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IAS-USP LED FIJI RESCCUE PROJECT RECEIVES ADDITIONAL FUNDS

The Institute of Applied Sciences has been awarded 300,000 Euro Dollars in additional funds for the Climate Change adaptation project it has been involved in since 2015. The Restoration of Ecosystem Services against Climate Change (RESCCUE) project supports adaptation to climate change through integrated coastal management (ICM), resorting especially to economic analysis and economic and financial mechanisms. RESCCUE is a regional project that is funded by the French Government and overseen by the Secretariat of the Pacific Community and the Fiji Government. IAS is leading the RESCCUE Fiji consortium which includes Conservation International, Wildlife Conservation Society, Fiji Environmental Law Association and Landcare New Zealand.

The primary objective of these additional funds is to enhance concrete and tangible on-ground field activities that will be implemented in the provinces of Ra and Kadavu by the RESCCUE consortium. It is anticipated that by December 2018, the project will have generated a rich body of knowledge and outstanding collective tangible achievements from all of the RESCCUE pilot sites in the four countries and territories (New Caledonia, French Polynesia, Vanuatu and Fiji). For more information on RESCCUE, refer to the attached RESCCUE PROJECT NEWSLETTER.

World Bank Funded Vanuatu REDD+ SESA Project awarded to IAS, USP



IAS team with Vanuatu government officials at
Vanuatu REDD+ SESA meeting

The Institute of Applied Sciences was awarded the Vanuatu Reducing Emission from Deforestation and Forest Degradation (REDD+) Strategic Environmental and Social Assessment (SESA) project by the Vanuatu Government and World Bank in March 2017. This follows the Fiji REDD+ SESA project awarded to IAS in September 2016. Dr Johann Poinapen, the Director IAS attributes the Vanuatu SESA project award to the growing reputation of IAS in the successful implementation of development projects in the region.

The 12-month project with a budget of USD375,000 was made official with the signing of the contract on 29 March 2017 by USP and the Secretariat of the REDD+ Vanuatu. The project leadership team comprising the IAS Environment Manager Dr Isoa Korovulavula, international SESA expert Dr Ken Green and Senior Scientific Officer, Make Movono travelled to Port Vila in March 2017 for an official Vanuatu SESA project

reconnaissance visit where they met with the REDD+ Secretariat and local stakeholders.

SESA is a critical phase of the Reducing Emissions from Deforestation and Forest Degradation programme, a proposed global mechanism to mitigate climate change, while mobilising financial resources for socio-economic development in forest countries. As an internationally known policy tool or instrument to identify environment and social risks and impacts pertaining to specific sectors and planning strategies, SESA facilitates strategic environmental and social sustainability dialogues, and informs policy reform processes. The Forest Carbon Partnership Facility (FCPF) and many REDD+ stakeholders agreed that the SESA would serve as a foundation across REDD+ readiness programmes and as such should be a comprehensive analysis of issues and policy options related to the proposed REDD+ national and subnational/jurisdictional programmes.

The Director, IAS stated that the IAS project team will efficiently undertake the work based on IAS's years of experience working across REDD+ programmes, forestry sector projects, regional projects and Government of Fiji national environment and natural resource management programmes and the current Fiji SESA.

IAS Staff attends Analytical Training in Chile



IAS Scientific Officer Ms Jaya Balram (left) preparing a sample with Mr Kemueli Seuseu (centre) of the Korinivia Research Station as Trainer Mr Sergio Rojas looks on



Group photo of Training team in Chile with IAS Scientific Officer, Ms Jaya Balram (centre)

IAS Scientific Officer and Key Technical Person for Food & Water accredited Chemical Tests, Ms Jaya Balram attended a training in Santiago, Chile from 7 to 11 August 2017 under a cooperation project between the Government of Chile and the Government of Fiji through the Ministry of Health.

The project titled “Strengthening the Institutions responsible for the inspection and certification of agricultural products, and the coordination of national food safety system in Fiji” was funded by the Chilean Government. The training of analysts was a project phase that focused on “Strengthening Analytical Chemistry capabilities” in Fiji. Ms Balram was trained on the detection and quantification of drugs including Nitro furans and Sulfonamides that are typically used as antibiotics or antimicrobials in animal feeds.

