

A Brief Look at some Highlights of the IAS's Activities In 2015

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IAS's Activities Highlighted in Meeting

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Co-managing for Sustainable Communities

Imagine a Pacific with all the coral reefs dead and everyone living in cities...or abundant with fish to feed all our families. Seventeen Pacific Island co-managers from government, non-government and community-based organizations who work closely with communities in resource management are training at the University of the South Pacific to help ensure the second scenario happens and not the first. The Pacific Island Community Co-management Course was designed by USP and SPREP in 2000 and is being offered for the fifth time, this time especially in conjunction with the Locally Managed Marine Area Network (LMMA). The participants, who represent ten countries, have spent a month learning from each others' experience and gaining new skills to be used helping communities to develop sustainably, considering sociocultural, environmental and economic aspects. They will then spend five months trying out new approaches in their work place and then reconvene towards the end of the year to share experiences in implementing these projects. Mr. Shem Bal, the elder of the group, commented, "Even though my island of Vanuatu had just suffered a devastating cyclone, I decided to come to this course anyway in the hope of learning new ways to help my island with food security after the cyclone. I will be doing my project in ways of propagating wild yams and sharing this with my community so when the next cyclone comes we will have plenty of food."

Professor Bill Aalbersberg of the Institute of Applied Science at USP, which is hosting the course, mentioned, "Previous participants of the course are now leaders in government and conservation societies in the region. Their sponsors report that they return with much more confidence and willingness to provide new ideas."

This year, the course has received funding support from two regional programmes with a protected area focus; MACBIO - funded by the German government through the German Agency for International Development Cooperation (GIZ) in close collaboration with IUCN and SPREP, and the Biodiversity and Protected Areas Management programme (BIOPAMA), funded by the intra-ACP envelope of the European Commission's 10th European Development Fund and implemented by the International Union for the Conservation of Nature (IUCN). Several Suva-based organisations have contributed to the teaching of the course, giving their time and enthusiasm to present classes, conduct field trips and share experiences. Some northern Pacific participants had their air fares paid by their employers in support of the course.



Group photo of participants

CDDC conducted workshop on DNA sequence alignment and new molecular biology tools

By Klauss Feussner

The Centre for Drug Discovery and Conservation (CDDC) of the Institute of Applied Sciences (IAS) organised a workshop on sequence alignment and new molecular biology tools on the 1st of May 2015. This was attended by several IAS, Chemistry, Biology, Geography, Marine studies and PACE-SD staff. The instructor, Professor Peter Lockhart of Massey University, a USP alumnus of Palmerston North, New Zealand explained the advantages of the recently established shotgun sequencing especially for environmental monitoring of microbial communities to the participants. He explained that using the metagenomic tool for sequencing enables the microbes present in environmental water and soil samples to be identified in their millions. He also referred to the traditional 16S RNA approach



Professor Lockhart discusses projects with two participants

which is still applicable to identify intra-species diversity and comes at a significantly cheaper cost and faster turnaround time. IAS is using this 16S tool for their bacterial/invertebrate taxonomy. The shotgun sequencing approach will be used by IAS/Massey University to analyse environmental water samples collected after the Suva sewage spillage incident in December 2014. Results are expected to be available in June 2015.

CALIBRATION OF LABORATORY TESTING EQUIPMENT

Equipment calibration traceable to INTERNATIONAL STANDARDS for the following equipment:

Thermometers – digital, alcohol/mercury & infrared thermometers

- Brix meters – hand held & bench-top meters
- pH meters
- Conductivity meters
- Turbidity meters
- Chlorine meters
- Incubators
- Water baths
- Muffle Furnaces
- UV-Vis Spectrophotometers
- Ovens
- Pipettes and dispensers

- Micrometers
- Vernier callipers
- Hydrometers
- Iron Testers



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Dr. Mathias Schmidt at a kava farm in Naitasiri

German Kava Expert Visits IAS

German Kava Scientist and advocate Dr. Mathias Schmidt visited the Institute of Applied Sciences (IAS) laboratory on Wednesday 6th May, 2015. His visit was part of the European support through the PHAMA (Pacific Horticulture and Agricultural Market Access) program in support for Kava related activities in the South Pacific region. More specifically, he is working with governments of kava exporting countries in the need to formulate kava standards in preparation of possible kava export to the European Union.

For a number of years, kava exports to the European Union for the manufacture of kava based drugs have been banned. This follows allegations that kava was responsible for fatal liver toxicity. This was later refuted by experts. After years of fighting against the ban (Dr. Schmidt being one of those in the forefront), it was finally lifted 2 month ago.

