



Critical Analysis Report

FNU Waste Management Vocational Training (2013-2014)

October 2014



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Executive Summary

Reduced emissions of unintentionally produced POPs (uPOPs) is hoped to be achieved under the GEFPAS project through a range of funded initiatives including the provision of quality vocational training of semi-skilled waste employees.

It was envisioned that this would involve the development and delivery of a waste management vocational training course at a regional institution. The overall project objectives related to the training were to create a program that would:

- Develop a solid waste management vocational training program in conjunction with regional institutions;
- Routinely train course participants to become waste management trainers using the ‘train-the-trainer’ concept; and
- Ensure long-term sustainability and continuity of the training program with regional institutions.

The following were the target outputs drawn up for the training program:

1. Vocational training modules and manuals designed and developed collaboratively with FNU and International trainers, with FNU to take over training after 2 years and have been run four times.

2. Training stakeholders (group of approx. 20 public and private sector stakeholders trained every twelve months, over five years), using train-the-trainer method in: Waste management techniques that will reduce the use of open and incomplete burning as a tool of organic waste disposal; Landfill management, using demonstration site (already built) in Suva; and hazardous waste management.

3. Cadre of certified trained PIC professionals undertaking national training in each PIC and implementing 12 month action plans, with the support of a regional consultant on the first round and at least 80 PIC professionals executing action plans.

Additionally, the training program was to be tailored in a way that allows institutional strengthening and development of sustainable training modes on waste management, for the region.

The 2011 GEFPAS Project Document identified the Fiji National University (FNU) as the only regional institution with the facilities and the interest to develop the GEFPAS solid waste management training program, considering strong study program in training Environmental Health Inspectors from around the region. These environmental health graduates were the key implementers of waste management policies and legislations in the region.

Below is a summary of progress for the first two years (2013-2014), in which the program was funded through the Regional Solid Waste Management Initiative:

1. A successful waste management training course was subsequently developed and delivered in 2013-2014, utilising AFD Regional Solid Waste Initiative funding only. There were two modules developed by the Griffiths University, the International Consultant, who were also involved with the delivery of training at the Fiji National University. The training manuals are comprehensive and well regarded by student participants and form a valuable resource for Pacific based waste management practitioners. The module also covered waste management lessons learnt from New Caledonia and Tahiti was incorporated into the course structure. This included case studies for sustainable financing and the Extended Producer Responsibility (EPR) as a tool for removing hazardous waste

from the waste stream reaching the landfill site, using the managing agency in New Caledonia (TRECODEC) as an example of how these materials could be removed.

However, a large portion of the modules have been derived from the Griffith University waste management undergraduate teaching courses and the materials often have limited application or practicality in the Pacific context. Only a limited number of regional examples have been included. This could be refined for future courses to reduce course complexity and illustration of largely irrelevant examples. In particular, a more comprehensive coverage of the Fukuoka landfill design or other Pacific landfill designs, and “3R plus return” concept and philosophy would improve course relevance to Pacific islanders.

There was no involvement of the FNU in the development of the manuals despite efforts made for their engagement. Several factors were noted to have contributed to this non-engagement in the early stages, such as the changes in training program focal points within the FNU institution, the late signing of host contract agreement with the FNU, the duration of the Consultant input, and the late commencement of the GEFPAS Project. It was acknowledged that this was an enabling factor that would have greatly assisted in the strengthening of the institution in the waste management subject areas and approaches, and with that, becoming fully self-sufficient in course delivery.

2. A total of 56 participants from 13 Pacific island countries were trained over the two years using the train the trainer’s mode of training. The training covered the targeted areas of waste management techniques and landfill management which included hazardous waste management aspects and Pacific case studies. The course ran for two weeks per module, and included field trips to demonstration sites on landfill operation and rehabilitation, composting, reusing of used oil for Steel production, scrap metal recycling, and smelting plant for used car batteries, etc.

3. Outcomes related to in-country ‘train the trainer’ activities by participants were not as envisioned, with very poor feedback provided from the participants. An ‘Agreed Home Country Training Delivery’ pro-forma was introduced in 2014 at the request of UNEP in an attempt to improve monitoring of course participant performance. There is still very poor response on this to date. However, there was a positive response noted on the project development and implementation enhancement for PICs, which was tailored into the training. This was where each participant were given an opportunity to obtain funding for successful proposals submitted, and the evaluation showed successful projects on the ground.

There were delivery issues noted during the training program, such as the minimal involvement by the host institution (FNU) in understudying the training delivery of the first three modules. The attendance of lecturers was only made when their commitments allowed, with the issue identified to be due to poor planning and coordination of lecturers by the institution and resulted in the institution not becoming fully self-sufficient in course delivery for 2015. With that, SPREP have also acknowledged the minimal capacity support provided, which may have assisted in building the administrative and technical capacity of the FNU over the 2 year period of the Host Agreement. These have called for the need for further support required by the delivery consultant (GU) to assist in the course delivery in the next two years.

Another issue noted was the engagement style made out to the host institution, did not allow a strengthening phase for delivery, before the final handover of the program. The FNU have acknowledged the weaknesses identified and provided assurance on improving this aspect, and have also provided a submission of interest for the 2015-2016 training program which includes a sustainability plan post- 2016.(Annex 4)

All in all, the training program has been successful in many ways, with improvements required in key areas highlighted. It is recommended that the following actions are completed over the next 12 months to provide a definitive training solution to ensure the longer term sustainability of the GEFPAS Pacific waste management course.

Recommendation 1: That the FNU proposal to review and deliver waste management training in 2015/2016 under the GEFPAS Project be endorsed by UNEP for direct sourcing for the 2015/2016 training years.(See Annex 4)

Recommendation 2: Following consideration and endorsement of the FNU proposal, SPREP contract FNU to host the training program, which includes the review and delivery of the training, and Griffith University to assist with the review of the training manuals with FNU and assist with the delivery of the waste management training in 2015 and 2016.

Recommendation 3: Established Working Group (SPREP, FNU, GU, AFD, UNEP and JICA) to guide the review of training course materials.

Recommendation 4: That based on the success of student project delivery in 2013-2014, the United Nations Environment Programme (UNEP) is requested to consider the option of retaining student projects in 2015 as an integral component of the vocational training course. Endorsement by the Project Steering Committee will be sought to fund these activities using a portion of the education and awareness allocation (Budget line 2102).

Recommendation 5: SPREP incorporate long-term funding (post GEFPAS) for the FNU vocational waste management training in the EDF11 waste management bid in 2015.

