet published this important document, although a draft was made available to the reviewers.

During VEMIS contract negotiations, it was envisaged that a VEMIS Project Coordinating Committee would provide high level monitoring of, and technical guidance for, activities under the VEMIS Project to ensure that VEMIS evolved in full alignment with VESS goals. However, this Committee was not established until well into the Project and it only met once. Partly as a result of this, the Review Team found that many external stakeholders were unaware of the potential usefulness of VEMIS and would like to be informed and consulted. If VEMIS is to realise its potential, it is important that as wide a range of people as possible become aware of the information that is now becoming available on Vanuatu's education system. Ongoing consultation with such stakeholders is also important for enhancing the quality and usefulness of the data collected and stored in VEMIS.

UniQuest's part of the overall VEMIS Project was well planned, but there has been a lack of planning for any follow up to UniQuest's input. As a result, no budget for VEMIS had been approved at the time of the Review, and VEMIS staff were uncertain about their future roles and responsibilities. Funding for the continuation of VEMIS was not inserted into the Vanuatu Education Support Action Plan (VESAP) for 2008 until March, and the associated funding arrangement with development partners had not been signed by early April.

The MEYDT is in the process of restructuring, but which position will take responsibility for the overall management of VEMIS was not clear either to the Reviewers or to the key staff who are currently involved in the implementation and support of VEMIS. It is important that VEMIS roles and responsibilities are defined in the position descriptions of Head Office and Provincial staff.

The VEMIS Local Software Developer's secondment finishes at the end of June and no action has yet been taken to replace him. This raises concerns about the sustainability of the System. The IT section in the MEYDT has a vacant post for a Software Support Officer, but it was still not clear at this stage whether this officer will be appointed in time to be properly trained.

There is also a continuing need for external software development support from UniQuest (for fixes and upgrades) via email and telephone/fax, and the occasional visit at critical times, at least over the next two years. However, if the MEYDT is to become independent of such support over time, such a provision should be used only if/when necessary.

It is important that all information requested in the VEMIS survey form is used by MEYDT and/or other stakeholders. Sections that request information that is not used or that request information that could be collected in other ways should be amended or deleted, so as to make the survey as simple as possible for respondents to complete. Insufficient time is currently allocated for respondents to complete their survey forms and for the Provincial Education Offices to check them. Also, the end of March may not be the best time of the year to conduct the school census.

If VEMIS is to be sustainable, the information entered into the System must be as accurate as possible. Data validation mechanisms are therefore very important. Data validation and auditing procedures have been integrated into VEMIS and users trained. However, more needs to be done. For example, although users are confident that the accuracy of much of the information collected is greater than that previously available, the data is questionable in some areas, such as primary school financial accounts.

It was found that “access rights“ granted to a number of users of VEMIS were not appropriately restricted with regard to their roles and responsibilities, exposing the System to a significant risk that data will be changed by unauthorised users. Another risk to the System is that normal backup procedures have not been carried out since the relocation of the VEMIS database Server to the MEYDT from the Ministry of Finance and Economic Management.

It is very important to get information back to schools and pre-schools in a timely manner. The School Profile Record, Teacher Information Table and School Feedback Report from the 2007 School Survey were sent to each school at the same time as the 2008 Annual Survey forms. However, there has been no feedback to schools and pre-schools with respect to the information they provided in other sections of the survey form, particularly the comments section.

Provincial Education Officers currently have no access to the VEMIS database. They need good access so that they can use the important information about their individual provinces to assist them with planning, for example, the allocation of teachers to schools.

VEMIS is not yet used by most managers within MEYDT. In spite of many having access through their own networked desktop computers, most have not yet tried to interact with the System. Staff need training on how to access the System and managers need training on how to analyze and interpret the statistical reports from the System. In the provinces there is need for financial training for primary school head teachers, training for newly appointed principals and head teachers, follow-up workshops for the latter and training for pre-school teachers.

Any extension of the coverage of VEMIS to, for example, post-school education and training, should be postponed until the introduction of the System to the management of information from pre-schools, primary schools and secondary schools has been given a chance to “bed down”.

**The following recommendations are made:**

1. That MEYDT resolve the issues delaying the publication of the Digest of Education Statistics 2007 and publish the Digest as soon as possible.

2. That a VEMIS Monitoring and Advisory Committee be convened regularly (at least quarterly) during the next two years to provide overall monitoring and advice to MEYDT's VEMIS Team.
3. (a) That VEMIS be included in future MEYDT annual plans and budgets;  
(b) That VEMIS training and support be included as a line item in the MEYDT's budget from 2009 onwards.
4. (a) That the ongoing overall management responsibility for VEMIS within MEYDT be clarified as soon as possible;  
(b) That the roles and responsibilities of individual MEYDT Head Office staff, including the Statistician, the Mapping Officer, the Monitoring Officer and the Research Officer, with regard to VEMIS be defined in their position descriptions.  
(c) That the future of the VEMIS data entry operator positions be clarified.
5. That the annual VEMIS plan include communication and promotional activities concerning the benefits of VEMIS data to other GoV ministries and departments, to key external stakeholders and to the general public.
6. That information from VEMIS is used by Professional Studies lecturers at Vanuatu Institute of Teacher Education and that the Institute invite a guest speaker from MEYDT to inform students on each programme about education statistics and VEMIS.
7. That VEMIS be deployed through a "thin client" web interface such as Citrix.
8. That MEYDT resolve the issue with regard to ongoing Software Support and Development as soon as possible to ensure that skills transfer occurs whilst the current Local Software Developer is still providing support for VEMIS.
9. That provision be made for email and telephone external software developer support, and up to two on-site visits, during the next two years.
10. That a School Facilities, Grounds and Resources Table be developed and returned to each school for checking, in addition to the School Profile and Teacher Information Table.
11. That the survey form be comprehensively reviewed in the fourth quarter of 2008, after consultation with a wide range of MEYDT and external stakeholders.
12. That the timing of the annual school census day be reviewed.
13. That MEYDT allow more time for Provincial Education Offices to distribute the survey forms prior to school census day, more time for the principals and head teachers to complete and return their forms, and more time for the PEOs and their staff (for example, the Zone Curriculum Advisers) to check and confirm the accuracy of the information in the forms, before sending them to MEYDT Head Office for data entry into VEMIS.
14. That additional funds be allocated to Provincial Education Offices to enable staff (for example, Zone Curriculum Advisers) to travel to remote schools to assist with completing VEMIS forms and to check the information entered.
15. That current data validation mechanisms be strengthened and additional mechanisms considered.
16. That VEMIS staff identify all users of the System, determine group roles and assign appropriate levels of security to each user.

17. That MEYDT's IT section implement robust backup procedures as soon as possible, and that they develop a backup system contingency plan.
18. That MEYDT assign responsibility for analyzing the comments section of the survey form and responding to schools appropriately.
19. That VEMIS annual survey forms and supporting tables (such as stock registers and property, plant and equipment pro-formas) be made available in electronic format to schools that have access to computers.
20. That each Provincial Education Officer be provided with an off-line electronic copy of the VEMIS database after they have received training on how to use VEMIS data analysis tools.
21. That further training be provided over the next two years, as follows:
  - (a) Familiarization training for new users of the VEMIS database on how to use the VEMIS data analysis tools.
  - (b) Training for managers in how to interpret VEMIS tables and pivot charts and use this information for planning and reporting purposes.
  - (c) Financial training for primary school head teachers.
  - (d) A repeat of both the 2007 training programmes run in each Province, but targeted at new head teachers and principals.
  - (e) One-day follow-up workshops on VEMIS for school principals and head teachers previously trained.
  - (f) One-day workshops on VEMIS for pre-school teachers.
  - (g) Electronic school records workbooks training (as developed by UniQuest) for schools that have administrative computers available.
22. That the introduction of VEMIS be consolidated and the other recommendations in this External Review be implemented before the coverage of VEMIS is extended to, for example, post school, technical or higher education and training.
23. (a) That MEYDT's VEMIS Manager make contact with his counterparts in Kiribati and the Solomon Islands with a view to setting up an informal user group;  
(b) That PRIDE be approached to set up a user group network of key people in the South Pacific Region using EMIS systems based on the PINEAPPLES software.

All except recommendation 1 are concerned with enhancing the sustainability of VEMIS now and in the future. Development partner support is particularly needed to assist MEYDT to implement recommendations 9, 21 and 23.

## 2 TERMS OF REFERENCE

The scope of this Review was limited to the VEMIS project and its objectives, covering the period from December 2006 to the first quarter 2008. The goal of the Review was to identify the achievements of the VEMIS project against agreed objectives so far, and to provide recommendations for follow-up to ensure planned results are achieved and sustained. The Review evaluates how effectively the VEMIS project's design, mechanisms and implementation approach have been working to date.

The full terms of reference are attached as Appendix I.

## 3 METHODOLOGY

The team leader initially attended a briefing meeting in Wellington with NZAID officials and the local counterpart attended a briefing meeting at the New Zealand High Commission in Port Vila. A desk study was carried out based on the documents provided and information available via the Internet.

A detailed timetable of meetings in Vanuatu with a range of stakeholders was developed by the locally based team member, in consultation with the team leader and the NZAID Development Programme Coordinator in the New Zealand High Commission. A summary paper outlining the background to the Review, interview areas and discussion issues was developed and distributed to the stakeholders<sup>1</sup> prior to the Review Team meeting with each of them (see Appendix II). Further documents for analysis were collected from key stakeholders in Port Vila. Lists of the people consulted and the documents reviewed are attached as Appendices III and IV.

During the first week (17-20 March), the Review Team met with MEYDT Head Office staff and other stakeholders in Port Vila. The Team then spent three days in Malekula (visiting 8 schools) and two days in Espirito Santo (visiting 4 schools), interviewing head teachers and principals of 3 secondary schools years 9-13, 2 junior secondary schools years 7/8-10, 16 primary schools<sup>2</sup> years 1-7/8 and 14 pre-schools/kindergartens<sup>3</sup>. Both Anglophone schools and Francophone schools in each category were visited; a few were town-based, but most were based in rural areas. It was not possible to visit very remote schools in the very limited time available, and two of the schools originally targeted in Malekula were not visited because of washed out road bridges cutting them off. The initial days of the third week were also partially spent interviewing Port Vila based stakeholders.

During and after completing the fieldwork the team leader, in consultation with the locally based team member, developed the draft report and the Review Team discussed the findings with stakeholders in Vanuatu (see Appendix VI), including NZ High Commission staff and NZAID's Wellington based Programme Development Manager, who was visiting Vanuatu at the time. On 6 April the draft report was submitted to the NZAID Programme Development Manager in Wellington. Comments from Vanuatu stakeholders and NZAID officials were incorporated into the final report, which was submitted to NZAID on 29 April 2008.

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<sup>1</sup> Except secondary principals, primary head teachers and pre-school teachers

<sup>2</sup> The Review Team visited 7 primary schools in person and met with 9 other primary school head teachers as a group in Santo East

<sup>3</sup> The Review Team visited 2 pre-schools in person and met with 12 other pre-school coordinators as a group in Santo East

## 4 BACKGROUND

NZAID and the Government of Vanuatu (GoV) have identified education as a priority area for development assistance. This is reflected in NZAID's country strategy for Vanuatu for the period 2006 to 2010.

NZAID is working with the GoV and with other development partners in Vanuatu to establish an Education Sector Wide Approach (SWAp), but considerable capacity still needs to be built in a number of areas including in evidence-based policy making and planning. In order to increase the quality and quantity of reliable information available, it was decided to enhance education information collection and analysis by introducing a new education management information system (EMIS).

The VEMIS project was implemented after an open tender, won by UniQuest, to supply an information management system to increase the capacity of the GoV to plan, implement, monitor and evaluate education policies and programmes.

VEMIS is based on Education Management Information Systems introduced by UniQuest in Kiribati (KEMIS – funded by AusAID) and the Solomon Islands (SIEMIS – funded by NZAID).

The goal for UniQuest in the VEMIS project was to design and initiate an information management system in order to collect reliable educational data on students and teachers, across all schools, and to establish a national database that will provide the basis for short and long-term monitoring and reporting as part of the education system. The project commenced in December 2006 and concluded in early 2008.

The objectives of the VEMIS project were:

- 1 To provide technical support and management for the establishment of an effective Education Management Information System (EMIS) in the Vanuatu Ministry of Education, Youth Development and Training's (MEYDT) Port Vila and Provincial offices and to ensure that requirements for education sector monitoring and evaluation are met and sustained thereafter.
- 2 To provide network administration and management assistance on the VEMIS database, at all levels until the completion of the project.
- 3 To provide technical support in terms of statistics, and including capacity building at all levels of education sector management.
- 4 To assist MEYDT in promoting the use of statistics in all education planning, budgeting and management.
5. To plan and implement skills training on VEMIS and facilitate training workshops for different levels of staff, both at MEYDT and throughout the provinces and in education authorities.

Progress on the VEMIS project since it began has been reported to MEYDT, NZAID and the European Union (EU) through quarterly progress reports. A Project Coordinating Committee was also formed to monitor project progress and provide guidance to the PPU and Project Team on overall project direction.

In addition, a number of milestone outcomes representing key achievements during the life of the Project were identified for Project evaluation purposes. Milestone achievements, once attained, were submitted to MEYDT for approval.