In preparation for kava re-entering the European market, the Secretariat of the Pacific Community (SPC-PHAMA) had been surveying the different kava varieties throughout Fiji and hundreds of samples sent to the IAS laboratory for kava lactones determination. Data obtained would enable PHAMA to advise farmers on the best variety that the market may demand.

The IAS laboratory together with PHAMA will carry out more kava lactones analyses. The lab is also well placed to continue to conduct kava analysis for exporters as it used to do a number of years ago.

IAS Announces Appointment of New Natural Resources Management Unit Manager

The Institute of Applied Sciences, USP is pleased to announce the appointment of Dr Isoa Korovulavula as its new Natural Resources Management Unit Manager. The Natural Resources Management (NRM) Unit (formerly IAS Environment Unit), an award-winning centre of excellence in biodiversity development and conservation will greatly benefit from Isoa's experience and expertise in the application of environmental economics in community based conservation and resource management activities.



Dr Isoa Korovulavula

The IAS NRM Unit has a long successful history with applied community based resource management and researches such as the establishment of Locally Management Marine Area network in the Pacific and few countries in Asia. Isoa hopes to contribute further to its success through:

- focusing on the development of realistic sustainable development models in relation to existing marine and terrestrial natural resources management projects
- working more on integrating terrestrial and marine management as well as water management initiative at community, national and regional levels for initiatives that are holistic in nature such as the Integrated Coastal Management (ICM)
- continue with the Unit's current EIA consultancies but be more selective in terms of choosing the ones that accrue the maximum financial net benefit to IAS

A former Fellow at IAS, Isoa was the Community Liaison Officer for the USAID funded Coastal Community Adaptation Project (C-CAP) immediately before re-joining IAS. In his former role, he provided technical advice and assistance to Community Mobilizers based in eight of the nine C-CAP Pacific Island States.

Commenting on the new appointment, Acting Director, IAS Dr Johann Poinapen said: "Isoa brings valuable experience to our business and is an asset to the IAS management team. His knowledge of the application of environmental economics in community based conservation and resource management activities will be instrumental as we look to

present more innovative solutions to our clients and stakeholders and grow our presence regionally in the environment sector."

An expert in Socio-economic assessment of biodiversity, Economic Valuation, and Community Development Specialist & community based integrated water management, Isoa obtained his PhD and MSc from the University of Queensland and BA from The University of the South Pacific.

We have asked Isoa a few questions about his appointment and the role he will play at IAS and his responses are outlined below.

How would your areas of expertise contribute to the strategic direction of the Institute?

I would be able to enhance and add value to the range of activities and initiatives that NRM Unit has been implementing over the past 10 years or so. The following key areas that I would be able to contribute to the Institute are:

- the application of environmental economics in community based conservation or resource management activities which was missing in the previous NRM unit community based natural resource management initiatives;
- developing a more robust decision making process by combining participatory approach multi-criteria analysis;
- institutionally, I would like to assist in developing proposals so there would be more cohesive and systematic integration of the various units within the Institute by applying the principle of "value chain" in relation to environmental

and resource management consultancies and projects in Fiji and regionally.

What do you hope to focus on developing at IAS NRM?

I hope to develop a more transdisciplinary mindset amongst the NRM staff members. This will enable them to work and collaborate effectively with other units and entities within the Institute and from outside. Another activity that the NRM unit should focus on is the development of realistic sustainable development models in relation to existing marine and terrestrial natural resources management projects given the Unit's long history with applied community based resource management and research. This could be achieved through consultancies and identifying funders that would be keen to support such projects.

Which existing project areas would you like to develop further?

I would like the NRM to continue with the Unit's current EIA consultancies. The focus of the NRM Unit should be initiatives that are holistic in nature such as the Integrated Coastal Management (ICM). We need to work more on integrating terrestrial and marine management as well as water management initiatives at community, national and regional levels. Over the years, the Unit has been very successful in the field of community based marine management such as the establishment of Locally Management Marine Area (LMMA) network here in the Pacific and few countries in Asia. My approach to terrestrial or land based management would be to use LMMA principles and tools as well as the application of watershed management best practices.



IAS's Activities Highlighted in Meeting

The Manager of Laboratory Services at the Institute of Applied Sciences (IAS) Mr Usaia Dolodolotawake attended 'The Pacific Workshops on Nutrition, NCD's and the role of Codex' held in Nadi from the 20th to the 22nd of April, 2015. He was invited to be a temporary advisor as well as presenting a paper titled "Trans Fat in the Fijian Food Supply – Options for Elimination/Minimization from the Food Supply". In there, findings and key recommendations from work done by IAS for WHO; "Transfer content of some Fijian Foods" were presented.