1.0 Background

The GEFPAS funded *u*POPs (2013-2017) project is implemented at the regional and national levels to improve waste management in the Cook Islands, FSM, Fiji, Kiribati, Marshall Islands, Nauru, Niue, Palau, PNG, Samoa, Solomon Islands, Tonga, Tuvalu, and Vanuatu. The programme recognizes that solid and hazardous waste management remains a critical and escalating problem for the Pacific region. The waste sector is considered to be one of the principal sources of unintentionally produced POP (*u*POPs) emissions in the region, which are largely released through the combustion of collected and uncollected domestic waste. Therefore, it is considered likely that improvements in solid and hazardous waste management practices in Pacific island countries will lead to a reduction in regional *u*POPs production and contamination burdens.

1.1 GEFPAS Vocational Training Objectives

Reduced emissions of unintentionally produced POPs is hoped to be achieved under the GEFPAS project through a range of funded initiatives. These include the improvement of national solid and hazardous waste management through regionally based vocational training¹ of semi-skilled waste employees. The overall project objectives related to training are to create a program that will:

- Develop a solid waste management vocational training program in conjunction with regional institutions;
- Routinely train course participants to become waste management trainers using the ‘train-the-trainer’ concept; and
- Ensure long-term sustainability and continuity of the training program with regional institutions.

The expected outputs of the training were as follows:

1. Vocational training modules and manuals designed and developed collaboratively with FNU and International trainers, with FNU to take over training after 2 years and have been run four times.
2. Training stakeholders (group of approx. 20 public and private sector stakeholders trained every twelve months, over five years), using train-the-trainer method in: Waste management techniques that will reduce the use of open and incomplete burning as a tool of organic waste disposal; Landfill management, using demonstration site (already built) in Suva; And hazardous waste management.
3. Cadre of certified trained PIC professionals undertaking national training in each PIC and implementing 12 month action plans, with the support of a regional consultant on the first round and at least 80 PIC professionals executing action plans.

It was envisaged that provision of training of this nature would enable ongoing locally based waste management training by previously trained waste management professionals, and strengthen regional institutions in waste management. It was also envisaged that waste management knowledge transfer would be enhanced at the national level through sponsorship of local best practice demonstration projects completed by course participants.

¹ UNEP (2012) Pacific POPs release reduction through Improved Management of Solid and Hazardous wastes Project Document, Page 2.

1.2 The Role of AFD

The delivery of regional waste management training was originally envisaged to be a 4 year (2011-2015) joint responsibility of the complementary AFD waste management initiative and the GEFPAS project. However, extended delays in commencement of the GEFPAS project resulted in the realignment of responsibility for waste management training solely to the AFD project between 2011 and 2014. This task was contracted to the consulting company HYDEA; by SPREP in late 2011 to take the lead role in designing and developing a regional vocational training program for Pacific islanders in collaboration with regional partners.

1.3 The Role of Fiji National University (FNU)

The 2011 GEFPAS Project Document identified the Fiji National University (FNU) as the only regional institution with the facilities and the interest to develop the GEFPAS solid waste management training program, considering strong study program in training Environmental Health Inspectors from around the region. These environmental health graduates were the key implementers of waste management policies and legislations in the region. The AFD procurement requirements however, necessitated an evaluation of the capacity of other potential suppliers in the region. This hosting by FNU was subsequently confirmed in 2012 when expressions of interest were sought in running the training programme as a procurement requirement of SPREP and AFD(Annex 5). The FNU were subsequently contracted by SPREP in November 2012 to provide student services, logistical support, teaching assistants and administration and secretarial support for the two (2013-2014) year training period through a Host Institution Agreement (Annex 1). This contract provided support for a total of 4 teaching courses completed in 2013 and 2014.

2.0 Critical Analysis of Training Program

2.1 Development of training resources

Tenders for the design, development and delivery of the waste management training were received from Griffiths University and the International Solid Waste Association (ISWA). Griffiths University was awarded the consultant contract for the design, development and delivery of the waste management training course in August 2012. The University is regarded as one of Australia's most innovative tertiary institutions with teaching courses covering all major aspects of waste management and resource efficiency, municipal solid waste management, hazardous waste management, and resource efficient cleaner production. The following were deliverables for the consultancy:

- a. The design and development of the two (2) 'train-the-trainer' modules; and
 - b. The delivery of the training courses.
- (Refer to Annex 6 for the Terms of reference)

The training courses manuals contained:

- Detailed lesson text, activity-based tasks and references for each of the 25 study units of the 2 training modules;
- Copies of all educational materials, including lecture slides, photographs, and diagrams;
- Copies of all required and recommended readings; and
- Samples of assessment tools, including the assignments, activities, quizzes and exam questions.

A tender for an independent review was undertaken to review the manuals in December 2013, with Pacific Reef Savers being awarded the contract in December 2012.

The final two training manuals developed were as follows:

- a. Module 1 - Waste Management Techniques
- b. Module 2 - Landfill/Dumpsite Management

The training manuals are comprehensive and well regarded by student participants and form a valuable resource for Pacific based waste management practitioners. The modules also covered waste management lessons learnt from New Caledonia and Tahiti was incorporated into the course structure. This included case studies for sustainable financing and the Extended Producer Responsibility (EPR) as a tool for removing hazardous waste from the waste stream reaching the landfill site, using the managing agency in New Caledonia (TRECOCODEC) as an example of how these materials were removed. However, a large portion of the modules have been derived from Griffiths University's waste management undergraduate teaching courses and the materials often have limited application or practicality in the Pacific context. Only a limited number of regional examples have been included. This could be refined for future courses to reduce course complexity and illustration of largely irrelevant examples. In particular, a more comprehensive coverage of the Fukuoka landfill design or other Pacific landfill designs, and "3R plus return" concept and philosophy would improve course relevance to Pacific islanders.

There was no involvement of the FNU in the development of the manuals, despite efforts made for their engagement. Several factors were noted to have contributed to this non-engagement in the early stages, such as the changes in training program focal points within the FNU institution, the late signing of host contract agreement with the FNU, the duration of the Consultant input, and the late commencement of the GEFPAS Project. It was acknowledged that this was an enabling factor that would have greatly assisted in the strengthening of the institution in the waste management subject areas and approaches, and with that, becoming fully self-sufficient in course delivery.