Ms Balram expressed her appreciation to the Ministry of Health of Fiji and the Government of Chile for the opportunity to learn the new methods along with its related samples preparation techniques and quality control measures. The Director of IAS, Dr Johann Poinapen said that the training was an example of IAS’s recognition of the importance of its staff’s on-going skills development process, and will add value to the analytical services provided by the Institute. He further added that this particular training also better prepares IAS to undertake any new work on agricultural products screening and antimicrobial or antibiotic resistance screening, a relevant current health topic of interest to the region.

IAS participates in Solomon Islands marine organisms collection

Two scientists from the Institute of Applied Sciences participated in a 1-week expedition to a remote region (Uepi Island/Marovo lagoon) of the Solomon Islands in early June 2017. Alongside collaborators and researchers from the Georgia Institute of Technology, USA, the team’s goal was to discover marine organisms which could be explored as a potential source of useful drugs.

Drug discovery efforts focus on four major disease areas of importance to the United States and developing nations: infectious diseases including tuberculosis and drug-resistant pathogens; neglected tropical diseases including hookworms, roundworms, malaria; cancer; and neurodegenerative and central nervous system disorders.

The USP team comprised of Dr Katy Soapi and Mr Klaus-D. Feussner. They collected seaweeds, sponges, soft corals and marine microbes whose chemical extracts and chemical constituents are now being screened in the therapeutic areas mentioned above.

Mr Feussner while acknowledging the role of IAS’s long-term collaborators stated that IAS will increase its efforts in the study of plants, marine organisms and bacteria to discover new drugs. Aside from drug discovery efforts, results of the research and ecological surveys will contribute to developing innovative conservation and management options that will help preserve biodiversity and health of coral reefs in the South Pacific.



Expedition Team with Dr Katy Soapi (3rd from right) and Mr Klaus Feussner (2nd from right)

Workshop by IAS on the structural elucidation of chemical compounds for the GEF bio-prospecting project



Workshop participants with Dr Serge Lavoie (centre), the workshop facilitator

The Institute of Applied Sciences held a workshop from the 21–23 June at the USP Lower Campus on better understanding of tools used to interpret chemical data to reveal the structure of compounds obtained from natural products research. The workshop was a component of the 3-year Global Environment Facility (GEF) funded project that is held by the IAS Centre of Drug Discovery and Conservation and titled “Discovering nature-based products and building capacities for the application of the Nagoya Protocol on Access to Genetic Resources and Benefit Sharing (ABS) in Fiji”. As the project implementing agency, IAS is required under the project to build the capacity of National Authorities and Institutions in bio-prospecting related work.

The workshop was facilitated by Dr Serge Lavoie, a current post-doctoral researcher from the Georgia Institute of Technology in the USA with over 10 years of experience in Nuclear Magnetic Resonance (NMR) spectroscopy. The objective of the 3 day workshop was to increase the participants’ understanding of interpreting NMR data and to enable them to determine the chemical structures of unknown compounds. Among the participants who attended the workshop were representatives from the Ministry of Fisheries and Forests, USP and the Fiji National University as well as some Master’s students in the related fields.

A few participants shared their experience at the workshop and mentioned that information gathered at the workshop would benefit their research work greatly. The Manager of the IAS Centre of Drug Discovery and Conservation, Dr Katy Soapi stated that the Institute of Applied Sciences will continue to actively contribute to building the capacities of the people of Fiji and the region in the areas of bio-prospecting and drug discovery.

IAS conducts Sampling Training for Regional Health & Fisheries Inspectors

The Institute of Applied Sciences conducted a Training on Sampling Techniques and Microbiological analysis for Health and Fisheries inspectors, Fishing industries’ quality personnel from the region on 28 – 30 March 2017.

Funded by the Forum Fisheries Agency (FFA), the training’s participants from the Solomon Islands, Kiribati, Papua New Guinea and Fiji. The training facilitators at IAS, Mrs Arun Pande, Senior Microbiologist and Microbiology Key Technical Persons Ms Anjila Nand Raghuwaiya and Ms Ashika Dayal covered the following topics:

- Aseptic sampling, storage and transportation of samples for microbiological analysis
- Quality control in media & reagents preparation
- Microbiological analysis of water, fish and swab samples
- Recording, calculations and interpretation of microbiological analysis results data

The feedback from the participants were very positive, and participant, Mr Alfred Yangas, Certification Officer of the National Fisheries Authority, Papua New Guinea stated that “The training was very

useful and as a result we have really trimmed down a lot on the testing parameters and sampling techniques that were unnecessary especially for microbiology. I was impressed with the way the training was designed and useful tips were gained which will be implemented back in PNG.” The FFA trade advisor Mr Jope Tamani also commended the trainers on the positive outcome of the training.