The main stakeholders in the VEMIS project were the MEYDT, which must manage and make use of the data produced by VEMIS; schools which must provide accurate and timely data and which are impacted by policies that are informed by VEMIS statistics; Department of Economic and Sector Planning (DESP) which is involved in sector planning and evaluation; and the Education Partners Group (EPG)<sup>4</sup>, which is the group of bilateral donor agencies responsible for ensuring coordination of development assistance to the education sector.

NZAID earlier advised the GoV that the establishment of an effective information management system would likely be a project requiring support for three years. After consultation with the MEYDT, who preferred a much shorter period, it was agreed to push the project to achieve its objectives within one year. Nevertheless, it is NZAID's expectation that follow-up support will be required to ensure the sustainability of results: in terms of local capacity building to technically manage VEMIS, to ensure that accurate and timely data is provided from the provinces and that data is used effectively for policy and planning purposes.

## **5 CONTEXT**

### **5.1 The Vanuatu Education Sector Strategy 2007-2016**

The long term goals of the Vanuatu Education Sector Strategy (VESS) 2007-2016 are to:

1. Achieve universal primary education completion, strengthen literacy, languages and numeracy, and develop a national pre-school curriculum and pre-school teacher training program
2. Continue to expand and improve affordable bi-lingual secondary, technical and higher education which meets national and international standards
3. Provide more relevant and accessible curriculum, materials and assessment systems
4. Provide qualified, productive and well-supported teachers for every school and strengthen the professional competence of teachers
5. Bring the education, management and facilities of every school up to a sustainable minimum standard, able to provide a safe and caring learning environment, and continuously improving its services
6. Strengthen the effectiveness, productivity, accountability, transparency, governance and decentralization of the education system and build capacities for results-based management at all levels
7. Strengthen partnerships at national, provincial and local levels, and empower school communities

The VESS was expected to incorporate the Ministry of Education Corporate Plan and Medium-Term Expenditure Framework for 2007-2009. Ideally, such an arrangement would underpin a Sector Wide Approach (SWAp). However, neither a Corporate Plan nor a Medium-Term Expenditure Framework has yet been prepared by the GoV. Also, recent independent reviews of financial management and institutional capacity at MEYDT indicate that more work needs to be done prior to the introduction of a SWAp. Thus a Vanuatu Education Support Action Plan (VESAP) bridging arrangement for 2008 was in the process of finalization at the time of this external review. The draft Funding Agreement between the Government of Vanuatu (GoV), AusAID and NZAID to support the implementation of the VESAP 2008 includes an activity aimed at completing the VEMIS Survey in 2008<sup>5</sup>. In fact, MEYDT had already committed some

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<sup>4</sup> Currently made up of AusAID (current chair), NZAID, EU, Peace Corps, France, JICA and UNICEF

<sup>5</sup> VUV 13,000,000 proposed under Program 3: Improve Ministry of Education Capacity

funds to the initial parts of this activity (see Section 7.1). However, there is no mention of VEMIS in the approved 2008 GoV budget for MEYDT.

The VESS includes several output and outcome indicators reflecting access, quality, efficiency and sustainability. Monitoring of the latter should allow the impact of the Strategy to be evaluated. However, baseline values for several of these indicators need to be determined and time-based target values set. At present, the information available to determine these indicators is not good enough to enable good planning and financial management. The VEMIS data collected from school surveys should provide the information necessary to determine the values of the monitoring and evaluation indicators in the VESS.

The MEYDT has begun to implement the revised structure projected in the VESS. The seven previous departmental directors have been replaced by two divisional directors, Acting Director Corporate Services and Acting Director Schools. However, the revised structure is yet to be implemented below this level. Also, the GoV has not yet decided how to implement key policy objectives such as those concerned with the use of languages in schools and enhanced support for teacher training.

## **5.2 MEYDT Infrastructure and the EduTrain Project**

The development of an EMIS for Vanuatu was originally identified as part of the longer term EU funded project, EduTrain. NZAID picked up the EMIS component in 2006 when it had become clear that the development of an EMIS was unlikely to be achieved as part of EduTrain. Meanwhile, the EduTrain Project has been concentrating on enhancing the infrastructure both at MEYDT's Head Office and at each Provincial Office.

The MEYDT is now well equipped with computer hardware. Every professional staff member has a computer on their desk connected to the Ministry's network and, via the Ministry of Finance and Economic Management (MFEM), to other GoV ministries and departments, and to the Internet. MEYDT has its own IT section housed in a purpose built facility (funded via EduTrain), which includes a training room with six networked computers. The EduTrain Project has also been improving facilities and equipment at each Provincial Education Office. In some cases it has built new facilities, and by the end on 2008 the Project plans to have supplied 7 computer workstations to each office<sup>6</sup>. Since each office currently only has 3-4 professional staff<sup>7</sup>, this is more than adequate for them and for the additional staff members who may be assigned to each Provincial Education Office as part of the planned decentralization of several of MEYDT's functions. The Reviewers did not establish what, if any, on-going infrastructure support for MEYDT was likely from the EU after the EduTrain Project finishes at the end of 2008.

## **5.3 Other Management Information Systems (MIS)**

MIS containing Vanuatu education and training related information that existed prior to the introduction of VEMIS<sup>8</sup> include:

- The OPAD and OGAD systems developed to help secondary school principals and school accountants (several, particularly Francophone secondary schools are using these systems)
- MFEM's Management Information System contains information on teachers' salaries

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<sup>6</sup> Peter King, EduTrain, personal communication

<sup>7</sup> Provincial Education Officer, Executive Officer, Pre-School Coordinator, Secretary

<sup>8</sup> UniQuest's quarterly and final project completion reports (Milestones 10, 16 and 19)

- SPC's PRISM web site (reports on education and training indicators go from MEYDT to the National Statistics Office prior to submission to SPC)
- SPC's popGIS (the population census projections from this information system have been migrated into VEMIS)
- UNESCO population census data
- National Statistics Office population census data
- ATLAS Examination Unit data on success in external examinations
- SPBEA information on examination success
- UNICEF's Basic Education Information System for Teachers (BEIST), being piloted in some Tanna primary schools as part of UNICEF's Child Friendly Schools Project
- MEYDT's Scholarships Database

#### 5.4 KEMIS

UniQuest was contracted by AusAID in 2002 to develop and implement the Kiribati Education Management Information System (KEMIS), based on the PINEAPPLES software. Two years later, UniQuest was contracted by NZAID to adapt KEMIS and implement the Solomon Islands Education Management Information System (SIEMIS). The first SIEMIS school survey was conducted in 2005. During the development of SIEMIS several enhancements to the original system were identified, and these were also implemented in Kiribati as part of the KEMIS Upgrade Project (also funded by AusAID) which was completed in November 2006.

KEMIS was independently evaluated in April 2007<sup>9</sup>, followed by a Scoping Study Report completed for AusAID by a UniQuest consultant in November 2007<sup>10</sup>. The Independent Completion Report noted that KEMIS had enhanced capacity to meet international reporting requirements and provided a wide range of school-related data to Government of Kiribati agencies and the wider Kiribati community. KEMIS appeared to be a reasonably robust and stable system which was highly regarded amongst Ministry of Education staff and central agencies familiar with its functionality. However, the reviewer reported some worrying trends that threaten the future sustainability of the System.

In particular, a significant fall-off in support from school principals and head teachers was found, as evidenced by a decline in the rate and timeliness of school survey responses. The reviewer found no staff in the Statistics Unit with prior experience of conducting the annual survey, and no apparent middle management responsibility for this Unit. Key components had hardly been used by Ministry staff, including teacher establishment management and the enrolment projection model. No up-to-date user or other handover documentation was available. The reviewer concluded that sustained action needed to be taken to:

- Improve data quality;
- Improve processes;
- Improve analysis capacity;
- Improve the capacity to use KEMIS as an aid to planning;
- Maximize KEMIS value for money/return on investment;
- Promote the status of KEMIS as **the** authoritative source of school education data;
- Clarify the legal situation relating to upgrades to KEMIS
- Establish mechanisms for the technical stability of KEMIS
- Identify aid mechanisms

<sup>9</sup> Hudgson, 2007; Independent Completion Report

<sup>10</sup> Lewis and Marinho, 2007; Draft Scoping Study Report

Strengthening the day-to-day management and supervision of the Statistics Unit was seen as an essential precursor to any future donor assistance.

The above KEMIS reviewer made 19 recommendations which were subsequently considered by the UniQuest Scoping Study team. The latter concluded that the highest priorities were to address urgent training needs and system maintenance and administrative tasks. A 12 month training work plan was proposed for 2008, with a budget of 420,000 Australian dollars. This has recently been approved and implementation is likely to begin in May<sup>11</sup>.

## **5.5 SIEMIS**

The introduction of the Solomon Island Education Management Information System (SIEMIS) has not yet been independently reviewed. UniQuest's "end of project evaluation" report<sup>12</sup>, completed in December 2006, was an internal review that fed into decisions about the scope of further NZAID funded work to be undertaken in an 18 month extension period already awarded to UniQuest. Overall, the review report concluded that a robust information system that meets the information needs of users had been put in place. The period of contract extension would provide an opportunity to effectively bed down the system.

Key decision makers in the Ministry of Education felt that the data available was now more accurate, so they could make better informed decisions particularly with regard to the allocation of resources. For example, figures regarding the number of teachers without qualifications had become clearer, resulting in a tripling of the budget for teacher training in 2007. One provincial education authority chief executive officer indicated that decisions about teacher postings had improved. However, most of the directors in the Ministry appeared to rely on a fairly narrow range of data and tended to use only a fraction of SIEMIS's analytical potential. Their focus was on short term decision making rather than on long term policy implications.

All stakeholders interviewed confirmed that the information in SIEMIS is relevant and useful for planning and policy decision making. SIEMIS data was generally regarded as more accurate than data available previously. However, there was concern about the number of survey forms on which reporting was based and a fear that some schools were exaggerating their teacher and student numbers in order to increase their grant allocation. The rigour of data validation processes needed to be strengthened and the return rate needs to be increased. The direct trade off between timeliness and accuracy was identified as an area of concern. Access to information by provincial education authorities needed to be improved.

Recommendations included:

- The provision of training in applying education statistics to policy making
- Maintaining ongoing awareness and skill development for schools and education authorities
- Using the Inspectorate to conduct spot checks of completed surveys
- Strengthening communication and coordination arrangements in relation to the survey process
- Identifying staff responsibilities with regard to SIEMIS and providing adequate resources

## **5.6 Other Relevant Activities**

From June 2005 to April 2006, UniQuest conducted a project funded through PRIDE to introduce an Education Management Information System based on the PINEAPPLES software

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<sup>11</sup> Rebecca McHugh, personal communication

<sup>12</sup> UniQuest, 2006

to Nauru, Niue, Tokelau and Tuvalu. Ministries of education representatives from these countries attended a workshop in Suva and then returned to set up their own systems. UniQuest continues to provide remote support when questions are asked. A follow-up workshop is being considered for 2009. Tonga and the Cook Islands have also recently expressed interest in introducing such a system.

The last Vanuatu whole of population census was conducted in 1999 and the next one is due in 2009. In the intervening period the National Statistics Office has made annual population projections and applied these to the calculation of indicators such as Gross Enrolment Ratio (GER) and Net Enrolment Ratio (NER). Also, the National Statistics Office conducted the first comprehensive Household Income and Expenditure Survey in 2006.

## **6 ASSESSMENT OF ACHIEVEMENT OF VEMIS PROJECT OBJECTIVES**

### **6.1 Overall Assessment**

The following has been achieved by the VEMIS Project to date:

- The System is up-and-running
- The System is stable and does what it is supposed to do
- Five MEYDT staff members have a good understanding of how to use VEMIS, and a core group of four are using VEMIS regularly<sup>13</sup>.
- Users and potential users are positive about VEMIS and feel that it will be useful to them in the future
- There is now one combined survey form to replace several previous survey forms that schools had to complete
- The MEYDT now has more reliable information to underpin its decision making and future planning
- Most primary school head teachers and secondary school principals in each province have been trained to complete the form
- The 2007 National Education Summary Statistics brochure has been published and Summary Statistics on School Education by Province are available
- School feedback reports from the 2007 survey have arrived at schools and pre-schools, attached to their 2008 school survey forms
- VEMIS is linked to census based population projections via SPC's popGIS
- There is now one place to go to look for most school and pre-school education data

**Project Objective 1** was *“to provide technical support and management for the establishment of an effective Education Management Information System (EMIS) in the Vanuatu Ministry of Education, Youth Development and Training’s (MEYDT) Port Vila and Provincial offices and to ensure that requirements for education sector monitoring and evaluation are met and sustained thereafter”*.

The Review Team found that UniQuest had completed the first part of this Objective; *“to provide technical support and management for the establishment of an effective Education Management Information System (EMIS) in the MEYDT’s Port Vila office”*. However, much still needs to be done in order to establish an effective VEMIS in MEYDT’s provincial offices. When

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<sup>13</sup> Jo Iautim, VEMIS Manager; Liku Jimmy, Mapping Officer; Vabiola Bibi, Statistician; Cobin Ngwero, Monitoring Officer (Johnny Marango, Research Officer is also trained to use VEMIS, but spends most of his time working on other projects). The latter were all members of the VEMIS Project Task Force (with John Gideon, Program Project Officer, Andrew Kay, IT Coordinator and Rebecca McHugh, UniQuest)

the VEMIS Project was planned it was envisaged that connections for each provincial office to the MEYDT's head office in Port Vila would be in place via a Wide Area Network (WAN) within the timeframe of the Project. This has not happened and it seems unlikely that the WAN will be completed in the near future.