2.2 Delivery of training courses (2013-2014)

Four waste management training courses have been funded through the AFD in 2013 and 2014. Table One details the modules delivered at the Fiji National University. The training program timetable was scheduled in a way that allowed participants ample opportunity to use the training manual for training practice and mentoring purposes in the delivery of selected units to the other participants during the training program.

A range of site visits were also arranged to allow course participants to review examples of landfill operation, rehabilitation and other waste management activities, including composting pilot sites, Steel production reusing waste oil, scrap metal recycling, paper recycling, smelting plant for used car batteries and scrap metal recycling. These site visits were highly regarded by course participants^{2,3}. There was minimal feedback made from the representatives on any in-country trainings as envisioned under the training program. An 'Agreed Home Country Training Delivery' pro-forma was introduced in 2014 at the request of UNEP in an attempt to improve monitoring of course participant performance. Responses from Module 1 (2014) course participants confirm that less than 10% of course participants have conducted in-country training following course attendance.

Table 1: Course attendance statistics, 2013-2014

Date	Course Title	No. Participants Attending	No. Countries Represented
4 th - 15 th March 2013	Waste Management Techniques	38	9
15 th - 26 th April 2013	Landfill/Dumpsite Management	30	13
3 rd - 14 th February 2014	Waste Management Techniques	24	13
7 th - 18 th July 2014	Landfill/Dumpsite Management	30	12

2.3 Student Projects

Following the delivery of training modules in March and April 2013, course participants submitted concept project proposals for consideration for funding (Table 2). Seventeen (17) project applications were received from course participants and evaluated according to ten eligibility criteria. The two main features that were evaluated were: i) the tangible benefits that each project would bring and ii) the extent of community/partner and stakeholder involvement. Seven projects were approved for funding, and of these, 5 projects (71%) were completed successfully by October 2014.

Table 2: 2013 Course Student Project Progress

Participants Name	Country	Project Goals	Progress to Date
Muraai Herman	Cook Islands	Temporary storage of collected E-Waste in shipping container	No progress (no funding)
Naresh Narayan	Fiji	Promotion of Central Recycling Bank facility for Suva City	Completed
Mafileo Masi	Tonga	Composting Pilot Project Government School of Ngele'ia	Completed
Patti Pedrus	FSM	Temporary used oil Storage	Completed
Rosemary Apa	Solomon Islands	Eco Bag Alternative to Plastic Bags	Completed
Talalelei Eseta Hope	Samoa	To remove and reduce E-Waste materials from waste going to landfill	Completed
Morina Mook	Marshall Islands	No Plastic Bag Awareness. Making Eco bags	Expected to be completed (initial payment made)

2.4 Participant's feedback

A summary of participant feedback on the training courses completed to date has indicated that all students felt that the training was useful in improving their understanding of waste management techniques, and of waste management related policy and strategic approaches. The evaluation also highlighted the interest for tertiary accreditation of the program. The principal course lecturer over the two year training period (Dr Sunil Herat, Griffith University) was highly regarded by course participants^{2,3}.

2.5 Preliminary Analysis of course delivery

A preliminary analysis of the training program delivery was undertaken in February 2014, following the delivery of the first 3 training modules². This analysis concluded that minimal administrative or technical capacity support envisioned in the GEF Project Document had been provided to FNU during this period due to the late start of the GEFPAS project². Capacity support was provided to some extent to FNU in July 2014, with assistance from the GEFPAS PO, as part of the project handover process. This assistance was provided immediately prior to delivery of the final training module under the 2013-2014 Host Institution Agreement³. It is evident and acknowledged by SPREP that there should have been more interaction with the FNU during the design, development and delivery

²HYDEA (2014a).AFD Training Program 2014, Module 1 Critical Analysis and Preferred Options for Delivery 2015 and Beyond. March 2014,31 pp

³HYDEA (2014b).AFD Training Program; Consolidated Report of Critical Analysis and Preferred Options for Delivery in 2015, 2016 and Beyond. August 2014, 47pp

of the training program^{2, 3}. This may have assisted in building the administrative and technical capacity of the FNU over the 2 year period of the Host Agreement.

3.0 Assessment of Fiji National University (FNU)'s capacity

Table 3 identifies the deliverables specifically required under the FNU Host Agreement (See Annex 1) by August 2014 and the delivery record of FNU to date. It essentially documents areas that need improvement by the Fiji National University during the course of the first two years. It was noted that the FNU staff have had minimal involvement in the delivery of training due to poor coordination and scheduling of lecturers to understudy the course. The University has been able to progressively deliver improved student services (accommodation, food, transport) over the four courses, and have provided a very comprehensive plan in ensuring the sustainability of the course for the longer-term (See Annex 4). Furthermore FNU and GU are currently progressing a MOU to further develop the training program as Graduate Certificate, and in the longer term, a Graduate Diploma course; this will potentially help with the sustainability of the course over the longer term.

Table 3 : Summary of FNU Host Agreement delivery

Scope of work and specific deliverables	Delivery to date
1. Provision of teaching support services to assist Griffith University with the delivery of each training module and to engage in knowledge transfer to enhance FNU involvement and capacity in the subject areas such that FNU becomes proficient as the primary course deliverer in future years (Provision of 2 full time teaching assistants for each course)	Improvement noted in Module 2, 2014. More support required
2. Provision of administrative/secretarial services including consumables to assist with the delivery of each module (Provision of 1 full time administrative assistant for each course)	Supplied
3. Provision of suitable classroom facilities and teaching aids for each module delivery	Supplied
4. Provision of logistical support for all site visits pertaining to each module delivery	Supplied
5. Provide suitable overnight accommodation for up to 14 participants per module delivery (i.e. 56 participants over the 2 years), for the duration of each delivery, subject to the participants' flight schedule	Supplied
6. Provision of all student services for 14 participants per module delivery, for the duration of each delivery	Supplied (morning and afternoon teas, venue transport)
7. Undertake the first evaluation of the course with Griffith University, following the completion of the first two module deliveries, and a second evaluation following the final two deliveries and make suitable recommendations for improving course content and delivery	Undertaken with AFD TA. Post 2016 submission on course improvement supplied
8. FNU will create a sustainable model for future course delivery through Instituting a Fee-based training program	Supplied, as per submission (Annex 4)
9. FNU will create a sustainable model for future course delivery through Submission of grant applications to foundations, donors, government agencies and other relevant sources	Supplied, as per submission (Annex 4)
10. FNU will create a sustainable model for future course delivery through Application for sponsorship assistance from public and/or private sector entities	Supplied as per submission (Annex 4)

4.0 Critical analysis of delivery of GEPAS training course objectives

An analysis of achievement of core GEPAS training objectives as required by the GEPAS Project Document and actual achievements between 2013 and 2014 is presented in Table 4.