The Manager, Laboratory Services at IAS, Mr Usaia Dolodolotawake said that IAS was pleased to assist the Forum Fisheries Agency in supporting the proper monitoring of fish and fish products processing and that the training was crucial in that reliable quality data can only be used if proper sampling is employed.



Regional Sampling Training participants with IAS trainers

IAS held Training for Provincial Council Conservation Officers



The Institute of Applied Sciences conducted a training funded by the Packard Foundation for the iTaukei Affairs Conservation Officers to strengthen their overall institutional and technical capacity of the iTaukei Conservation Unit and iTaukei Affairs Board in dealing with environment and natural resource management issues affecting their respective communities. The training was held from 24 January to 4 February 2017 at the IAS Conference Room. The entire 14 Conservation Officers (COs) serving in Fiji from the provinces of Rewa, Cakaudrove, Macuata, Kadavu, Lomaiviti, Lau, Naitasiri, Nadroga/Navosa, Bua, Ba, Serua and Namosi, and two COs based at the iTaukei Affairs Head Office in Suva attended the training.

One of the main training outputs was to better equip the COs in providing technical advice and recommendations on Environmental Impact Assessment reports that have been submitted for review to the Roko Tui (Provincial Governor) and Provincial Office.

The key facilitators of the training were Dr Isoa Korovulavula (Manager of the Environment Unit, IAS) and Ms Make Movono (Senior Scientific Officer). Other specialists from the various IAS Units facilitated topics related to their area of work. The main topics covered in the training were Environmental Management, Environment and Social Impact Assessment, Biodiversity Conservation, Integrated Resource Management Approaches, Project Management, Monitoring and Decision making tools. The approaches used to conduct the training were lectures, case studies, group discussions and presentations.

A feedback noted by one of the participants on the Training Review form was “the course strengthened my understanding of the basic principles of environmental management, for example, putting more effort in reading, knowing the legislation and Acts so we are well informed of the information and background of the different environmental issues before sharing the knowledge to our communities.”

The Manager, Environment Unit, Dr Isoa Korovulavula stated that IAS was well suited to deliver the training due to the extensive knowledge and experience gained by the Institute in the planning, implementation and review of conservation projects that IAS has been involved in both locally and regionally. IAS will continue to impart technical knowledge to the region to improve community conservation measures which would ultimately sustain the livelihoods of people in Fiji and the region.

A tribute to the late Mr Usaia Visaru Dolodolotawake, the IAS Manager Laboratory Services



The late Mr Usaia Visaru Dolodolotawake



Mr Usaia having a light moment with IAS Staff



Master Usa as he was affectionately known in his element at the IAS Laboratory

The IAS Staff and family were saddened by the passing of the former IAS Manager Laboratory Services, Mr Usaia Visaru Dolodolotawake on Saturday, 12 August 2017.

Mr Usaia Visaru Dolodolotawake joined IAS in 1999 as a Fellow and was promoted to Manager of the Laboratory Services Unit in 2006. He obtained his BSc (Chemistry & Maths) and MSc in Chemistry from USP and greatly contributed to the international accreditation of the IAS laboratory services. With over 20 years of analytical experience, Usaia had expertise in food nutritional and contaminants analysis, and served as a scientific advisor on several Food and Food Products Development and Safety committees, both at national and regional levels. Usaia was also the key researcher behind the formulation of the kava drink product now known as the “Taki Mai”. He was well regarded amongst his peers in the region and had collaborated with various researchers in the areas of Food analysis as evidenced from his publications. Prior to joining IAS, Usaia had served as a Lecturer in Chemistry and Mathematics at the Cook Islands USP Centre and also as a Research Assistant in the School of Pure and Applied Sciences, USP.

Usaia's legacy with IAS has been his tireless commitment to maintaining the efficiency without compromising the quality of the Laboratory services. Despite his illness he continued to inspire many by his work ethics and commitment. He will be dearly missed by the IAS family and USP as a whole. He is survived by his spouse Salome and their three children.

USP Open Day 2017

The 2017 USP Open Day held on 28 July 2017 proved to be a success once again for the Institute of Applied Sciences (IAS). A high number of high-school students and Open Day guests visited the IAS Booth where posters on IAS services, preserved specimens of endangered and endemic plants and land vertebrates were on display.