The paper briefly described what trans fats are, what their dietary sources are and how industrial trans fat are formed. The link between Non-Communicable Diseases (NCDs) specifically coronary diseases and trans fat was also discussed. Using the latest Fijian Food consumption data, it was noted that vegetable oils are the major source of dietary trans fat in the Fijian population. Data obtained also showed that ready to eat foods (fast foods) were high in trans fat.

The paper recommended consumer education on the ills of trans fat be undertaken as well as consumers minimizing their use of vegetable oils in cooking. Other cooking methods such as boiling, roasting and 'lovo' were recommended.

In one of the sessions, the work of the IAS laboratory, specifically the Food Unit was discussed. The participants were pleased to note that the lab is ISO certified and was also involved in the compilation of the Pacific Islands food composition table as well as played a major role that led to the banning of turkey tails import into Samoa.

The IAS presentation was well received and a lot of interest was shown in trans fat analysis as WHO intends to make this a compulsory item in the nutrition information panel.

IAS, USP Provides Technical Expertise in Suva Sewage Spillage Monitoring Programme

With its internationally accredited testing services, and the availability of water engineering expertise, the Institute of Applied Sciences, USP has been at the forefront of assisting the nation in addressing the 6 December 2014 main sewage line spillage into the Suva waters.

The spillage resulted in the Fiji government declaring an Environmental Emergency Zone from the mouth of the Rewa River eastward and directly affecting about 6000 people. This led to the formation of an Inter-Agency committee comprising the Fiji Government Department of Environment, Department of Fisheries, the Police Force and the Institute of Applied Sciences (IAS) among others, to conduct an assessment of the spillage on water, fish and sediments quality in the affected areas.

The IAS Team comprising water chemists, microbiologists and fish scientists and led by the Acting Director, Dr Johann Poinapen a chartered and registered professional water process engineer, has been analysing water, fish and sediments in 15 affected locations and two unaffected locations as controls.

The 8-week sampling programme which commenced on Boxing Day 2014 involved collection of fish/shellfish, sediments, river water, foreshore water and open sea water which were subjected to about 26 tests including chemical, physical and microbiological analysis. Sediment samples were analysed for heavy metals contamination and organic matter and fish samples for pathogen indicators of faecal coliform, enterococcus and salmonella contamination. Majority of the tests are internationally accredited, and the remaining done under strict quality control checks resulting in reliable and validated results being used to provide scientific basis for decision making.

Results are discussed on a weekly basis at the Inter-Agencies committee meeting and as a result, some of the 'no-go zones' are now declared back to normal and safe. The team will continue the extensive monitoring and Dr Johann Poinapen has stated that IAS is pleased to be considered for this high-profile assignment and will continue to offer its highly appreciated scientific services to the nation and the region.

IAS Activities

Business House Volleyball



Business House Hockey



Pacific Islands Report

Pacific Islands Development Program, East-West Center
With Support From Center for Pacific Islands Studies, University of Hawai'i

Pharmaceutical Value Of Fiji's Natural Resources Explored *iTaukei Affairs ministry researching how resource owners can benefit*

By Vuniwaqa Bola-Bari

SUVA, Fiji (Fiji Times, Aug. 7, 2015) – iTaukei resource owners could soon know and benefit from the pharmaceutical value of their natural resources on sea and land.

This as research into the benefit of these natural resources is ready to begin.

The research will be conducted on 15 yet to be decided communities following a workshop currently being held in Suva.

The workshop will focus on access to genetic resources and benefit sharing.

Permanent secretary for iTaukei Affairs ministry, Savenaca Kaunisela launched the workshop that is based on the Nagoya protocol on access to natural resources and benefit sharing in Fiji.

“We have launched this workshop because this is something that not only concerns iTaukei people but it is a global concern.

“If it can be a source of life for the resource owners from the ocean to the land including what is visible and what is not with a naked eye,” Mr Kaunisela said.

Mr Kaunisela said through UNDP they were able to access funds for the Nagoya Protocol in the work of preserving Fiji's natural resources.

UNDP environment team leader Winifereti Nainoca said Fiji was the first country in the world to have accessed funds for the Nagoya protocol.

She added the Department of Environment and the iTaukei Affairs ministry would be the executing agencies with the UNDP as implementing agent.

This allows the Fijian Government to access \$US900,000 (\$F \$1.8m) from the United Nations Development Program to do research on Fiji's natural resources to see whether it has some pharmaceutical values.

“Essentially what is going to happen is that USP and FNU have to do the research to see if they will find something of pharmaceutical value. This is the initial project where if they find something then to explore further into another project to make it into a full size.

“At the beginning, this workshop will bring all the stakeholders together and we look at the program document, activities and the expected output.

“These two days they will see which role they will play and who they will be working with, the 15 communities will be where they'll get the natural resources through the iTaukei Affairs ministry,” Mrs Nainoca said.

Fiji Times Online.

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