Table 4: Summary of anticipated GEPAS deliveries, 2013-2014

GEFPAS Project Document Source	GEFPAS Project Document Objectives for the training course	Result
72. (page 16)	Training culture institutionalized in each participating PIC in solid and hazardous waste management	56 participants trained through FNU. Poor feedback from participants on country training completed
74. (Page 17)	Training being undertaken by FNU after year two of the project	Further support required
75. (Page 17)	This component will be achieved by developing, in cooperation with the FNU, a vocational training programme to be convened annually at FNU. The first round of such training will be supported by an international consultant, who will act as mentor to the new trainers.	Training course established. Training modules developed, but in isolation of FNU
76. (Page 17)	After year 2 FNU is expected to take a lead role in executing the training. This will be closely monitored by the AFD TA.	Yet to be determined
101. (Page 20)	Under Component 2 we assume that FNU has the capacity to manage the vocational training programme administratively and technically after year three of the project.	Further support required
121. (Page 26)	Activities proposed in the present GEF project brief will benefit the global community by increasing the knowledge, skills and experiences in participating countries on managing POPs. This trained cadre of individuals will therefore assist in decreasing the regional releases of POPs to the receiving environment, and the project will have expanded benefits as the project aims to facilitate the institutionalization of a training culture within PIC governments.	Yet to be determined. Poor feedback on in-country training
158. (Page 31-32)	Its (FNU's) Suva facility will host and run the vocational training under Component 2 of the Project. The syllabus will be developed by consultants in consultation with FNU. FNU staff will attend the first vocational training session as teaching assistants. In year three of the project FNU will take over delivery of the vocational training courses.	FNU progressively improved handling of course logistics. Course syllabus was not developed in consultation with FNU.
Appendix 4: TARGET:	Vocational training modules and manuals designed and developed collaboratively with FNU and Intl trainers, with FNU to take over training after 2 years and have been run four times.	Manuals not developed collaboratively with FNU. Further support required on course delivery
Appendix 4: VERIFICATION:	Final drafts approved by AFD TA; Training being undertaken by FNU after the second year	Further support required
Appendix 4: RISKS AND ASSUMPTIONS	FNU will have the capacity after 2 years	Further support required

5.0 Course Delivery Recommendations for 2015-2016

In summary, the key objectives of the GEFPAS Project Document related to the institutionalisation of waste management training have been fulfilled to some extent, with further support required for development and delivery aspects of the training. The following are some areas that need improvement:

1) In-country training by trained specialists at the national level - The current funding can only allow for online mentoring, and to a certain extent, in-country mentoring. However the FNU proposal for special projects module will be able to assist in effectively addressing this, as participants would need to undertake a number of trainings in-country in the related areas, as a core requirement to pass the special projects unit.

2) On the development aspect, the training modules will need to be reviewed by the FNU with the assistance of GU, before the commencement of the 2015 trainings. A draft outline for the review has been provided by the FNU (Annex 4), which can be further developed with guidance from other working group members (JICA, UNEP, AFD and SPREP).

3) On the delivery assessment aspects of the host institution (FNU), a key issue identified was the minimal involvement of the FNU in the first three modules delivered. Factors that were evident and acknowledged were the institution's poor planning and coordination of lecturers during the course. The need for more interaction by SPREP with the FNU during the design, development and delivery of the training program^{2, 3} was also evident and acknowledged. This may have also assisted with building the administrative and technical capacity of the FNU over the 2 year period of the Host Agreement.

The FNU have provided an official assurance for an improved delivery support, as part of their training proposal for 2015/2016. The FNU and GU are also in the final process of an official affiliation through an MOU, for collaboration in training aspects. This would potentially assist with institutional strengthening and accreditation aspects, thus fulfilling an aspiration raised by the participants.

4) The contract agreement between SPREP and the host institution (FNU) for the 2013-2014 trainings did not include a transition plan, clearly stating the delivery handover process and assessment for the different units within the modules.

The following are actions for the next two years that provides a more definitive training solution to ensure a more effective and sustainable formal training system available for the region in the long term.

Recommendation 1: That FNU proposal to review and deliver waste management training in 2015/2016 under the GEFPAS Project, be endorsed by UNEP for direct sourcing for the 2015/2016 training years.(See Annex 4)

Recommendation 2: Following consideration and endorsement of the FNU proposal, SPREP contract FNU to host the program, review and deliver the training, and Griffith University to assist with the review of the training manuals with FNU and assist with the delivery of the waste management training in 2015 and 2016.

Training course materials

The training manuals are comprehensive and well regarded by student participants and form a valuable resource for Pacific based waste management practitioners. The module also covered waste management lessons learnt from New Caledonia and Tahiti was incorporated into the course structure. This included case studies for sustainable financing and the Extended Producer Responsibility (EPR) as a tool for removing hazardous waste from the waste stream reaching the landfill site, using the managing agency in New Caledonia (TRECOCODEC) as an example of how these materials can be removed.

However, a large portion of the modules have been derived from the Griffith University waste management undergraduate teaching courses and the materials often have limited application or practicality in the Pacific context. Only a limited number of regional examples have been included. This could be refined for future courses to reduce course complexity and illustration of largely irrelevant examples. In particular, a more comprehensive coverage of the Fukuoka landfill design or other Pacific landfill designs, and “3R plus return” concept and philosophy would improve course relevance to Pacific islanders.

There was no involvement of the FNU in the development of the manuals, despite efforts made for their engagement. Several factors were noted to have contributed to this non-engagement in the early stages, such as the changes in training program focal points within the FNU institution, the late signing of host contract agreement with the FNU, the duration of the Consultant input, and the late commencement of the GEFPAS Project. It was acknowledged that this was an enabling factor that would have greatly assisted in the strengthening of the institution in the waste management subject areas and approaches, and with that becoming fully self-sufficient in course delivery.

Recommendation 3: Established Working Group (SPREP, FNU, GU, AFD, UNEP and JICA) to guide the review and revision of training course materials.