The Review Team found that UniQuest had completed as much as could reasonably be expected of them within the timeframe of the Project *"to ensure that requirements for education sector monitoring and evaluation"* be met, but much still needs to be done if VEMIS is to be *"sustained thereafter"*.

**Project Objective 2**, *"to provide network administration and management assistance on the VEMIS database at all levels until the completion of the project"*, was carried out very effectively by UniQuest, but there is now an important skills and knowledge gap that needs to be filled. (See Section 7.3).

**Project Objectives 3 and 4**, concerning statistical technical support and capacity building, have been completed by UniQuest to the extent that could be reasonably expected in the time available, but there is still much work to be done to *"build capacity at all levels of education sector management"*, and the Review Team found that it was too early to make an assessment as to how much the MEYDT was using *"statistics in all education planning, budgeting and management"*.

**Project Objective 5**, *"to plan and implement skills training on VEMIS and facilitate training workshops for different levels of staff, both at MOE and throughout the provinces and in education authorities"*, was achieved as well as could be expected in the limited time available. The reviewers noted that the original proposal for the VEMIS database to be developed over an 18 month period was reduced to 13 months because of a particular request from GoV. This has resulted in less training than envisaged by the Project developers, particularly at provincial level.

## 6.2 Completion of Project Activities and Milestones

The VEMIS Project involved the completion of a total of 49 activities. UniQuest and the MEYDT VEMIS Team completed all of these activities except for three<sup>14</sup> which they were unable to complete because of factors outside UniQuest's control<sup>15</sup>.

It was disappointing that, at the time of this Review, the MEYDT had not yet published the Digest of Education Statistics 2007, although a draft was made available to the reviewers. Checks were still being made and the document was not ready for sign-off by the Minister of Education. According to the Project's terms of reference and project plan, the target date for the production and printing of the Digest of Education Statistics was mid September 2007. The Review Team found that the Summary Statistics Brochure had just been printed and distributed to provincial offices – the due date for the completion of this activity was end of September 2007. According to UniQuest's third quarterly report, Provincial Summary Reports were produced in August (ie ahead of the due date), and these were made available to the External Review Team in February 2008. *It is recommended that MEYDT resolve the issues delaying the publication of the Digest of Education Statistics 2007 and publish the Digest as soon as possible.*

### Recommendation 1

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<sup>14</sup>Activity 3.1, Statistics Digest Production; activity 4.9, UNESCO Institute of Statistics exporter training; and activity 4.10, PINEAPPLES and PRISM website training

<sup>15</sup> UniQuest's Project Completion Report (Milestone 19)

The Review Team examined the majority of UniQuest's 19 Milestone Completion Reports, but the signed-off versions of 8 Milestones (2, 7, 9, 12, 13, 15, 16 and 18) were not available from MEYDT or NZAID. The reviewers, however, obtained copies of all the documents that these reports related to.

UniQuest conducted an internal monitoring and evaluation of the Project<sup>16</sup>. However, their survey was limited to stakeholders that were closely involved with the Project. No PEOs, head teachers or principals, or other VEMIS stakeholders external to MEYDT's head office were apparently consulted. In particular, NZAID's Port Vila Post staff felt that they had not been adequately consulted.

NZAID's Port Vila Post staff commented that there had been issues during the progress of Project implementation, which had led to requests for extra funding support through "Letters of Variation", and yet none were raised in the milestone reports as issues of concern. The milestone report section on "operational issues/ suggestions/ problems to note arising from the activity" had not always been adequately completed, from their perspective.

UniQuest made 21 recommendations in their Completion Report. Of these, two had already been implemented at the time of this External Review (reviewing the French language versions of the survey forms, and ensuring schools receive their School Feedback report at the same time as they receive their School Survey Form). A few are in the process of being implemented and some of the others also appear as recommendations by the External Review Team.

### **6.3 Project Monitoring by Stakeholders**

During VEMIS contract negotiations, it was envisaged that a VEMIS Project Coordinating Committee (PCC)<sup>17</sup> would provide high level monitoring of, and technical guidance for, activities under the VEMIS Project to ensure that VEMIS evolves in full alignment with VESS goals. However, this Committee was not established until well into the Project and it only met once, on 20 August 2007, in spite of the fact that, according to the terms of reference, it was supposed to meet at least once a month. No minutes of the August meeting were taken and no record of the decisions made was provided to the Review Team. The setting up and running of this Committee was the responsibility of MEYDT, and not a contractual obligation of UniQuest. Apparently, it was not set up earlier because of a lack of funding and because the MEYDT staff concerned were all very busy with their various responsibilities, including VEMIS development and implementation.

The primary target group for the VEMIS Project was MEYDT staff, in particular staff of the policy and planning division. Many of these had day-to-day contact with the VEMIS developers so decisions were able to be made without the need for the full PCC to meet. All other professional and administrative staff of the education system are identified as indirect beneficiaries in the Project Brief. Other beneficiaries include the National Statistics Office, Department of Economic and Sector Planning, other Government departments and ministries, Church education authorities, Vanuatu Institute of Teacher Education, and Non Government Organisations. The PCC included very few representatives from such stakeholders.

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<sup>16</sup> UniQuest's Project Completion Report (Milestone 19)

<sup>17</sup> The membership of the PCC included Acting Director Policy and Planning Services (Chairman), First Policy Advisor to the Minister of Education, NZ High Commission, EduTrain Project Manager, four directors and acting directors of MEYDT, Senior Analyst DESP, VEMIS Manager, IT Manager, UniQuest VEMIS Project Manager

In retrospect, there should have been more consultation with stakeholders with regard to their information requirements. The PCC, if it had been set up earlier with broader representation and had had regular meetings, could have been a useful mechanism for high level monitoring, keeping stakeholders informed of progress, and for gaining stakeholder feedback and support.

There is now an urgent need for MEYDT and external stakeholders to be updated as to the current status of VEMIS, and on the 2007 statistical information now available for them to use. Once they have been updated, it is important that consultation with such stakeholders continues so that the usefulness and relevance of the data collected and stored in VEMIS can be enhanced. In particular, the National Statistics Office is a key stakeholder in VEMIS<sup>18</sup>. One way of facilitating such consultation is through setting up a monitoring and advisory committee, as a replacement for the PCC and with new terms of reference reflecting its different role. (See also Section 7.2.) *It is recommended that a VEMIS Monitoring and Advisory Committee be convened regularly (at least quarterly) during the next two years to provide overall monitoring and advice to MEYDT's VEMIS Team.*

**Recommendation 2**

#### **6.4 Survey Return Rates and the Impact on Schools**

The rates of return of the 2007 school surveys were very good (94% overall)<sup>19</sup>, and higher than when the equivalent system was introduced in Solomon Islands (86% overall in 2005<sup>20</sup>). Torba Province achieved a 100% return rate, partly because the PEO visited all 24 schools in the Province and assisted the head teachers to complete their returns. However, several of the Torba survey forms were not fully completed. The school survey return rate was excellent compared with that achieved prior to the introduction of VEMIS<sup>21</sup>. However, a high proportion of the surveys were returned after 22 June 2007<sup>22</sup>. Also, Hudgson (2007) noted that in Kiribati the overall survey return rate had dropped to 80% in 2006, with only 15% of responses received by the due date (31 March) and 63% by 30 June.

The secondary principals and primary head teachers consulted were uniformly positive about VEMIS. They mentioned its value for providing information to parents and other school stakeholders, and for planning within their schools. They also found the exercise of completing the form useful because it encouraged them to record administrative details about the school which they were not recording before. For example, inventories, financial accounts, number of textbooks and school boundaries. They were confident that through VEMIS everyone will be able to access better information on the schools in their province and in Vanuatu as a whole.

They appreciated only having to complete one form per year instead of up to six forms, even though it took most of them one to two weeks to complete (sometimes over a month's period for primary head teachers who also taught). They agreed that completing the form for the second time would be easier and less time-consuming.

A good practice found by the Review Team was the "Action Plan for Education Statistics Training for Sanma Schools" (prepared by Jimmy Solomon and Sue Whitely). This was

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<sup>18</sup> According to the Vanuatu Statistics Act (1983), one of the main activities of the National Statistics Office is to coordinate statistical activities and data collection; assist in the collection and dissemination of statistics in Vanuatu; and advise on statistical undertakings.

<sup>19</sup> UniQuest's Project Completion Report (Milestone 19)

<sup>20</sup> UniQuest 2006

<sup>21</sup> About 60% overall in 2006

<sup>22</sup> UniQuest's second quarterly report (Milestone 10). The surveys were due to be returned to MEYDT by mid April 2007, as soon as possible after School Census Day in March. However, by 22 June, return rates were still below 50% for ECE in all provinces and for secondary schools in two provinces.

developed at the 2007 Sanma VEMIS Training Course, but has only partially been implemented to date.

## **7 EVALUATION OF THE SUSTAINABILITY OF VEMIS**

### **7.1 Overall Management, Planning and Budgeting**

The introduction of an Education Management Information System has been included in GoV and development partner plans for several years. The establishment of an effective EMIS is a very important part of building the capacity of MEYDT so that the implementation, monitoring and evaluation of the Vanuatu Education Sector Strategy (VESS) is evidence-based.

UniQuest's twelve month input into the VEMIS Project was well planned, but there has been a lack of planning for any follow up. As a result no budget for supporting VEMIS has yet been approved and VEMIS staff are uncertain about their future roles and responsibilities. Funding for VEMIS was not inserted into the Vanuatu Education Support Action Plan (VESAP) bridging arrangement for 2008 until March, and the associated funding arrangement with development partners had not been signed by early April. (See also Section 5.1)

In spite of the above, some action has been taken. The MEYDT's VEMIS Team has developed a School Survey Process Timeline for the period February to mid April 2008 (when the PEOs should return the survey forms to Head Office). This includes the initial activities set out by UniQuest in the Annual Census Process. Data entry team members have all had their contracts extended to the end of June and 2008 survey forms have been printed and dispatched. The VEMIS Team is also continuing to make use of the Annual Census Process diagram developed by UniQuest. However, there is no overall VEMIS work plan or budget for 2008.

The bulk of the VESAP funding request for VEMIS support (VUV 10 million) is targeted at follow-up VEMIS training. This is appropriate considering the extensive training needed by VEMIS users at all levels (see Section 7.12).

Another important area where additional funding is needed to support an effective VEMIS is at provincial level, to allow staff to travel to remote schools to assist with completing VEMIS forms and to check information entered into the forms before they are sent to Head Office.

Over the next few months there is an opportunity to improve VEMIS planning and budgeting for 2009 since preparations for the 2009 GoV budget are likely to commence very soon.

*It is recommended:*

- a) *That VEMIS be included in future MEYDT annual plans and budgets;*
- b) *That VEMIS training and support be included as a line item in the MEYDT's budget from 2009 onwards*

#### **Recommendation 3**

The MEYDT is in the process of restructuring, but which position will take responsibility for the overall management of VEMIS was not clear either to the Review Team or to the key staff who are currently involved in the implementation and support of VEMIS. Decentralization is a key underlying feature of MEYDT's new direction and one proposal sees the allocation of a statistics officer position, an inspector and a data entry clerk to the staff of each provincial office.

Until decentralization is fully implemented it is important that VEMIS roles and responsibilities are defined in the position descriptions of Head Office staff.

*It is recommended:*

- a) *That the ongoing overall management responsibility for VEMIS within MEYDT be clarified as soon as possible;*
- b) *That the roles and responsibilities of individual MEYDT Head Office staff, including the Statistician, the Mapping Officer, the Monitoring Officer and the Research Officer, with regard to VEMIS be defined in their position descriptions;*
- c) *That the future of the VEMIS data entry operator positions be clarified.*

#### **Recommendation 4**

## **7.2 VEMIS Communication and Promotion**

The Review Team found that potential users of VEMIS outside the MEYDT had very little knowledge and understanding of the information that was being collected and analysed as part of the VEMIS Project. Such potential users include the National Statistics Office, Ministry of Health, Ministry of Lands and Rural Water Supplies, Unelco, Church Education Authorities, Department of Economic and Sector Planning, Non-Government Organisations, Vanuatu Institute of Teacher Education, Vanuatu Institute of Technology, other post school education and training providers, and development partners

GoV and other stakeholders who were consulted by the Review Team<sup>23</sup> reported that they knew about VEMIS, having attended or been invited to a presentation for these stakeholders and development partners conducted by the VEMIS Task Force in mid 2007. Some reported that they had been consulted in the initial stages, but others felt that such consultation had been inadequate. In particular, the Reviewers were concerned to find that the National Statistics Office, a key stakeholder in the VEMIS Project and one of the major potential users of the data collected, had not been more closely involved to date. At the time of this Review, no detailed reports had been published so stakeholders were uncertain as to whether or not VEMIS would be useful to them.

The Review Team noted that the director generals and ministerial personal assistants of each GoV ministry meet on a weekly basis. Such meetings could be used to inform other ministries and departments about the information available from VEMIS and to discuss the usefulness of the data being collected to users outside the MEYDT.