IAS as an Institute within the Faculty of Science, Technology and Environment teamed up with the School of Geography, Earth Science and Environment to create an Unsustainable Forest model. The model was built to support the FSTE's Open Day objective on educating students on the effects of Sustainable versus Unsustainable practices in the environment.



Putting the final touches to the Unsustainable Forest model



IAS Staff at the Display booth



IAS QC Technician Maria responds to students queries



Students examine the specimens as IAS Technician Ilaisa looks on



Jones of Herbarium Unit talks to students



IAS Laboratory Technician Kacaraini addresses students

IAS Staff Quarterly Morning Tea

IAS Staff, Graduate Students and Management hold a quarterly morning tea where they are briefed by the Director on the Institute's operational and financial developments. The function is also an opportunity to welcome new staff and/or Graduate students and also to actively obtain feedback from IAS Staff and students.



IAS Staff during the August morning tea

IAS Staff awarded Commonwealth scholarship for Climate Change Study



Chevening Scholarship recipient Jone Raituva receives a farewell gift from the Director of IAS, Dr Johann Poinapen

The IAS August Staff morning tea was also used to farewell the IAS Herbarium Technical Assistant, Mr Jone Raituva, who was awarded the Chevening scholarship for a Masters in Climate Change, Development and Policy at the University of Sussex, in the United Kingdom.

Briefly from the second half of 2016:

Institute of Applied Sciences Holds Strategic Planning Workshop



Staff members of the Institute of Applied Sciences held a planning workshop on 19 December 2016 to review the IAS Strategic Plan (SP) 2014 – 2016 and formulate the strategic plan for the next five years.

Held at Uduya Point in Lami, the workshop also served as a retreat for staff as it fostered openness, trust and creativity and encouraged the staff members to be clearer about the Institute's strategies and objectives.

The workshop participants:

- Reviewed the IAS SP 2014 – 16 Plan for which 85% of the KPIs were achieved.
- Review the Vision, Mission, Values Statement for the Institute
- Renamed the identified Strategic Results Areas and Sections in line with the proposed revised Organisational Structure
- Formulated new strategies & lines of actions in response to pressing regional needs, stakeholders' feedback and business acumen

The new IAS SP also intends to strengthen the foundation of IAS as a sustainable and successful Institute through robust governance and administrative arrangements, operations efficiency and technical leadership. This would be achieved through focussing on IAS's unique and recognised strengths – the rich collective body of knowledge; a genuine commitment to challenge ordinary thinking; and a candid desire to improve the lives and well-being of people in the region.

The plan also serves as a platform upon which IAS staff can develop their annual work plans to align with the goals and objectives of the IAS SP 2017-2021 as well as the USP SP 2013 - 2018.

Dr Johann, the Director of IAS said that the new Strategic Plan 2017-2021 is aspirational and aims to position IAS as the Institute of excellence in the Pacific region and a leading one internationally. The successful implementation of this plan will ensure that IAS continues to effectively and competently provide professional scientific services to meet the development needs of the region.

IAS, USP delivered Chemical Management Training in Nauru, Solomon Islands and Niue



The Institute of Applied Sciences (IAS) had delivered trainings in Nauru, Solomon Islands and Niue as part of a Stockholm Convention on Persistent Organic Pollutants (POPs) project.

The training course was developed by IAS under a contract to the Secretariat of the Pacific Regional Environment Programme. Funding for the work was provided by the Global Environment Facility and implemented by the United Nations Environment Programme.

The training course was targeted at people who are directly involved with the storage, handling, use or disposal of chemicals, and especially those who work in laboratories, or as science teachers, or whose work involves the supervision or management of laboratory facilities. It was also relevant to government officials with regulatory responsibilities in this area, including Customs Officers, who were given a more targeted half-day course.

The training course for Niue was held from 1 to 4 August 2016. The main venue for the course was Niue Sports and Golf Club, Alofi, and the course presenter was Shalveen Raj. Local assistance with planning and organisation was provided by the Niue Department of Environment/Takatakaimotu Niue.

Shalveen was also the course presenter at the Nauru training from 18 to 21 October 2016. The Ministry of Environment Nauru had provided local assistance with planning and organisation. Participants of the training relayed that the workshop was educational as it provided more information on the hazardous nature of chemicals and the proper handling of chemical wastes.