- The FNU team have reiterated their full support for the training program in the future, and have drawn up a draft training MOU with Griffith University for consideration. With that, a training program proposal has also been provided for 2015/2016 and post 2016
- Griffith University have successfully delivered the training course over the last 2 years and have expressed interest in an ongoing relationship with SPREP (and FNU) to deliver waste management training in the region.
- JICA’s technical cooperation objective is to develop/increase the capacity of counterparts and their organizations in improve solid waste management without ongoing assistance. JICA also deliver a range of waste management training courses in Japan and locally to Pacific island participants, so the methods can be shared and adopted during the review.
- SPREP is the regional organisation mandated to assist Pacific island nations improves national waste management services. SPREP is also the executor of the GEFPAS project and will be involved to ensure the objectives of the GEFPAS project are fulfilled.

An improved partnership with these organisations would enhance future training delivery and eliminate any regional training duplication.

Recommendation 4: That based on the success of student project delivery in 2013-2014, the United Nations Environment Programme (UNEP) is requested to consider the option of retaining student projects in 2015 as an integral component of the vocational training course. Endorsement by the Project Steering Committee will be sought to fund these activities using a portion of the education and awareness allocation (Budget line 2102) .

Recommendation 5: SPREP incorporate long-term funding (post GEFPAS) for the FNU vocational waste management training in the EDF11 waste management bid in 2015.

Long-term course delivery

Long-term course delivery can only be achieved through fee-based course delivery, which might be subsidised through long-term project allocations. A major European Union funding allocation (EDF11) will become available in 2015, which will provide an ideal potential source of funding to allow further assistance in providing improved facilities for both full-time and remote course delivery for waste management, post 2016, with the Fiji National University. The provision of higher level certification has been noted to be an incentive for waste management students, with the Fiji National University, in affiliation with the Griffiths University, being able to provide this for the Pacific. (See Annex 5)

Annex 1: FNU Contract Budget (2013-2014) from the Host Agreement

FNU DRAFT BUDGET FOR PARTICIPANTS ACCOMODATION, TRAINING ASSISTANCE AND LOGISTICAL SUPPORT		
ACTIVITY	DESCRIPTION	FNU TOTAL INCL 15% ADMIN WITH IN-KIND SUPPORT FIJJ DOLLAR \$
ACCOMODATION & INCIDENTALS FOR PARTICIPANTS		
Participants accommodation [includes meals & incidentals]	Accommodation is based on FJD\$560 + FJD \$140 incidental per week for 2 weeks for 14 persons for Module 1, 2, 3 & 4. i.e. FJD\$700/week x 2 weeks x 14 participants x 4 modules = FJD\$78,400.00 plus 15% admin = 90,160	90,160.00
Accommodation Sub Totals		90,160.00
TRAINING DELIVERY TWO MODULES ONCE ANNUALLY FOR TWO YEARS		
Field visits - Logistical support	Based on FJD\$4000 per training x 2 modules x 2 years = FJD\$ 16,000.00 i.e. FJD\$8,000.00 /training x 2 years = FJD\$16,000.00 plus 15% admin =18,400	18,400.00
This is the estimated price for FNU to assist with training course delivery based on the following;		
FNU Tuition Delivery Assistance Contract for vocational training modules with in-kind support	Cost of FNU staff as teaching Assistants to Griffith University for delivery of training (10 days) (2 vocational training annually over 2 years, @ FJD\$700/day /staff) i.e. 2 staff x 10 days per year x 2 x 2 years x FJD\$700.00/day = FJD\$56,000.00 plus 15% admin = 64,0400 less 53,700 in-kind support = 10,700	10,700.00
	1 Staff to provide Administrative & Secretarial support @ FJD\$200/day x 10days i.e. 1 staff x FJD\$200 /day x 10days per year x 2 x 2 years = FJD\$8000	8,000.00
	Consumables @ FJD\$3,500.00 /training (2 vocational training annually over 2 years). i.e. FJD\$ 3,500.00 x 2 years = FJD\$7,000.00 plus 15% admin = 8,050	8,050.00
Delivery Sub Totals		98,850.00
TOTALS		135,310.00

Annex 2: Indicative Vocational Training Budget

Approximately \$US150,000 is available through the GEFPAS project annually to run the course, with a separate budget on printing of vocational materials (\$8360) and international experts travel and DSA.

Year	Component	Amount
2014	Student Transit DSAs and meals	17,500
2015	Course material revision	20,000
	Layout & printing of revised course materials	8,000
2015	Course 1	
	Student airfares	30,000
	Student Transit DSAs	4000
	Accommodation and meals	17,880
	Griffith University lecture delivery Consultancy	12,250
	FNU lecture delivery Consultancy	6,200
	TOTAL	115,830
2015	Course 2	70,330
2016	Course 3	61,080
2016	Course 4	61,080
Total		308,320

Annex 3:FNU Contract Budget (2015-2016)

FNU SUPPORT SERVICES FOR AFD TRAINING PROGRAMME DELIVERY		
ACTIVITY	DESCRIPTION	FNU TOTAL INCL 15% ADMIN WITH IN-KIND SUPPORT FIJJ DOLLAR FJD\$
TRAINING DELIVERY OF TWO MODULES ONCE ANNUALLY FOR TWO YEARS		
Field visits - Logistical support	Facilitation of field visits (inclusive of logistical support, transportation, lunch, etc)	12,000.00
FNU Tuition Delivery Assistance Contract for vocational training modules with in-kind support	Provision of professional teaching services to support Griffith University for delivery of training over a total of 40 days	10,700.00
	Provision of Administrative services, consumables and other supplies as required over duration of support services	4,000.00
TOTALS		27,600.00

Annex 4 : Fiji National University Proposal for 2015-2016 and post 2016.



Colleges:
 Agriculture, Fisheries & Forestry
 Business, Hospitality and Tourism Studies
 Engineering, Science & Technology
 Humanities and Education
 Medicine, Nursing & Health Sciences

3 November 2014

Director General
 Secretariat of the Pacific Regional Environment Programme (SPREP)
 PO Box 240,
 Apia, Samoa

Dear Sir,

RE: Regional Training Program in Solid Waste Management

As you are aware, the Secretariat of the Pacific Regional Environment Programme (SPREP) is currently delivering a Regional Vocational Train-the-Trainer Training Program for Pacific Island Countries (PICs) in Solid Waste Management under the Agence Française de Développement (AFD) and Global Environment Facility Pacific Alliance for Sustainability (GEFPAS) funding schemes. Fiji National University (FNU) has hosted this program during 2013-14.