It was also noted that the MEYDT meets regularly with the Ministry of Health and these meetings could be used to discuss the usefulness of the health-related information collected in the annual VEMIS surveys

If VEMIS is to realise its potential, it is important that as wide a range of people as possible become aware of the information that is now becoming available on Vanuatu's education system and the usefulness of the data collected by the System. *It is therefore recommended that the annual VEMIS plan include communication and promotional activities concerning the benefits of VEMIS data to other GoV ministries and departments, to key external stakeholders and to the general public.*

#### **Recommendation 5**

The Vanuatu Institute of Teacher Education offers two year teacher training programmes in primary education and secondary education. The curriculum of each programme includes a Professional Studies course. Also, guest speakers are invited to speak to students towards the

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<sup>23</sup> See Appendix III

end of their programmes. Students graduating from these teacher training programmes should have a good understanding of VEMIS and the importance of collecting and analysing statistical information from schools. *It is recommended that information from VEMIS is used by Professional Studies lecturers at Vanuatu Institute of Teacher Education and that the Institute invite a guest speaker from MEYDT to inform students on each programme about education statistics and VEMIS.*

#### **Recommendation 6**

Development partners are particularly keen to obtain more reliable and accurate information on education, particularly with regard to the EFA indicators and the education related MDGs. They are eagerly awaiting the publication of the VEMIS-generated 2007 Digest of Education Statistics. There is also interest in better information on student success rates in external examinations, although this is unlikely to be available via VEMIS in the near future. Current information on literacy and numeracy rates is particularly unreliable.

### **7.3 Network Access and Software Administration and Support**

The establishment of a local area network and the development of VEMIS means that the MEYDT now has a System that staff can rely on to access the information they need. They should be able to use VEMIS for planning purposes in the future.

The current VEMIS version uses Microsoft Access as a front end and has the entire data repository stored on a SQL Server 2005 database. Deployment of VEMIS is therefore by means of a “thick client” within the MEYDT’s local area network. However, the most appropriate way to deploy VEMIS to other provinces is through Citrix, as originally required and implemented by UniQuest. The change to using a “thick client” was made in order to improve performance for MEYDT users, after it became clear that direct access to most provinces would not be possible in the short term.<sup>24</sup> Since the MEYDT is intending to extend the network throughout the provinces, *it is recommended that VEMIS be deployed through a “thin client” web interface such as Citrix.* This would provide more robust access to the database than deploying as a “thick client” on each client machine. Arrangements could then be made for Sanma Provincial Office to access VEMIS via a leased line through Citrix.

#### **Recommendation 7**

The Review Team found that VEMIS staff members were capable of navigating through the System and producing its main reports such as the “Summary Brochure”, “Provincial summary” and the “Digest of Education Statistics”. However, it is too early to comment on the capacity of VEMIS staff to respond to ad-hoc requests for statistical information, since only a minority of users are currently using the System and most of these users are involved in its ongoing implementation. Despite this, the System is progressing well and is stable, and there have been no major fall backs since it went live.

UniQuest’s VEMIS Developer has continued to provide support via email in accordance with the Warranties Schedule in UniQuest’s contract with NZAID<sup>25</sup>. In addition, the VEMIS Developer has provided software “fixes”, add-ons and enhancements by email to address issues that have come up since the end of 2007.

At the start of the Project, MEYDT seconded a Local Software Developer from the MFEM to work alongside the VEMIS Developer so that skill transfer would occur during implementation. The skills learned from the VEMIS Developer have enabled the Local Software Developer to

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<sup>24</sup> See Appendix VII for UniQuest’s comments on this issue

<sup>25</sup> NZAID, 2006

configure the application, perform data operations, provide maintenance to the System and develop additional system functionality based on the prototype.

The Local Software Developer's contract currently runs out at the end of June and no action has yet been taken to replace him. This raises concerns about the sustainability of the System. The IT section in the MEYDT has a vacant post for a Software Support Officer, but it is not clear whether this officer will be appointed in time to be trained by the Local Software Developer before his contract runs out.

*It is recommended that MEYDT resolve the issue with regard to ongoing Software Support and Development as soon as possible to ensure that skills transfer occurs whilst the current Local Software Developer is still providing support for VEMIS.* **Recommendation 8**

If a Software Support Officer is employed by MEYDT to support VEMIS, he/she will need to develop and apply the following skills in addition to those needed to support Microsoft Access:

- Analysis of customer needs;
- Documentation;
- Database design (supplementary to SQL Server training);
- Maintenance;
- Enhanced use of the development tools;
- Backup administration – performing and checking backups
- Training of new users.

Mentoring by the MFEM Software Support Officer will be desirable.

The MEYDT's IT Officer should also gain the knowledge and skills required to support VEMIS on an ongoing basis. This will enhance sustainability because there will be more than one person in the MEYDT with VEMIS software support knowledge and skills. The Software Support Officer should also be able to develop additional systems for the MEYDT in addition to maintaining VEMIS.

In the event of the resignation or secondment of the Software Support Officer, and to provide support when the Software Support Officer is unavailable, it is possible to secure support from the local IT sector on a consultancy basis.

The MEYDT also needs to take into account, and budget for, ongoing outside support costs regardless of the approach taken to support VEMIS. All software has a life cycle. During that life cycle, the software may require constant support or may not require any support at all. Ongoing support costs are often underestimated and can exceed development costs after only a few years. Databases need to change to address changing business needs and require ongoing maintenance. Provision must be made for these costs.

Secondary support could be provided through the establishment of a simple email forum for the sharing of technical knowledge between the IT bodies within the various Pacific Island Ministries where EMIS has been setup. This would provide a simple collaborative approach to the problem. (See Section 7.14.)

There is also a continuing need for external software development support by UniQuest (for fixes and upgrades) via email and telephone/fax and the occasional visit at critical times, at least over the next two years. However, it is important that such a provision is used only if/when necessary. MEYDT staff need to become as independent of international support as possible. *It is therefore recommended that provision be made for email and telephone external*

*software developer support, and up to two on-site visits, during the next two years. (About 20 days should be sufficient, but with a provision for more support should this be necessary.)*

#### **Recommendation 9**

### **7.4 Survey Content and Relevance**

The information currently collected on the VEMIS school survey form is listed in Appendix V. The comprehensive nature of this information resulted in 2008 forms being over 30 pages long for secondary schools and for primary schools, and 12 pages for pre-schools. Much of the information collected does not change from year to year. Therefore the current practice of sending the School Profile and Teacher Information Table to each individual school, attached to the Survey Form is commendable. The principal, head teacher or pre-school teacher only has to correct this information where necessary each year rather than entering it into the Survey Form again. Other information that could be reported back for checking and confirmation in this way is much of that under Section D of the form – “School Facilities, Grounds and Resources”. *It is therefore recommended that a School Facilities, Grounds and Resources Table be developed and returned to each school for checking, in addition to the School Profile and Teacher Information Table.*

#### **Recommendation 10**

Collecting accurate information covering all schools on an ongoing basis is a big challenge. It is important that the information collected is relevant and used. In order to be used, the information must be accessible not only in head office, but also in provincial offices and by the schools themselves. Also, some of the information may be available from other sources, such as textbook information from the Curriculum Development Centre and Teacher Salary information from the Department of Finance.

Secondary school principals consulted found the textbooks section to be too general. In particular, a suggestion was made that textbooks for years 11, 12 and 13 be specified on the form for each subject.

Most pre-school teachers, head teachers and principals found completing the Disability section of the form (B8) challenging because they did not understand some of the terms and how to determine which students, if any fell into each category. These include: “Physical Disability”, “Hearing Impairment”, “Down Syndrome” and “Mental Disability”. No explanatory information of the meaning of these terms and how to recognize such disabilities was included with the form. The Review Team questions whether it is reasonable to ask respondents to complete this section, even if they have participated in VEMIS training. Ideally this section of the form should be completed by a health nurse or other health worker who has been thoroughly trained. At present, the data collected is unlikely to be accurate for most schools and pre-schools, leading to unreliable statistics. The reviewers noted that MEYDT is already working closely with the Ministry of Health with regard to health provision to schools.

The head teachers and principals consulted commented that they had no problems completing the Child Protection section of the form (B9). This asks respondents to identify students with child protection issues (substance abuse, neglect, bullying, sexual abuse/harassment) “*to the best of your knowledge*”. Such identification involves a judgment call and so, without substantial training, there is likely to be considerable variation in responses from one person to the next. The Review Team questions the usefulness of the information collected.

It is important that all information requested in the survey form is used by MEYDT and/or other stakeholders. Sections that request information that is not used or that request information that

could be collected in other ways should be amended or deleted, so as to make the survey form as simple as possible for respondents to complete.

The Review Team also noted the following:

- Pre-school teachers consulted questioned the need for the extensive list of technical equipment itemized in section D4(a) of the 2008 Pre-Skul Survey form – the majority of Vanuatu’s pre-schools do not have access to any of this equipment
- The 2008 survey form includes a question on how long it took respondents to complete the form – it will be important to analyze the responses in the future and take action where necessary
- Schools providing both primary and secondary education would like to have the option of completing one combined form, rather than the two they have to complete now. Some of the resources of such schools are used by both the primary and secondary sections.

*It is recommended that the survey form be comprehensively reviewed in the fourth quarter of 2008, after consultation with a wide range of MEYDT and external stakeholders.*

#### **Recommendation 11**

### **7.5 Survey Timing**

The Review Team found that the 2008 VEMIS form packages sent to Malampa Province had arrived at the Provincial Education Office just prior to their visit and had not been delivered by school census day (25 March). By the time the Review Team reached Santo (on 27 March), the VEMIS form packages had been delivered to non-remote schools in Sanma Province. The PEOs informed the reviewers that the distribution of forms to remote schools is not easy and they need to be delivered to the provincial office three to four weeks prior to the school census day.

It was noted that March is the wettest time of the year, when roads in some rural areas are impassable for weeks on end. Also, in some schools enrolments are still increasing, or are not yet fully confirmed, at that time. *It is recommended that the timing of the annual school census day be reviewed.* Factors such as the following should be taken into account: when school enrolments are likely to be confirmed; when cultural obligations are likely to result in parents temporarily withdrawing their children from school; transport problems during the rainy season; and when the MEYDT needs key information such as enrolment numbers.<sup>26</sup>

#### **Recommendation 12**

Schools need longer than one week to complete their survey forms. Some primary head teachers took up to a month or more to complete their forms, partly because most also have a class to teach. PEOs are currently allowed 10 days to check the forms before submitting them to head office. This is not long enough in cases where they need to check the accuracy of the information with very remote schools. This is done by returning the form with comments for the school’s principal/ head teacher/ pre-school teacher to consider, by sending out a staff member (such as the Zone Curriculum Advisor), or by asking the school’s principal/ head teacher or pre-school teacher to travel to the Provincial Education Office.

*It is recommended that MEYDT allow more time for Provincial Education Offices to distribute the survey forms prior to school census day, more time for the principals and head teachers to*

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<sup>26</sup> See Appendix VII for UniQuest’s comments on this issue

*complete and return their forms, and more time for the PEOs and their staff (for example, the Zone Curriculum Advisors) to check and confirm the accuracy of the information in the forms, before sending them to MEYDT Head Office for data entry into VEMIS.*

### **Recommendation 13**

## **7.6 Data Validation**

If VEMIS is to be sustainable, the information entered into the System must be as accurate and reliable as possible. Data validation mechanisms are therefore very important. Data validation and auditing procedures have been integrated into VEMIS and users trained.

The first level of data validation needs to be done within the schools themselves. Each principal, head teacher and pre-school teacher certifies that the information in their survey form is correct before sending it into the Provincial Education Office. Adequate training and support for such respondents is therefore critical. PEOs are then required to check each form and certify it prior to sending it to Head Office. They need to be provided with more support to help them and their staff more effectively complete this important task. *It is therefore recommended that additional funds be allocated to Provincial Education Offices to enable staff (for example, Zone Curriculum Advisors) to travel to remote schools to assist with completing VEMIS forms and to check the information entered.*

### **Recommendation 14**

After the survey forms have arrived at Head Office they are logged, and then the VEMIS data entry officers (one for each province) enter the information into VEMIS. They flag entries when they are in doubt about the information they have entered<sup>27</sup>. These flags are investigated by one of the core group of VEMIS users. However, the responsibility for investigating such flags has not been clearly assigned and the Review Team found that several flags had not been dealt with (see Recommendation 4).

Many of the 2007 survey forms were returned with information gaps and these also should be flagged and investigated.

Most of the errors or information gaps can only be corrected by consulting the school concerned. This has been done in a variety of ways: via the PEO; direct contact with the school by a VEMIS Task Force member; or making use of other information on the school within the MEYDT. The 2007 survey forms returned by over 200 schools and pre-schools were found to include information that MEYDT officers consider to be inaccurate, particularly that entered into the finances section of the survey form. This is probably because the respondents did not fully understand the questions or because the information they had access to was unreliable, since Primary schools and pre-schools have not had to provide such information before. However, to date, only one data entry error has been identified.

The unreliability of some of the financial data returned (particularly information about school fees) indicates a lack of skills and knowledge about how to keep proper accounts. Financial training was recently provided for secondary schools, but no such training has been provided for primary and pre-schools. Responses to some questions indicated a lack of understanding as to what a particular question in the survey form means. This was particularly the case for pre-schools, and indicates a training need for pre-school teachers and coordinators (see Recommendation 21).

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<sup>27</sup> For example: the hand-writing is hard to read; a correction or over-write is confusing; a figure seems wrong.