IAS Farewells distinguished Professor & long-term former Director



The Institute of Applied Sciences and other USP staff members officially farewelled distinguished Professor, and long-term former Director of IAS Professor Bill Aalbersberg on Friday, 25 November 2016. Professor Bill Aalbersberg officially became the Director of IAS in 1999 but had been managing the Food Unit of the Institute for a few years prior to that. A Professor of Natural Products Chemistry, he had worked as a Peace Corps Volunteer in Sigatoka, and later on a Lecturer in Organic Chemistry for the University of California, Berkley. His areas of Research experience covers a wide range of science disciplines particularly in Chemical and Biological Activity of South Pacific Medicinal Plants and Marine Organisms, Environmental Chemistry (Climate change, ozone depletion, marine pollution, coral reef degradation, environmental impact assessment, community-based environmental management) & Food Nutrients and Toxins Analysis.

Professor Bill's achievements as the Director of IAS included the establishment of the following:

- First full service internationally accredited laboratory in the region – accredited for Food, Water & Environment physical, chemical & microbiological tests and for Biofuel tests
- Establishment of the Centre of excellence in taxonomy and ecology at Herbarium
- Establishment of the Centre of excellence in biodiversity development and conservation
- One of six regional UN global centers of analysis of Persistent Organic Pollutants (POPs) under the Stockholm Convention
- Food nutrients and safety centres of excellence (e.g.

development of Pacific Islands Food Composition Tables)

- High caliber staff whose skills are continually being developed
- IAS's increased visibility and engagement in the region

Professor Bill, a recipient of many international research funding awards has over 150 publications in key scientific research areas and has mentored and supervised various Masters & PhD students who have gone on to leadership roles in their area of work. He was also on the Editorial Board of numerous publications journals and Head of numerous Government committees on Biodiversity, Trade and Standards & Food and Nutrition. He was instrumental in the setting up of the Local Managed Marine Area Network as well as the setting up of the Integrated Coastal Management Framework in Fiji.

Mr Tuiwawa, the Curator of the South Pacific Regional Herbarium at IAS stated that Bill was a brilliant mentor who encouraged the pursuit of excellence in the areas of biodiversity and conservation research. The Environment Unit Manager, Dr Isoa Koroivulavula echoed similar sentiments stating that Professor Bill was passionate about applying scientific knowledge in community work that focusses on improving the livelihoods of people in the region.

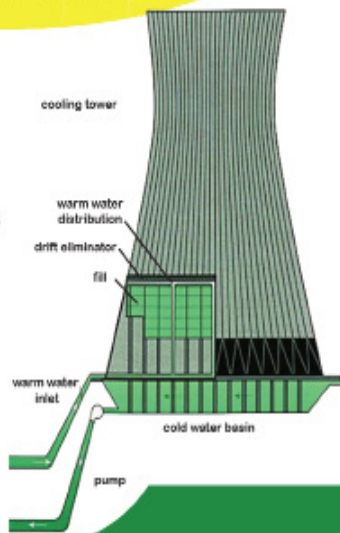
Dr Johann Poinapen, the current Director of IAS said that Professor Bill contributed significantly to USP and indeed to the Pacific region. He has positioned IAS as a leading scientific services provider in the region for the betterment of Pacific Islanders.

Professor Bill thanked the staff for their support during his leadership and is confident that IAS is in good hands with the new leadership.

Cooling Tower Water Analysis for Legionella Available at the Institute of Applied Sciences

COOLING TOWER WATER ANALYSIS FOR LEGIONELLA AVAILABLE AT THE IAS!

Cooling towers, evaporative condensers and fluid coolers use a fan to move air through a reticulated water system. This allows a considerable amount of water vapor and sometimes droplets to be introduced into the surroundings, despite the presence of drift eliminators designed to limit droplet release. This water may be in the ideal temperature range (20 – 50°C) for Legionnaires' disease bacteria growth. *Legionella pneumophila* a thin, aerobic, Gram-negative bacterium of the genus *Legionella* is the causative agent of legionellosis or Legionnaires' disease.



For more information: Contact the IAS Laboratory
Senior Technician, Mr Anun Pande on 323 2320 or 323
2971 or email: anun.pande@usp.ac.fj

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- Muffle Furnaces
- UV-Vis Spectrophotometers
- Ovens
- Pipettes and dispensers

- Micrometers
- Vernier callipers
- Hydrometers
- Iron Testers



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