FNU wishes to express its interest to continue hosting the above program for next years (2015-16). In this regard FNU has prepared a planning document and attached for your kind consideration. FNU is very keen to develop the above program to a FNU accredited self-sustaining training program beyond 2016 in collaboration with Griffith University (GU) in Brisbane, Australia and other relevant stakeholders such as SPREP, JICA. In order to work towards this goal, it's very important that the 2015-16 offerings of the program continue at FNU, with the assistance from GU for two modules. This will allow FNU to demonstrate to the key stakeholders about the potential for a fee-based program and undertake numerous networking tasks with the assistance from GU. FNU is also committed to address/overcome any weak links during the 2013-14 offerings to ensure they are all taken care of so that a smooth transition can take place from 2016 onwards. FNU and GU are currently in the progress of signing an MOU which would assist the above goals.

FNU would greatly appreciate an opportunity to discuss the enclosed documents at your earliest convenience so that preparations can be undertaken to offer the program in 2015.

Kind regards

Raitala V. Nakabea

ACTG HEAD OF SCHOOL-DHOD|ACADEMIC LEADER TEACHING & LEARNING|
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October 2014

Review of the Solid Waste Management Vocational Training Program Conducted during 2013-14 and Recommendations for Future Sustainability of the Program

Prepared by Fiji National University and submitted to SPREP

1.0 Background

The Secretariat of the Pacific Regional Environment Programme (SPREP) wishes to deliver a Regional Vocational Train-the-Trainer Training Program for Pacific Island Countries (PICs) in Solid Waste Management under the Agence Française de Développement (AFD) and Global Environment Facility Pacific Alliance for Sustainability (GEFPAS) funding schemes. The main objective of the program is to routinely train participants from various PICs to become waste management trainers using the 'train-the-trainer' concept through a regional institution, where the FNU were identified as the host institution, under its College of Nursing, Medical and Health Sciences, the premiere medical science institution for the South Pacific, that were formally known as the Fiji School of Medicine and Fiji School of Nursing. A commitment had been drawn up by FNU for co-funding purposes with the GEFPAS project for five years, between the institution and the project, and the first two years of this program (2013-14), have thus been conducted via the AFD co-financing. The aim of this document is to review the course design and the delivery as per 2013-14 period and provide recommendations for improvements in course design and delivery for the period 2015-16 period. Furthermore, the document will address the needs for long-term sustainability of the program beyond 2016, as a requirement under the contractual agreement with SPREP.

2.0 Course Design and Program Delivery in 2013-14

2.1 Course design

The scope of the training program is the delivery of a train-the-trainer program in solid waste management, comprising two training modules annually (each to be delivered over 2 weeks to approximately, 14-20 trainees), on key aspects of solid waste management, and focussing on environmentally sound and practical waste management techniques, appropriate to PICs. The titles of the two training modules are:

- Module 1: Waste Management Techniques
- Module 2: Waste Disposal/Dumpsite Management

Griffith University, Brisbane, Australia (GU) was contracted by SPREP to design the training program in 2012. The two (2) train-the-trainer modules designed included the following:

- Detailed lesson text, activity tasks and references for each Unit of the module
- Copies of all educational materials, including lecture slides, photos and diagrams
- Copies of all required and recommended readings (including pdf files)
 - Samples of assessment tools, including the assignments, activities, quizzes and exam questions

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The emphasis of the training modules was to train the participants as trainers, and enable them to deliver the training course in their own countries. Keeping this in mind, each unit of the modules was intended to contain guidance and resources on how to conduct activity tasks during a training program. Providing the required knowledge of the subject matter and the skills to deliver the training course are key deliverables in this initiative.

The completed details of the course contents in Modules 1 & 2 are presented in Appendix 1.

2.2 Program delivery

SPREP contracted GU to deliver the program in 2013-14 with the involvement of FNU teaching assistants. In addition, FNU provided the classroom facilities and teaching aids, logical support for site visits and provided transport and accommodation for participants and morning and afternoon teas during the program. SPREP supported the program delivery by overseeing the full delivery and administration of the program.

3.0 Proposed Changes to Course Design and Program Delivery in 2015-16

3.1 Course design

Feedback provided by the program participants during 2013-14 indicated that the course contents in the program was helpful in improving their understanding in waste management techniques and landfill/dumpsite management. The course contents originally prepared by GU provided the participants with a comprehensive knowledge-base to tailor the needs for their own training requirements. However, FNU is in the opinion that course contents can be further improved to make it much more suitable for the PICs by inclusion of the following:

- a) A separate and comprehensive unit in both modules on waste data collection. This should not only cover the basics and procedures but also training on hand-on skills on how to undertake a waste characterisation survey in real-life situations. As accurate data on waste generation and composition has utmost importance to planning of waste management, this is an essential skill to provide the trainers.
- b) Since it is essential for the trainers to be exposed to maximum number of regional examples of waste management solution/initiatives, it is proposed to either fully revise the unit on case studies of each module (last unit) or incorporate examples from the region under each individual unit incorporating regional examples.
- c) The Unit 2 (Waste to resources: Towards resource efficient zero waste societies) in each module significantly strengthened to include the concept of 3R+Return as this is a useful tool for PICs to recycle non-organic waste.

The above are proposed for short-term delivery (ie. 2014-15). However, FNU would like to consider the current program leading to a FNU accredited formal training course (described in more detail in section 4 below). Major changes to the design of the modules would be required to achieve this.

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3.2 Program delivery

The participants were generally satisfied with the program delivery during 2013-14. In particular, participants were appreciative of the opportunity given to them to prepare and make a presentation on a given topic. The delivery style adopted took into account the mature nature of the participants and their learning styles. FNU does not propose any major deviations to this delivery philosophy. However, FNU considers the following additions to the delivery would enhance the effectiveness of the program outcome:

- a) Strengthen the site visit program by inclusion of a site visit to a currently constructed/operated Fukuoka landfill (eg. Lautoka or Labasa landfill site). This could be undertaken in collaboration with JICA.
- b) Allocate at least 2 full time teaching assistants (with assurance of not having other commitments) from FNU for deliveries during 2013-14 and gradually take over from delivery by GU to be 100% FNU delivery by the last delivery in 2015. The expectation here is that the 2 selected academics will become the course convenors of the proposed accredited program from 2016 onwards (see section 4.0)
- c) Allocate a full-time administration assistant for each delivery to provide administrative needs of the program
- d) Invite industry experts/practitioners working in Suva region to make presentations to the course participants on their operations (eg. Fletcher Steel, Waste Recyclers, or Landfill Operators)
- e) Invite past course participants to come and deliver their experiences (eg Shalend or Kanito.)
- f) Further review the program in collaboration with GU at the end of last deliveries in 2014 and 2015 and investigate any issues to be addressed prior to post 2016 delivery by FNU.