Results from the 2007 VEMIS school surveys indicate an enrolment rate significantly higher than that expected from population projection data supplied by the National Statistics Office, and recently reported by UNESCO. This could indicate that population projections are too low, or that VEMIS enrolment data is inflated, or a combination of both situations. Note that school grants are allocated on the basis of enrolment numbers.

Some of the data entered into VEMIS in 2007 is therefore still questionable and has not been verified. *It is recommended that current data validation mechanisms be strengthened and additional mechanisms considered.*

#### **Recommendation 15**

The information on teachers could be checked with the Teaching Service Commission and/or with the teacher employment information in the Department of Finance's Smart Stream System. Another mechanism worth investigating is cross checking enrolment data between years for each student cohort.

There is expertise in the National Statistics Office that should be drawn on to critique the design of the school survey forms and advise on techniques for data collection and validation. Note the Household Income and Expenditure Survey that was conducted in 2006 included information on education, including the number of children going to schools.

Site auditing to check the accuracy of the information on each school in VEMIS could become one of the roles of the Inspectorate. However, no funding has been allocated to this activity to date. Also, there are only 7 inspectors left out of a normal complement of 12, and the role of inspectors within the MEYDT is under review. As part of its plan to decentralise administration to the Provincial Education Offices, the MEYDT is considering making school inspections become one these offices' responsibilities.

### **7.7 Data Security**

It was found that "access rights" granted to a number of users of VEMIS were not appropriately restricted with regard to their roles and responsibilities. The level of user rights from the current VEMIS version indicates that every user has "full rights". This is not good practice for any database system as it exposes the system to a significant risk that data will be changed by unauthorised users. Further to this, no audit trail functionality has been put into place, although this can be obtained by the System Administrator from SQL log files. This functionality would help the VEMIS Manager to track the history of Add/Edit/Delete transactions should queries arise in the future.

The VEMIS version used does not incorporate the Microsoft Access log-on user interface. Although SQL Server has built in security in place, it is a common practise to have such an interface in workplaces where users leave their computers open without locking them, resulting in a potential risk for other users to access VEMIS and possibly modify data or access confidential information. With a log-on user interface, access to specific menus in the system can be assigned that corresponds to the user's role and responsibilities.

*It is recommended that VEMIS staff identify all users of the System, determine group roles and assign appropriate levels of security to each user.*

#### **Recommendation 16**

Action is needed as follows:

- The VEMIS Team, in collaboration with the local software developer, should identify the users of the System, defining group level rights and granting user rights from the SQL server database;

- An audit trail report should be set up to trace history of events;
- A log-on interface within Microsoft Access should be created as another layer of security to control access to specific menus.

## 7.8 Data Backups

Backup procedures play a vital part in ensuring that both data and software are regularly and securely protected against loss, and to facilitate a rapid recovery from an emergency such as a computer failure, a virus infection, a flood or a fire, which could result in the destruction of the original data. The Review Team found that since the re-location of the VEMIS database Server to the MEYDT from MFEM normal backup procedures have not been carried out. *It is therefore recommended that MEYDT's IT section implement robust backup procedures as soon as possible, and that they develop a backup system contingency plan.*

### Recommendation 17

Backup media devices should be labelled as precisely as possible with the date and some information to indicate what data has been backed up. Copies of the backup media, together with any notes on what has been backed up, should be stored safely, for example in a locked drawer or fireproof safe. Ideally a copy of the data should be stored in another location at a sufficient distance away to escape any damage from a disaster (such as a fire or flood) at the location of the server.

It is also a good practice to test the process of restoring data from backup copies. This will ensure that all necessary data has been backed up correctly and also familiarize staff with the process. This should speed things up if there is a need to restore data in the case of a real emergency.

## 7.9 Feedback to Schools and Pre-Schools

It is very important to get information back to schools and pre-schools in a timely manner, so the Review Team was pleased to find that the School Profile Record, Teacher Information Table and School Feedback Report from the 2007 School Survey had been sent to each school at the same time as the 2008 Annual Survey forms.

To date, all reports from VEMIS have been issued in English. Although VEMIS has a provision to incorporate up to ten languages, it cannot at present print reports in French or Bislama. MEYDT staff commented that it is too time consuming and expensive to issue reports in more than one language. Such a facility would require the services of a professional translator. However, not unreasonably, the Francophone head teachers and principals consulted were disappointed to receive their individual school reports in English after they had submitted their school information in French.

Much useful and interesting information is contained in the head teachers' and principals' comments. The comments have been entered into VEMIS, but little use has been made of them to date. It is important that this information is not just ignored. School head teachers, principals and pre-school teachers will soon get disenchanted with VEMIS if there is no response to what they have written in this section of the form. Key staff in MEYDT's Head Office and provincial offices should be looking closely, analyzing and responding to these comments. Currently there is no mechanism and nobody has the role and responsibility to provide direct or indirect responses to individual schools. *It is recommended that MEYDT*

*assign responsibility for analyzing the comments section of the survey form and responding to schools appropriately.*

#### **Recommendation 18**

For some of the individual schools visited, the Review Team found that the teacher information tables, returned to the schools in the 2008 VEMIS form packs, were blank. However, the corresponding teacher information tables provided to the Team by MEYDT were complete. One school (in Malampa Province) had completed the 2007 VEMIS form, but the information had not been entered into VEMIS because (according to the head teacher) the form had been mislaid by the Provincial Education Office.

### **7.10 Usefulness to Schools and Pre-Schools**

VEMIS needs to be useful at all levels of the education system, not only at Head Office in Port Vila, but also in Provincial Education Offices and, most importantly, within the schools themselves. The head teachers and principals consulted were uniformly positive and many told the Review Team that they had improved their internal recording systems as a result of the introduction of VEMIS. This should make it easier for new head teachers to quickly learn about the school they have been transferred to.

Many primary schools are directly using the forms provided at the VEMIS training in 2007. At least one school (junior secondary and primary) has used the hard copy forms to generate their own electronic forms. *It is recommended that VEMIS annual survey forms and supporting tables (such as stock registers and property, plant and equipment pro-formas) be made available in electronic format to schools that have access to computers.*

#### **Recommendation 19**

The secondary principals consulted requested that VEMIS be extended to include information on examination outcomes, particularly year 10 results. However, this is apparently unlikely to happen in the near future because of the reluctance of the Examinations Unit to allow the examination results data in its ATLAS system to be integrated with VEMIS.

If VEMIS is to be sustainable there is an ongoing need for the cooperation of individual schools. School head teachers/principals and pre-school teachers should be able to see a return for the time they have taken to complete the survey form. Completing the VEMIS form has raised expectations in schools (particularly primary) and especially in pre-schools, some of which do not have access to basic items such as books. A widespread request was for MEYDT to provide training for untrained primary and pre-school teachers.

### **7.11 Provincial Office Access to VEMIS**

The only two provincial offices that could potentially access the VEMIS database directly are Shefa and Sanma, because of the availability of leased line connections in these two provinces. However, neither office has such a connection at present. Access to the Sanma Provincial Government Electronic Network is available to the Sanma PEO through a dial-up connection, but this does not provide fast enough access to VEMIS. Dial-up is apparently sometimes available at the other four Provincial Education Offices, but neither the speed of access nor the stability of the connection once established is good enough for direct access to the VEMIS database. For example, the Malampa PEO had no dial-up access to email when the Review Team visited, and the connection did not work when tested during the VEMIS Project. One estimate is that it will be five years before every Provincial Education Office has a fast enough dedicated line to MEYDT's Head Office via MFEM.

As recommended by UniQuest, it is now timely to provide each Provincial Education Office with off-line copies of the System and its data, together with basic training in how to use the VEMIS data analysis tools. Responsibility for VEMIS data entry should only be transferred to Provincial Education Offices when their staff have developed a good understanding of how to use the System. However, it makes sense for PEOs to be responsible for data entry eventually.

The PEOs consulted felt that, as a result of the VEMIS survey last year, they know more about the schools in their Provinces. They are keen to have direct access to the VEMIS database in their provincial offices. One example of the information the PEOs would like to have is how many teachers are due to retire in each of the next few years. This would help them better plan the placement of new teachers and the movement of existing teachers. Placing teachers in remote schools is particularly difficult and several such schools end up with temporary unqualified teachers. One PEO emphasised the importance of using population census data to help project future enrolment numbers. However, he also commented that some parents don't send their children to school because it is not compulsory to do so.

*It is recommended that each Provincial Education Officer be provided with an off-line electronic copy of the VEMIS database after they have received training on how to use VEMIS data analysis tools.*

#### **Recommendation 20**

### **7.12 Training Needs**

VEMIS is not yet used by most managers within MEYDT. In spite of many having access through their own networked desktop computers, most have not yet tried to interact with the System. However, there is widespread interest within the Ministry. Staff consulted felt that they needed training on how to access the System and managers need training on how to analyze and interpret the statistical reports from the System. A particular training need identified was concerned with developing more understanding about how to better integrate the Education for All (EFA) indicators into MEYDT planning and reporting. A key time for the latter training is over the next few months because work will soon be started on the development of the 2009 GoV budget.

Other GoV ministries and departments also need electronic access to the VEMIS database, and training on how to use the System and the information available within it.

The primary head teachers consulted found completing the financial section of the form the most challenging and often needed and sought help from the Provincial Education Office, the Zone Curriculum Advisor and/or colleagues. Secondary principals found this section easier to complete because of the training they have received in budgeting, book keeping and financial management. One secondary school principal commented on problems arising with regard to a mismatch between budgeting for VAT and actual expenditure on VAT.

If they wanted assistance with their forms from the Provincial Education Office, principals and head teachers from remote schools had to visit the Office at the expense of their own schools. Telephone consultation is not an option for most schools and the vast majority of pre-schools; for example, only 20% of schools in Malampa province have easy access to telephones.

Some had difficulties with school mapping because they were unsure of the school's boundaries. Most schools did not have access to accurate surveys.

The pre-school teachers and coordinators consulted by the Review Team commented that they had received no training to complete the VEMIS pre-school survey form. However, none reported any difficulty with the form itself. Completing the form and sending it to MEYDT has

raised the expectations of some pre-school teachers and coordinators who are awaiting the Ministry's response to requests for the provision of training and workshops for pre-school teachers.

The Review Team noted a big turn over each year of primary school head teachers, with most of the new head teachers consulted having little understanding of VEMIS because they have not participated in any training workshops. According to official GoV policy, head teachers should remain in their posts for a minimum of three years before being transferred. However, in practice, many head teachers are apparently transferred after only one or two years. Some of the new head teachers consulted did not have access to the VEMIS workshop materials collected by their predecessors. Such head teachers depend on assistance from Provincial Education Offices, and/or neighbouring school head teachers, to help them complete their forms and to verify the information entered.

One good practice observed by the Review Team was the convening of a meeting of primary head teachers and pre-school coordinators by Sanma Province's Zone 3 Curriculum Advisor to enable them to exchange information on how to complete their 2008 VEMIS forms. In more remote zones communication is much more difficult and Zone Curriculum Advisers have to go out by boat and/or walk in order to get to their schools. Provincial Education Offices only have limited budgets for travel, so this is difficult and sometimes not possible. Often head teachers have to travel at their school's expense in order to obtain assistance to complete their forms. PEOs commented that their Zone Curriculum Advisers are currently spending too much of their time assisting schools with administrative matters and not enough time assisting them with teaching and learning (which should be the main part of their jobs). Inspector visits to most schools are rare (often only once during the past 5 years) and focus on observing probationary teachers.

*It is recommended that further training be provided over the next two years, as follows:*

- (a) *Familiarization training for new users of the VEMIS database on how to use the VEMIS data analysis tools.* (For selected MEYDT Head Office staff, PEOs, and selected staff members from other GoV Ministries and other stakeholders that are interested in using the database; could be conducted by MEYDT staff who are familiar with VEMIS and its data analysis tools.)
- (b) *Training for managers on how to interpret VEMIS tables and pivot charts and the use of this information for planning and reporting purposes.* (Particularly for the managers in MEYDT's Head Office and for PEOs; should be conducted by an international trainer in conjunction with a locally recruited trainer.)
- (c) *Financial training for primary school head teachers.* (Zone curriculum advisors particularly need training so that they can help the teachers in their area; MEYDT's finance officers should be involved in designing and delivering this training; should be conducted in the provinces.)
- (d) *A repeat of both the 2007 training programmes<sup>28</sup> run in each Province, but targeted at new head teachers and principals.* (Where places and funding permit, assistant head teachers and deputy principals should be invited to participate, since future head teachers and principals are likely to come from this group; if possible, a Francophone trainer should be part of the training team; the training should be conducted by locally recruited trainers.)

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<sup>28</sup> "School Census and Awareness Training Program" and "Integrated Provincial Training Programme"

- (e) *One-day follow-up workshops on VEMIS for previously trained school principals and head teachers.* (This could be conducted in conjunction with the above repeat of the training provided in 2007 – on the following day, for example.)
- (f) *One-day workshops on VEMIS for pre-school teachers.* (This should be conducted on individual islands by provincial pre-school coordinators, after they have been trained by MEYDT's Head Office staff.)
- (g) *Electronic school records workbooks training (as developed by UniQuest) for schools that have administrative computers available.* (See Section 7.10.)