4.0 Sustainability of the Program

As mentioned above, FNU is very keen to develop the current offering into a FNU accredited training program from 2016 onwards. In preparation for this, FNU is committed to undertake the following activities during the period 2014-15:

- a) Develop an MOU with GU to obtain assistance towards design and implementation of a Graduate Certificate program. Tentatively FNU is thinking of naming the program 'Graduate Certificate in Waste Management for Small Island Nations'. The rationale behind this title is to not only attract potential participants from PICs, but also from other small island developing states (SIDS). Strategically, FNU would be then able to seek funding assistance from variety of sources by covering small islands. GU has over 20 years experience in offering a Graduate Certificate in Waste Management to local authorities in Australia. Moreover, GU has recently developed a new on-line Masters program. Hence, by associating with GU during 2014-15, FNU is confident of offering an accredited program from 2016 onwards.

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- b) The MOU with GU is in the final stages of signing. Once formalised, FNU will commence the preparation of the new program submission document (as required by FNU prior to the delivery of any new degree program) with the assistance of GU. The current thinking of FNU is to commence with the Graduate Certificate with the potential later to extend it to a Graduate Diploma. Furthermore, the FNU is planning to include the courses offered in the Graduate Certificate program as 'electives, in other related postgraduate programs offered by FNU. The rationale is to expand the student base to improve the sustainability of the program. Although a thorough market analysis is essential prior to deciding on the structure of the proposed program, initial thoughts of FNU is presented to Appendix 2. This will be further refined at the program submission stage.
- c) Developing a sustainable financial model for the sustainability of the program from 2016 should be very high on the agenda. Keeping this mind, during 2014-15, FNU will initiate number of tasks to ensure the sustainability of the fee-based program. Firstly, FNU will work on an appropriate fee structure (initial ideas presented in Appendix 2). In addition, and collaboration with GU, FNU will attempt to source funding support for the program from international grant bodies. GU has developed significant networking in this area through its long-term involvement with the United Nations. GU has been recently successful in obtaining funding from the Australia Government to develop waste management curriculum in Indian universities. If successful, FNU would be able to subsidise the tuition fees and even provide scholarships to selected students. Locally and regionally, FNU will be exploring developing partnerships with public and private sector towards sponsorship of the program.

5.0 Conclusions

In conclusion, FNU would like to strongly emphasise its total commitment to become a waste management vocational training centre for the PICs in collaboration with important stakeholders in the region. FNU has developed strong linkages with GU (with the signing of an MOU) who is regarded as the top university in Australia in the waste management field. They have recently appointed a new staff member to the waste management team further strengthening the collaboration. FNU, on the other hand, is very strong in the area of public health which is closely related to waste management especially in the PICs. Thus, there is no reason to doubt about the successful launch of the fully FNU accredited vocational training program from 2016 onwards. However, the challenge for FNU is to ensure the sustainability of the program from 2016 onwards. It is obvious that such sustainability cannot be achieved overnight and needs time to develop. It is therefore important that the 2015-16 offerings of the program continue at FNU, with the assistance from GU for two modules. This will allow FNU to demonstrate to the key stakeholders about the potential for a fee-based program and undertake numerous networking tasks with the assistance from GU. FNU is also committed to address and strengthen any weak links during the 2013-14 offerings to ensure they are all taken care of so that a smooth transition can take place from 2016 onwards.

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APPENDIX 1

MODULE 1 – WASTE MANAGEMENT TECHNIQUES

Part 1 Non -Technical Considerations

Unit 1 Introduction to solid waste management

- 1.1 Understand problems associated with the generation of solid waste
- 1.2 Functional elements of a solid waste management system
- 1.3 Concept of integrated solid waste management
- 1.4 Climate impact of waste

Unit 2 Waste to resources: Towards resource efficient zero waste societies

- 2.1 Concepts about 3R (Reduce, Reuse and Recycle)

Unit 3 Policy and strategic approaches to solid waste management

- 3.1 Solid waste management planning process
- 3.2 Financial, institutional, human resources, political, social and legal aspects
- 3.3 Community based waste management
- 3.4 Extended producer responsibility
- 3.5 Container Deposit Legislation
- 3.6 Examples of best practice

Unit 4 Managing waste management projects

- 4.1 Principles of project management
- 4.2 Asset and infrastructure management

Unit 5 Solid waste characterisation

- 5.1 Sources, types and composition of solid waste
- 5.2 Waste data collection

Part 2 Technical Considerations – Waste Management Techniques

Unit 6 Collection, transfer and transport

- 6.1 Developing a solid waste collection system
- 6.2 Types of solid waste storage systems and collection vehicles
- 6.3 Design of solid waste collection systems
- 6.4 Basic concepts, types and design of solid waste transfer stations
- 6.5 Financing waste collection, transfer and transport

Unit 7 Recycling

- 7.1 Types of solid waste recyclable materials
- 7.2 Design and implement a recycling program
- 7.3 Basic concepts in separation and processing of solid waste
- 7.4 Basic concepts, design and operation of a material recovery facility (MRF)

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Unit 8 Composting

- 8.1 Basic concepts of solid waste composting
- 8.2 Design considerations and technologies associated with composting
- 8.3 Markets for solid waste compost

Unit 9 Sanitary landfilling basics

- 9.1 Basic concepts of solid waste landfilling
- 9.2 Types of landfills and landfilling methods
- 9.3 Landfill gas and leachate management
- 9.4 Landfill operation
- 9.5 Landfill equipment

Unit 10 Cleaner production

- 10.1 Definitions of cleaner production and related concepts

Unit 11 Hazardous waste management

- 11.1 Overview of hazardous waste management
- 11.2 Definitions and classification of hazardous wastes
- 11.3 Generation, sources and types of hazardous wastes
- 11.4 Essential elements in regulatory approaches
- 11.5 International conventions and approaches related to hazardous waste

Unit 12 Emerging hazardous waste streams

- 12.1 Management of healthcare waste (medical waste)
- 12.2 Management of mining waste
- 12.3 Managing household hazardous waste
- 12.4 Management of e-waste

Unit 13 Case Studies

- 13.1 Financial sustainability
- 13.2 Container Deposit Legislation
- 13.3 Waste Management in small communities

MODULE 2 – LANDFILL/DUMPSITE MANAGEMENT**Part 1 Non -Technical Considerations****Unit 1 Introduction to solid waste management**

- 1.1 Understand problems associated with the generation of solid waste
- 1.2 Functional elements of a solid waste management system
- 1.3 Concept of integrated solid waste management
- 1.4 Climate impact of waste

Unit 2 Waste to resources: Towards resource efficient zero waste societies

- 2.1 Concepts about 3R (Reduce, Reuse and Recycle)

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Unit 3 Policy and strategic approaches to solid waste management

- 3.1 Solid waste management planning process
- 3.2 Financial, institutional, human resources, political, social and legal aspects
- 3.3 Community based waste management
- 3.4 Extended producer responsibility
- 3.5 Container Deposit Legislation
- 3.6 Examples of best practice

Unit 4 Managing waste management projects

- 4.1 Principles of project management
- 4.2 Asset and infrastructure management

Unit 5 Solid waste characterisation

- 5.1 Sources, types and composition of solid waste
- 5.2 Waste data collection

Part 2 Technical Considerations – Landfill/Dumpsite Site Management

Unit 6 Introduction to waste disposal sites

- 6.1 Types of landfills and waste dumpsites
- 6.2 Fukuoka semi-aerobic landfill technique (JICA)

Unit 7 Landfill site selection

- 7.1 Landfill siting criteria
- 7.2 Potential site identification and evaluation
- 7.3 Public involvement
- 7.4 EIA and risk assessment

Unit 8 Landfill design and construction

- 8.1 Landfill design objectives and considerations
- 8.2 Landfill site development
- 8.3 Groundwater and surface water control
- 8.4 Lining systems
- 8.5 Leachate and landfill gas management
- 8.6 Landfill capping and gas control
- 8.7 Design and construction of semi-aerobic (Fukuoka) landfill method

Unit 9 Landfill operation and maintenance

- 9.1 Landfill operating procedure
- 9.2 Landfill equipment
- 9.3 Facility operation and maintenance procedures
- 9.4 Personnel requirements
- 9.5 Safety considerations
- 9.6 Record keeping and management

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Unit 10 Leachate treatment and management

- 10.1 Leachate management
- 10.2 Leachate volume and quality
- 10.3 Leachate collection, removal and storage
- 10.4 Physical, chemical and biological treatment methods
- 10.5 Leachate re-circulation and bioreactor landfills

Unit 11 Landfill gas generation and migration

- 11.1 Landfill gas generation and control
- 11.2 Landfill gas collection systems
- 11.3 Uses of landfill gas (energy recovery)

Unit 12 Environmental quality monitoring at a landfill sites

- 12.1 Monitoring programme
- 12.2 Surface water monitoring
- 12.3 Groundwater monitoring
- 12.4 Landfill leachate and gas monitoring
- 12.5 Odour and noise monitoring

Unit 13 Landfill closure and rehabilitation

- 13.1 Landfill closure planning and design
- 13.2 Landfill after-use options
- 13.3 Corrective action techniques

Unit 14 Case studies

- 14.1 Semi-aerobic Fukuoka landfills
- 14.2 Transforming dumpsites to landfills
- 14.3 Cleaner Development Mechanism (CDM) projects

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APPENDIX 2

PROPOSED STRUCTURE FOR GRADUATE CERTIFICATE IN WASTE MANAGEMENT FOR SMALL ISLAND NATIONS (GradCetWM)

As per requirements of a Graduate Certificate Program, 4 courses will be offered as described below. It is expected that two of these courses to be 'taught' courses and the remaining two to be 'project based' courses. Taught courses will be offered in all semesters and will be 'block taught' similar to the current training program offered by SPREP. The tentative coverage of the 4 courses are listed below:

Course 1 - Solid waste management concepts and applications

This course deals with the concepts and applications of solid waste management practices in small island nations. Topics covered include Introduction to solid waste management in small island nations, waste to resources(3R+Return), policy and strategic approaches to solid wastemanagement, managing waste management projects, solid waste data collection and characterisation, collection, transfer and transport, recycling and composting, sanitary landfilling basics, and case studies of best practice from small island nations

Course 2 – Special topics in waste management

This course deals with special topics related to waste management which have high priority for small island nations. Topics covered include rehabilitation of open dumps (using Fukuoka method), sanitary landfill siting, design, construction, operation, management and closure, management of landfill leachate and landfill gas, environmental monitoring in landfills, waste disposal in atolls, regulations related to hazardous waste management, management of special wastes such as e-waste, medical waste, asbestos waste and waste oil, waste and climate change, financial sustainability of waste management projects, and case studies of best practice from small island nations.

Course 3 – Waste management project 1

This is a project based course where the students are required to undertake a project in their home country on a topic related Course 1. Thus, Course 1 is a prerequisite for this course. Students are responsible for sourcing the funds (if required) to undertake the project. FNU academic staff members will provide primary supervision with associated supervision from GU, JICA and SPREP. There is no requirement to attend FNU for this course.

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Course 4 – Waste management project 2

This is a project based course where the students are required to undertake a project in their home country on a topic related Course 2. Thus, Course 2 is a prerequisite for this course. Students are responsible for sourcing the funds (if required) to undertake the project. FNU academic staff members will provide primary supervision with associated supervision from GU, JICA and SPREP. There is no requirement to attend FNU for this course

Assessment

Assessment for the courses will be decided at the new program submission stage. At this stage it is expected that the assessment will be based on written reports.

Fees Structure

The program will be delivered as a full fee-based training program. The final fees structure will be decided at the new program submission stage. It is expected that a fee structure will developed to cover FNU tuition fees, accommodation and logical support for site visits. Other expenditures such as flight costs, DSA allowances etc will become the responsibility of the student.

Proposed Future Developments

It is planned by FNU that the Graduate Certificate program will be extended to a Graduate Diploma within 3 years of the first offering of the Graduate Certificate. This is feasible given the strong relationship between waste management and public health. FNU is highly regarded in the region for its academic programs in public health area. The plan is to extend the Graduate Certificate to a Graduate Diploma by including existing 4 courses from current FNU offerings.

In addition to the above, and as part of the MOU with GU, students completing the Graduate Certificate or the Graduate Diploma from FNU would be eligible to articulate into the Master of Environmental Engineering on-line program offered by GU, thus, allowing the students to complete further studies while working in their home country.

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Annex 5: AFD Fiji Institute Capacity Evaluation

Annex 6: TOR for Course Development and Delivery