#### **Recommendation 21**

### **7.13 Extending the Coverage of VEMIS**

At present there is very little reliable data available in Vanuatu either for formal post school/ tertiary education and training or for non-formal education and training. Key organisations that VEMIS does not cover include Vanuatu Institute of Technology, Vanuatu Institute of Teacher Education, Vanuatu School of Nursing, Rural Training Centres and private post-school education and training providers. At least two of the people interviewed by the Review Team considered that VEMIS should be extended to cover such education and training provision. However, it is important that the limited resources of the MEYDT are not stretched too far and the Review Team considers that VEMIS should become well established before extending its coverage.

*It is recommended that the introduction of VEMIS be consolidated and the other recommendations in this External Review be implemented before the coverage of VEMIS is extended, for example, to post school, technical or higher education and training.*

#### **Recommendation 22**

### **7.14 Other Mechanisms to Enhance Sustainability**

The majority of the sustainability issues identified by this external review are issues that have arisen during the introduction of KEMIS and SIEMIS. These include the issues addressed by recommendations 3-6, 10-16 and 18-21 (see Sections 5.4 and 5.5). Several of these issues are still being addressed in Kiribati and Solomon Islands. Thus the UniQuest recommendation that a user group network of key people using EMIS systems based on the "PINEAPPLES" software be developed is timely. The majority of the interaction between individuals should be via email and the Internet, but an initial face-to-face meeting would be beneficial so that the people involved could meet and get to know one another.<sup>29</sup>

*It is recommended:*

- a) *That MEYDT's VEMIS Manager make contact with his counterparts in Kiribati and the Solomon Islands with a view to setting up an informal user group; (The user group could initially be facilitated by UniQuest; development partners could be approached with a request for funding for an initial face-to-face meeting.)*
- b) *That PRIDE be approached to set up a user group network of key people in the South Pacific Region using EMIS systems based on the PINEAPPLES software.*

#### **Recommendation 23**

The Review Team noted that UNESCO has recently been active in developing a South Pacific nations ministry of education statistics officers network.

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<sup>29</sup> See Appendix VII for UniQuest's comments on this issue

## Appendix I: Terms of Reference

### Background

NZAID and the Government of Vanuatu (GoV) have identified education as a priority area for development assistance. This is reflected in NZAID's country strategy for Vanuatu for the period covering 2006-2010.

NZAID is working with the Government of Vanuatu (GoV) and with other donors in Vanuatu to establish an Education Sector Wide Approach (SWAp), but considerable capacity still needs to be built in a number of areas including in evidence-based policy making and planning. The VEMIS project was the result of an open Tender, won by UniQuest, to supply an information management system to increase the capacity of the GoV to plan, implement, monitor and evaluate education policies and programmes.

VEMIS is based on education management systems developed by UniQuest, an Australian educational firm, in the Solomon Islands (SIEMIS) and in Kiribati (KEMIS). The project commenced in Vanuatu in December 2006 and is due to conclude in early 2008. NZAID funded the establishment of SIEMIS from August 2004 to December 2006.<sup>30</sup> and has been providing some ongoing support since then. AusAid funded a similar project through UniQuest in Kiribati, called KEMIS, from November 2001 and is still providing support in 2008. These EMIS systems use the "Pineapples" software which was designed by UniQuest.

The goal for UniQuest in the VEMIS project has been to design and initiate an information management system in order to collect reliable educational data on students and teachers, across all schools, and to establish a national database that will provide the basis for short and long-term monitoring and reporting as part of the education system.

The objectives of the VEMIS project have been:

- 1 To provide technical support and management for the establishment of an effective Education Management Information System (EMIS) in the Vanuatu Ministry of Education's (MOE) Port Vila and Provincial offices and to ensure that requirements for education sector monitoring and evaluation are met and sustained thereafter.
- 2 To provide Network Administration and management assistance on the VEMIS database, at all levels until the completion of the project.
- 3 To provide technical support in terms of statistics, and including capacity building at all levels of education sector management.
- 4 To assist MOE in promoting the use of statistics in all education planning, budgeting and management.
5. To plan and implement skills training on VEMIS and facilitate training workshops for different levels of staff, both at MOE and throughout the provinces and in education authorities.

Progress on the VEMIS project since it began has been reported to MOE, NZAID and the European Union (EU) through quarterly progress reports. A Project Coordinating Committee was also formed to monitor project progress and provide guidance to the PPU and Project team on overall project direction.

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<sup>30</sup> UniQuest provided an Evaluation Report as Milestone Fifteen at the end of 2006, and that report is available from NZAID.

In addition, a number of milestone outcomes representing key achievements during the life of the Project have been identified for Project evaluation purposes. Milestone achievements, once attained, are submitted to MOE for approval.

The main stakeholders in the VEMIS project are the MOE, which must manage and make use of the data produced by VEMIS; schools which must provide accurate and timely data and which are impacted by policies that are informed by VEMIS statistics; DESP which is involved in sector planning and evaluation; and the Education Partners Group (EPG), which is the group of bilateral donor agencies responsible for ensuring coordination of development assistance to the education sector.

NZAID earlier advised the GoV that the establishment of an effective information management system would likely be a project requiring support for three years. After consultation with the MOE, who preferred a much shorter period, it was agreed to push the project to achieve its objectives within one year. Nevertheless, it is NZAID's expectation that follow-up support will be required to ensure the sustainability of results: in terms of local capacity building to technically manage VEMIS, to ensure that accurate and timely data is provided from the Provinces, and that data is used effectively for policy and planning purposes.

### **The purpose of the review**

The VEMIS project is due to be completed in January 2008 when the systems testing is finalised and UniQuest provides an End of Project report. For due diligence purposes and for institutional learning, NZAID wishes to undertake an external review of the VEMIS project to assess how effectively the design, mechanisms and implementation approach are working, and how to address any identified areas of weakness or risk to sustainability.

It should be noted that MOE and UniQuest have proposed to undertake a scoping study to identify additional functions and amendments to make to the existing VEMIS. NZAID has advised both parties that NZAID can only consider funding such a scoping study after an external review of the project's progress so far is undertaken.

The results of the review will be reported directly to NZAID, and when finalised to MOE and UniQuest. It will also be made available to the EPG. The findings of the review will contribute to institutional learning, and most importantly will inform the proposed scoping study that intends to identify additional functionality for VEMIS.

### **The scope of the review**

The scope of the review is limited to the VEMIS project and its objectives, covering the period from December 2006 to the first quarter 2008. The review should assess the degree to which the project has achieved its objectives and goal. The review should also identify any weaknesses, gaps or risks to sustainability, and provide succinct recommendations.

Most of the review will take place in Port Vila, focusing on the MOE, but the review should also include at least five visits to schools outside of Port Vila, ideally including francophone as well as anglophone schools.

Consideration should be given to reviews, end of project reports or assessments of the SIEMIS and KEMIS. Relevant lessons and recommendations from those projects should be noted in the VEMIS review.

### **Overall objectives of the review**

The goal of this review is to identify the achievements of the VEMIS project against agreed objectives so far, and to provide recommendations for follow-up to ensure planned results are achieved and sustained. The review should assess how effectively the project's design, mechanisms and implementation approach are working.

#### **Objective 1**

Assess achievement of the agreed objectives.

*Questions and issues to be addressed in meeting this objective:*

Have each of the agreed objectives been met? Identify any gaps. What has been achieved in the last 13 months since the project began?

Are there additional, unexpected results from the VEMIS? Is VEMIS information being made use of by other sectors e.g. Water? Has there been any attempt to link VEMIS with other sectors?

What capacity building has been achieved and who has been targeted? Are there gaps in capacity or skills remaining? How should addressing these be prioritised?

To what extent is the VEMIS project meeting national reporting requirements for monitoring and evaluation of Vanuatu's education sector? To what extent is VEMIS enabling the GoV to meet international reporting requirements on education, in particular Education For All?

Who are the guardians, maintainers and users of VEMIS at this stage? Should this current group of users be reviewed or changed? If so, when and how?

What are the views of different stakeholders towards VEMIS, in terms of its relevance, efficiency and accuracy? Are there any consistent concerns or complaints that should be considered in follow up activities?

What would have happened without the VEMIS project?

Was there value for money?

#### **Objective 2**

Evaluate the sustainability of VEMIS and its achievements so far.

*Questions and issues to be addressed in meeting this objective:*

Is the technology appropriate to the Vanuatu context? Does the MOE and Department of Finance (DoF) have a technical operating environment adequate to support VEMIS once external funding support has ended?

To what extent is the VEMIS reliant on external assistance / support and how long is that likely to continue?

To what degree is there local ownership of VEMIS? At central compared to provincial level? Within MOE at senior level? At user level? What systematic changes have been made – to policy or practice - to demonstrate ownership?

What progress has been made by MOE in establishing and encouraging a culture supportive of quality information and evidence-based policy making?

Has MOE used VEMIS for policy making and/or planning purposes? If yes, with what degree of success and satisfaction?

What is the level of support (and compliance) by school principals in using VEMIS? What is the level of feedback and engagement by MOE with provincial schools?

Is the sustainability of VEMIS at risk due to any particular external or internal factors, including institutional or organisational weaknesses or conditions? How many of the staff at MOE have been trained to use VEMIS? Is there an up to date and user-friendly training manual?

### **Objective 3**

Provide recommendations for follow up to ensure objectives are met and results are sustainable.

*Questions and issues to be addressed in meeting this objective:*

Draw upon lessons learned from EMIS in the Solomon Islands and Kiribati. Refer to AusAid's Independent Completion Report on KEMIS, and UniQuest's End of Project report of SIEMIS.

What can be done to facilitate and/or enhance a positive culture for information demands?

Are additional functions required to achieve original objectives/planned outcomes?

Prioritise recommendations and suggest sequencing of follow-up actions.

### **Review methodology**

The team should provide a proposed methodology, implementation plan and timetable taking the following requirements into account:

The review process should encourage greater accountability, transparency, and help build local capacity.

The review process should involve a wide range of stakeholders including MOE officials of different seniority and school principals outside of Port Vila.

The review should take into account cross-cutting issues such as gender and human rights.

The review should be consistent with NZAID's Evaluation Policy and Principles.

The findings will be first shared with NZAID in a draft format, and then fed back and discussed with MOE and UniQuest before finalisation.

### **Stakeholders to consult should include but are not limited to:**

- MOE, Director General – Daniel Lemoureux
- MOE, Acting Director – Secondary Schools -John Nirua
- MOE, Acting Director – Policy and Planning -John Gideon
- UniQuest TA, Rebecca McHugh
- Patrick Shing, VEMIS Service Provider
- School Principals – sample schools

- DESP, Education Analyst – Rex Willie
- EFA contact person MOE

### **Indicative Time Frames**

The review will take a maximum of 3 weeks in country. A further week will be provided for incorporation of feedback and production of the final report. The assignment must be undertaken in February or March 2008 and completed before April 30 2008. A draft report should be submitted on 6 April 2008.

### **Cost effectiveness**

NZAID has committed over NZ\$1 million to the VEMIS project. Additional proposals for funding of follow-up activities are considered likely. The VEMIS project is an important aspect of NZAID's strategic plan to enter an Education SWAp in Vanuatu. The costs of this review are assessed against the importance of building and sustaining capacity in the education sector, particularly around establishing evidence-based policy making and medium and long term planning.

### **Management of the review**

NZAID is the review client, and the review team are responsible primarily to NZAID.

The roles and responsibilities of the VEMIS Review Team are to ensure the review fulfils these ToR within the time and budget limits and that communication with NZAID and with other stakeholders is transparent and cooperative.

### **Team Composition and Skills and Experience Required**

The team will comprise a two person team of one international consultant (Team Leader) with experience in the Education sector in development contexts and in information management systems and a local consultant with public sector experience.

The local consultant will assist with logistical arrangements and facilitation of meetings and workshops and providing input/comments on the report. The Team Leader will be primarily responsible for drafting the report.

The team will be accountable and report to the NZAID Development Programme Manager for Vanuatu, in Wellington.

### **Skills required for International Review Consultant**

#### *Development understanding and experience*

Experience in capacity building and institutional strengthening of the education sector.

Demonstrated understanding of and experience of institutional strengthening.

Demonstrated familiarity with and understanding of capacity building of the Education sector in developing countries, preferably in the Pacific.

### *Technical skills*

Proven record in education sector, with at least 10 years experience in undertaking reviews and evaluation, strategic planning, and project management.

Skills in organisational needs analysis.

Demonstrated strong analytical and report writing skills.

A relevant post graduate qualification.

### *Communication skills and professional approach*

Strong communication and facilitation skills with experience in a diverse range of cultural and societal contexts.

Understanding and commitment to NZAID policy and principles.

### **Skills required for local Counterpart/Consultant**

High level of negotiation, facilitation and interpersonal skills.

Proven skills and experience in developing information management systems.

Demonstrated analytical and report writing skills.

Ideally demonstrated knowledge of Vanuatu public sector particularly education sector

Fluency in both Bislama and English

Tertiary Qualification in relevant subject area.

### **Reporting requirements**

The review findings are to take the format of a written report. The report should not exceed 30 pages, and should include a succinct Executive Summary including key recommendations.

The deadline for submission of the draft report is 6 April 2008.

The appendices should include a list of people interviewed or attending workshops, the ToR, and reports from any workshops.

The team should ensure that the following outputs are achieved in the time allocated:

- 1 Draft findings discussed with MOE, and brief report provided to NZAID
- 2 Draft report presented to NZAID for initial comments. The draft is to be provided in electronic word and PDF version.
- 3 Final report of not more than 30 pages (plus annexes) covering the terms of reference. The final report is to be provided to NZAID in electronic word and PDF version.

## **Appendix II: External Review of Vanuatu Education Management Information System (VEMIS): *Background, Interview Questions and Discussion Issues***

### **Background**

NZAID is working with the Government of Vanuatu (GoV) and with other donors in Vanuatu to establish an Education Sector Wide Approach (SWAp), but considerable capacity still needs to be built in a number of areas including in evidence-based policy making and planning. The VEMIS project was the result of an open tender, won by UniQuest, to supply an information management system to increase the capacity of the GoV to plan, implement, monitor and evaluate education policies and programmes.

VEMIS is based on education management systems developed by UniQuest in the Solomon Islands (SIEMIS) and in Kiribati (KEMIS). The project commenced in Vanuatu in December 2006 and concluded in early 2008.

The goal for UniQuest in the VEMIS project has been to design and initiate an information management system in order to collect reliable educational data on students and teachers, across all schools, and to establish a national database that will provide the basis for short and long-term monitoring and reporting as part of the education system.

The objectives of the VEMIS project have been:

- 1 To provide technical support and management for the establishment of an effective Education Management Information System (EMIS) in the Vanuatu Ministry of Education, Youth Development and Training's (MEYDT) Port Vila and Provincial offices and to ensure that requirements for education sector monitoring and evaluation are met and sustained thereafter.
- 2 To provide Network Administration and management assistance on the VEMIS database, at all levels until the completion of the project.
- 3 To provide technical support in terms of statistics, and including capacity building at all levels of education sector management.
- 4 To assist MEYDT in promoting the use of statistics in all education planning, budgeting and management.
5. To plan and implement skills training on VEMIS and facilitate training workshops for different levels of staff, both at MEYDT and throughout the provinces and in education authorities.

### **Overall Scope and Objectives of the External Review**

The scope of this NZAID-funded review is limited to the VEMIS project and its objectives, covering the period from December 2006 to the first quarter 2008. The goal of the review is to identify the achievements of the VEMIS project against agreed objectives so far, and to provide recommendations for follow-up to ensure planned results are achieved and sustained. The review will evaluate how effectively the project's design, mechanisms and implementation approach are working.

## Interview Questions and Discussion Issues

*For Director General and Directors of MEYDT*

1. **What has been achieved** in the last twelve months since the project began? Have each of the agreed VEMIS Project objectives been met?
2. How relevant, accurate and consistent is the information entered into VEMIS? What processes are in place for **quality assurance** including data checking and auditing?
3. Are there additional, **unexpected results** from the VEMIS? Is VEMIS information being made use of by other sectors e.g. Water? Has there been any attempt to link VEMIS with other sectors?
4. What **capacity building** has been achieved and who has been targeted? Are there gaps in capacity or skills remaining? How should addressing these be prioritised?
5. To what extent is the VEMIS project meeting **national reporting requirements** for monitoring and evaluation of Vanuatu's education sector? To what extent is VEMIS enabling the GoV to meet international reporting requirements on education, in particular Education For All?
6. **What would happen without the VEMIS project?**
7. Is the **technology** appropriate to the Vanuatu context? Does the MEYDT and Department of Finance have a technical operating environment adequate to support VEMIS once external funding support has ended?
8. To what extent is the VEMIS reliant on **external assistance / support**?
9. How has MEYDT used VEMIS for **policy making and/or planning purposes**? (For example, for managing teachers, their postings and their salaries; and for managing schools and their resource requests and requirements.).....With what degree of success and satisfaction?
10. **How can VEMIS be improved?**

*MEYDT Users at Head Office*

Selected questions from the above, and the following

11. Do you have a copy of the **2007 Statistics Digest**? Have you used it?
12. How easy is it for you to **access** the VEMIS database electronically? How do you use the information?
13. How **user friendly** is VEMIS? ... for data entry; data manipulation and report generation?
14. What level of **ongoing system maintenance** is required? Has the system crashed? How effective in supporting the system is the technical infrastructure of the MEYDT?
15. What additional **training needs** do you have?

### *Schools and PEOs*

1. How often have you been **visited by MEDYT officials** since the start of 2007? How often do you go to the Provincial Education Office?.....Head Office in Port Vila? Give examples.
2. Describe **your interaction** with the VEMIS Project to date. Can you access the VEMIS database electronically?
3. Do you have a copy of the **School Census Procedures Manual**? ... What workshops and training have you participated in related to using this Manual?
4. How easy was it for you to complete the **School Survey Form**? ... How long did it take you? How could it be made more user-friendly? How did you submit your form to MEYDT?
5. What additional **training needs** do you have?
6. Do you have a copy of the 2007 Statistics Digest, and the **Summary of Statistics by Province**? If so, have you used it?
7. Did you receive a **School Feedback Form**? Have you completed it?
8. What have been the **benefits** to your school/province arising out of the implementation of VEMIS?
9. **How can VEMIS be improved?**

### *Other stakeholders*

Selected questions from the above, and the following

1. What do you know about the **VEMIS Project**? Do you have a copy of the 2007 Education Statistics Digest?
2. Have you used any of the **information provided via VEMIS**? ... Give examples
3. What do you consider have been the **benefits**, if any, arising out of the implementation of VEMIS?
4. **How can VEMIS be improved?**

*Thank you for your assistance,*

*(Dr) Martin Grinsted and Paul Molu  
NZAID VEMIS Review Team  
March 2008*

### Appendix III: People Consulted

#### *Ministry of Education, Youth Development and Training (MEYDT)*

|                    |   |
|--------------------|---|
| Danielle Lemoureux | Director General  |
| John Nirua         | Acting Director Corporate                                     |
| Madeleine Lesines  | Acting Director Schools                                       |
| Pierre Gambetta    | Principal Education Officer - Basic Education                 |
| Kamele Matai       | Principal Education Officer - Curriculum; Inspectorate; Exams |
| Antione Thyrode    | Principal Education Officer - Secondary; PRIDE Coordinator    |
| Andrew Kay         | Senior IT Technician  |
| Owen Joel Sisi     | Senior Education Officer - Finance                            |
| Paul Nalau         | Planning Officer, Youth and Sports Department                 |
| Moriel Saimon      | Secretary   |
| Brigitte Rolland   | Secretary   |
| Edwin Samuel       | ICT Officer   |

#### *VEMIS Team, MEYDT*

|                   |   |
|-------------------|---|
| Joe Iautim        | Principal Education Officer – Education; VEMIS Manager; Director of Youth and Sports Department |
| John Gideon       | Program Project Officer (for VEMIS)   |
| Vabiola Bibi      | Statistician (full-time working with VEMIS Project)   |
| Liku Jimmy        | Mapping Officer (full-time working with VEMIS Project)  |
| Cobin Ngwero      | Monitoring Officer (full-time working with VEMIS Project)                                       |
| Johnny Marango    | Research Officer (trained to use VEMIS; now works on other projects)                            |
| John Lui          | IS expert seconded to MEYDT from MFEM's IT section  |
| Patrick Shing     | VEMIS Systems Testing Contractor  |
| Sylvain Nako      | VEMIS Data Entry Operator   |
| Leimelu Ishmael   | VEMIS Data Entry Operator   |
| Henry Otto        | VEMIS Data Entry Operator   |
| Vanessa Tamashiro | VEMIS Data Entry Operator   |
| Carolyne Mahana   | VEMIS Data Entry Operator   |

#### *Head Teachers and Principals, Malekula*

|                           |  |
|---------------------------|--|
| Melterowrong Jean-Vincent | Ecole Primaire de Norsup                                       |
| Assial Rolland            | Collège et Lycée de Norsup (Francophone secondary; years 9-12) |
| George Veremaito          | Tautu Primary School   |
| Kathleen Nato             | Tautu Primary School (Head Teacher in 2007)                    |
| Roger Veremaito           | Lakatoro Primary School  |
| George Nial               | Lakatoro Junior Secondary School (years 7/8-10)                |
| Jacob Collins             | Amelvet Primary School and Kindergarten, Walarano              |
| Jessy Tarsong             | Zone Curriculum Advisor (South Malekula and North Ambryn)      |
| Simon Simonai             | Ecole Primaire de Notre Dame, Walarano (Head Teacher in 2007)  |
| Ermeline Bangus           | Walarano Kindergarten (Coordinator)                            |

### *Head Teachers and Principals, Espiritu Santo*

|  |  |
|--|--|
| Jean-Marie Virelala  | Collège de Luganville (Francophone secondary; years 9-13)  |
| Jimmy Solomon  | Santo East (includes Anglophone and Francophone primary, junior secondary, years 7/8-10, and kindergarten) |
| Ruth Amos (Deputy Head)  | Matevulu College (Anglophone secondary, years 9-13)  |
| Rojo Sankey  | Natawa Primary School  |
| Meeting to discuss completion of VEMIS forms; including 12 pre-school coordinators and 9 primary head teachers, chaired by Zone Three Curriculum Adviser |  |

### *Malampa Provincial Education Office*

|              |                              |
|--------------|------------------------------|
| Renjo Samuel | Provincial Education Officer |
| Briel Belas  | Executive Officer            |

### *Sanma Provincial Education Office*

|               |  |
|---------------|--|
| Marc Imbert   | Provincial Education Officer               |
| Timothy Lohai | Zone Curriculum Adviser (Sanma Zone Three) |

### *Other Stakeholders in Port Vila*

|                   |  |
|-------------------|--|
| John Herd         | NZ Volunteer, Small Bag (IT/IS consultant)                             |
| Rex Willie Semeno | Sector Analyst – Education; Department of Economic and Sector Planning |
| Johnny Albert     | Secretary, Presbyterian Education Authority                            |
| Andre Taga        | IT Manager, Ministry of Finance and Economic Management                |
| Simil Johnson     | Acting Government Statistician, National Statistics Office             |
| Jack Takalo       | Deputy Principal (Academic), Vanuatu Institute of Technology           |
| Jacques Gédéon    | Principal, Vanuatu Institute of Teacher Education                      |

### *UniQuest*

|                |                                       |
|----------------|---------------------------------------|
| Rebecca McHugh | Project Manager for the VEMIS Project |
|----------------|---------------------------------------|

### *NZAID*

|                     |  |
|---------------------|--|
| Nicci Simmonds      | Development Programme Manager, Vanuatu – Pacific Group |
| Anna Pasikale       | Education Adviser                                      |
| Angela Hassan-Sharp | NZAID Manager/ First Secretary, Vanuatu                |
| James Toa           | Development Programme Coordinator, Vanuatu             |
| Jeff Langley        | New Zealand High Commissioner, Vanuatu                 |

### *Other Development Partners*

|                      |   |
|----------------------|---|
| May Pascual          | Chief of Office, UNICEF                           |
| Juliette Brassington | First Secretary (Development Cooperation), AusAID |
| Christelle Thieffry  | Senior Program Officer, AusAID                    |
| Peter King           | EU Education and Training Programme               |

*The following submitted written comments on the draft report:*

- *NZAID Officials based in Wellington and Port Vila (see above)*
- *Joe lautim and John Lui*
- *UniQuest*

## **Appendix IV: Documents Reviewed**

Don Hudgson, May 2007: Kiribati Education Management Information System (KEMIS) Technical Report: Independent Completion Report for Kiribati Education Sector Program, Kiribati Ministry of Education, Youth and Sports

EduTrain, 2007: Report of the Local Expert to the EduTrain Project January 1<sup>st</sup> to June 30<sup>th</sup>

Government of Vanuatu: Budget 2008; Volumes 1, 2 and 3

Government of Vanuatu, AusAID and NZAID, March 2008: Funding Agreement for Vanuatu Education Support Action Plan 2008 (drafts only)

Levine, Victor, January 2008: Vanuatu Education Medium Term Expenditure Framework – Final Report

Lewis, B and Marinho, N, 2007: Kiribati Education Management Information System (KEMIS) Draft Scoping Study Report 9 November 2007

NZAID, 2002: Towards a Strategy for the Pacific Islands Region

NZAID, 2005: Achieving Education for All - Education Strategy

NZAID, 2006: NZAID Vanuatu Development Programme Strategy 2006-2010

NZAID, 2006: Vanuatu Education Management Information System (VEMIS) Project - Terms of Reference

NZAID, 2007: Vanuatu Education Management Information System (VEMIS) Project - Terms of Reference for Systems Testing Expert

NZAID policy documents:

- Evaluation Policy Statement
- Evaluation and the Activity Cycle
- Guideline on the Structure of Review and Evaluation Reports

UNESCO, 2008: Regional Overview: The Pacific

UniQuest, 2006: Solomon Islands Education Management Information System Project; Milestone Fifteen: End of Project Evaluation Report December 2006

Vanuatu Education Management Information System Project, 2007-2008: Documents developed by UniQuest:

- Most Milestone Completion Reports 1-19 (2,7,9,12,13,15, 16, 18 were not available), including three quarterly reports and the Project Completion Report
- VEMIS Project Annual Plan 2007
- VEMIS School Census Training Plan, March 2007
- Provincial Education Officer, Principal/Head Teacher: Train the Trainer Workshop Education Statistics Training (including a wide range of handouts and materials for schools to use)
- Provincial Education Officer, Principal/Head Teacher: Train the Trainer Workshop School Stock Management and Record Keeping (including a wide range of handouts and materials for schools to use)

- The Annual Census Process

Vanuatu Ministry of Education, Youth Development and Training, 2008:

- Republic of Vanuatu National Education Sector Summary Statistics 2007
- 2007 Summary Statistics on School Education by Province
- Digest of Statistics 2007 (*Draft only*)

Vanuatu Ministry of Education, Youth Development and Training, 2008:

- School Survey Process Timeline 2008
- Secondary School Annual Survey 2008 (in French and English)
- Primary School Annual Survey 2008 (in French and English)
- Kindi mo Pri-Skul Annual Survey 2008

Vanuatu Ministry of Education, Youth Development and Training, 2006: 2005 Annual Report

Vanuatu Ministry of Education, December 2006: Vanuatu Education Sector Strategy 2007-2016 (Working Draft)

Vanuatu National Statistics Office, 2007: Vanuatu 2006 Household Income and Expenditure Survey: Preliminary Report

## Appendix V: MEYDT Annual VEMIS School Survey Data Items for 2008

| Data Item  | Secondary School Survey | Primary School Survey | Pre-School Survey |
|--|-------------------------|-----------------------|-------------------|
| <b>Section A: School Profile</b> – attached to survey form for confirmation or modification                      |                         |                       |                   |
| <b>Section B: Student Information</b>  |                         |                       |                   |
| Enrolment  | ✓                       | ✓                     | ✓                 |
| Children transferring to Primary School  |                         |                       | ✓                 |
| Classes  | ✓                       | ✓                     |                   |
| Children on Waiting List   |                         |                       | ✓                 |
| Boarders   | ✓                       |                       |                   |
| Transitions  | ✓                       |                       |                   |
| Subjects Taken at Secondary School   | ✓                       |                       |                   |
| Repeaters  | ✓                       | ✓                     |                   |
| School Leavers, Drop Outs and Non-Attenders  | ✓                       | ✓                     |                   |
| Transfers by Class Level and Province  | ✓                       | ✓                     |                   |
| Early Childhood Education  |                         | ✓                     |                   |
| Students with Disabilities   | ✓                       | ✓                     | ✓                 |
| Child Protection   | ✓                       | ✓                     |                   |
| <b>Section C: Teachers</b> - Teachers Information Table attached to survey form for confirmation or modification |                         |                       |                   |
| Additional Teachers  | ✓                       | ✓                     | ✓                 |
| <b>Section D: School Facilities, Grounds and Resources</b>   |                         |                       |                   |
| School Facilities  | ✓                       | ✓                     | ✓                 |
| School Grounds   | ✓                       | ✓                     | ✓                 |
| Boarding Facilities  | ✓                       | ✓                     |                   |
| School Resources   | ✓                       | ✓                     | ✓                 |
| Classroom Resources  | ✓                       | ✓                     | ✓                 |
| Community Support  | ✓                       | ✓                     | ✓                 |
| <b>Section E: School Finances</b>  |                         |                       |                   |
| Funding  | ✓                       | ✓                     | ✓                 |
| Parental Contributions Collected in the Past Year  | ✓                       | ✓                     | ✓                 |
| Parental Contribution Structure for the Current Year   | ✓                       | ✓                     |                   |
| Budget and Actuals for the Previous Year   | ✓                       | ✓                     |                   |
| Budget for the Current Year  | ✓                       | ✓                     |                   |
| <b>Comments</b>  | ✓                       | ✓                     | ✓                 |

## Appendix VI: Report Back to Stakeholders on 4 April 2008

### A. Purpose and Goal of the External Review

The purpose of this external review was to assess how effectively the Vanuatu Education Management Information System (VEMIS) Project's design, mechanisms and implementation approach have been working and how to address identified areas of weakness or risk to sustainability.

The goal of the review is to identify the achievements of the VEMIS project against agreed objectives so far, and to provide recommendations for follow-up to ensure planned results are achieved and sustained.

### B. Overall Assessment

Overall, the External Review Team found that UniQuest and MEYDT have done a very good job in introducing VEMIS to Vanuatu. All Project Objectives have been achieved to the extent that it was possible to achieve them in the time available. Respondents were uniformly positive about VEMIS. However, it is much too early to evaluate whether or not VEMIS is improving education system monitoring and reporting, and enhancing the quality of short-term and longer term decision making in GoV ministries and departments, provincial offices, schools and pre-schools.

### C. Findings

|     |   |
|-----|---|
| 1.  | The Project Coordinating Committee only met once and did not play a key role in monitoring the VEMIS Project, as originally envisaged                 |
| 2.  | Planning and budgeting for VEMIS needs to be integrated into MEYDT's annual planning cycle  |
| 3.  | Sufficient funding should be allocated annually to VEMIS training and support   |
| 4.  | The ongoing overall management responsibility for VEMIS within the MEYDT needs clarification  |
| 5.  | The ongoing roles and responsibilities of MEYDT staff with regard to VEMIS need to be defined   |
| 6.  | Other GoV ministries and departments, key external stakeholders and the general public are currently unaware of the usefulness of the VEMIS data      |
| 7.  | The situation with regard to ongoing provision for VEMIS software administration, development and support should be resolved as soon as possible      |
| 8.  | The survey form should be reviewed later this year, with a view to making it as easy as possible for respondents to complete                          |
| 9.  | Late March may not be the best time of the year for School Census Day   |
| 10. | More time needs to be allowed for the distribution, completion and collection of survey forms, and the timing of the survey should be reviewed        |
| 11. | Current data validation mechanisms should be strengthened and additional mechanisms considered  |
| 12. | There is an urgent need to improve data security and introduce user access controls   |
| 13. | A robust data back-up mechanism and a data recovery contingency plan are needed   |
| 14. | Additional mechanisms should be introduced to increase the usefulness of the VEMIS System and its supporting documentation to Schools and Pre-Schools |

|     |  |
|-----|--|
| 15. | There is currently no mechanism to analyze and respond to the comments that schools and pre-schools have written on their survey forms   |
| 16. | Provincial Office access to VEMIS data needs to be improved and PEOs need to be trained on how to use the VEMIS data analysis tools  |
| 17. | The following training needs were identified: <ul style="list-style-type: none"> <li>• For new users</li> <li>• For MEYDT's managers</li> <li>• Financial training for primary school head teachers</li> <li>• General VEMIS training for new head teachers and others</li> <li>• Follow-up workshops for head teachers and principals who attended previous training</li> <li>• Workshops for pre-school teachers</li> <li>• Electronic records workbooks training</li> </ul> |
| 18. | Secondary principals, primary school head teachers and pre-school teachers need more information about how to identify pupils with disabilities in order to complete this section of the survey form   |
| 19. | Consideration of extending the coverage of VEMIS should be postponed until the existing system has been given a chance to "bed down"   |
| 20. | MEYDT should consider setting up an informal PINEAPPLES user group with education ministries in the Solomon Islands and Kiribati   |

*(Dr) Martin Grinsted and Paul Molu  
NZAID VEMIS External Review Team  
4 April 2008*

## Appendix VII: UniQuest Comments on the Findings of the Review

Overall UniQuest strongly agrees with the recommendations of the External Review Team. In response to the Draft Report we wish to make the following additional comments in relation to recommendations 7, 12 and 23:

### Recommendation 7:

The current VEMIS version uses Microsoft Access as a front end and has the entire data repository stored on a SQL Server 2005 database. Deployment of VEMIS is therefore by means of a “thick client” within the MEYDT’s local area network. Since the MEYDT is intending to extend the network throughout the provinces, *it is recommended that VEMIS be deployed through a “thin client” web interface such as Citrix.* (This would provide more robust access to the database than deploying as a “thick client” on each client machine.)

### Comment:

The original Request for Tender required that VEMIS be deployed on Citrix Servers running at the Ministry of Finance. The aim was to enable access to VEMIS from the provinces, using dial-in access to those Citrix servers.

Accordingly, VEMIS was first deployed in this configuration. However, it became immediately apparent on the first attempts to test connectivity from provincial offices that communications infrastructure to allow such connectivity simply did not exist.

Provincial connectivity was therefore delayed, pending advances on a Chinese government initiative to provide high-bandwidth connectivity between the islands of Vanuatu.

Meantime, VEMIS users at MEYDT, who were also using VEMIS through this Citrix infrastructure, saw their access limited by failures in the WAN connection between MEYDT and MoF, the limited number of Citrix seats, and difficulties negotiating a connection with the server.

Furthermore, interactions between the VEMIS front-end and Word and Excel, which form the core of the VEMIS publishing and analysis capacities, were awkward to manage in the thin client environment. Storing the user’s work files on the Citrix server made exporting and printing cumbersome, and files were occasionally lost, apparently due to reconfigurations of the Citrix host. Import and export to other desktop applications, notably PopGIS, was not practical when running VEMIS at the Citrix server.

When the SQL Server development began, preliminary tests were conducted into the feasibility of running the VEMIS client locally, connecting to a remote server across the slow WAN connection. The SQL interface was optimised for this scenario, and performance in this mode bettered JET performance under Citrix and matched SQL performance under Citrix for all regular data entry and retrieval operations.

Paradoxically, support for a WAN connection to the SQL server allowed the SQL Server to be relocated to the MEYDT building, and the VEMIS client to be deployed locally on users desktops. This resulted in very significant performance gains over the Citrix mode for MEYDT users, and eliminated the various difficulties previously experienced in interfacing to Word, Excel and PopGIS.

However, the Citrix deployment is still actively support and configured. Citrix users at the MoF Citrix server now connect *back* across the WAN to communicate with the SQL Server at

MEYDT. In this deployment model, it is the ad hoc Citrix users, not the regular MEYDT users, who access the database across the WAN connection. Any loss of performance experienced in this mode is not noticeable given the performance constraints of the Citrix connection.

In a local client deployment, VEMIS can detect a new version of its front end on the database server, and provides an update tool to make it simple for the user to download this and update their local installation. This feature goes a long way to mitigating the perceived maintenance advantages of the thin client model.

In summary, the developers believe this deployment model offers the best of both worlds – providing the regular VEMIS users at MEYDT with the fastest and most flexible experience, while still supporting the Citrix deployment (for possible future provincial access) as per the original work plan.

### **Recommendation 12**

*.It is recommended that the timing of the annual school census day be reviewed. (Factors such as the following should be taken into account: when school enrolments are likely to be confirmed; when cultural obligations are likely to result in parents temporarily withdrawing their children from school; transport problems during the rainy season; and when the MEYDT needs key information such as enrolment numbers.)*

#### **Comment:**

The timing of school census day for the 2007 school census was agreed based on the requirement that data be available by July-August, when MEYDT prepares its annual budget submission. Working backwards from this date, and allowing sufficient time for data entry and auditing procedures to be carried out, it was concluded that schools would need to be completing and returning their survey by around week three of the first term. More time could be allowed for schools to complete their survey if survey forms were distributed earlier in the year, or if more staff were available to enter and audit the data, assuming the requirement to have data available by mid year is not negotiable.

### **Recommendation 23**

*It is recommended:*

- a) *That MEYDT's VEMIS Manager make contact with his counterparts in Kiribati and the Solomon Islands with a view to setting up an informal user group; (The user group could initially be facilitated by UniQuest; development partners could be approached with a request for funding for an initial face-to-face meeting.)*
- b) *That PRIDE be approached to set up a user group network of key people in the South Pacific Region using EMIS systems based on the PINEAPPLES software.*

#### **Comment:**

The developers fully support the establishment of a user group of Pineapples software users as an important step in guaranteeing the ongoing viability of the EMIS systems in each user nation.

The software developer's experience in developing and marketing "vertical market" software in developed economies (in ERP and health care arenas) leads us to suggest an even broader role for the proposed user group.

First, as noted, the user community can provide mutual support, assist one other with finding solutions to common problems, and share and learn from each other's experience and ideas. This could be facilitated by regular email contact, together with an annual user group meeting.

Secondly, a common reporting format, based on consistent definitions of indicators and calculation methods will allow for meaningful comparisons of data between nations.

Finally, since the development of KEMIS in 2002, Pineapples has been designed to provide a single, flexible framework that can be readily adapted to each nation's needs.

Adaptations to specific requirements are handled through various configuration and localisation options stored in each nation's data. The front end application, whether named Pineapples, KEMIS, SIEMIS or VEMIS is **the same** in all user nations. While this approach mandates a disciplined approach to software engineering issues, the benefits to end users is that developments funded in one country can be ported and applied in another. This has reduced the cost of the EMIS system to all user nations.

The establishment of a user group offers an opportunity to formalize this approach to the development of Pineapples as a vertical market application. The user community, through consultation with the developers, could agree on development priorities of benefit to all that would be undertaken in any 12 month period. The extent of these developments would be determined by the users in consultation with the donors. The various donors who have funded development to date could share in the development costs for new features. Brief visits to user countries could be used to deploy and train in these new features, and check up on the general health of the system. An annual support fee contributed by, or on behalf of, each nation would ensure access to technical support in agreed timeframes.

Sustainability, in the context of development assistance, usually causes us to think about ways that processes and skills can be internalized within the recipient nation so as to dispense with the requirement for ongoing technical advice. In software development, even if the appropriate skills can be retained once developed, modification of the software at each user nation could lead to a "balkanized" platform in which the benefits of commonality identified in the review would be lost. The user group approach offers a different path to cost-effective sustainability. The collaborative maintenance of vertical market software is a highly successful model that is used by government departments, hospitals, manufacturers, and retailers throughout the world to preserve their investment in the software on which their business depends.