

Pacific Island Environment Conference

Our Environment – Our Solutions Shared Leadership, Shared Responsibilities



Book of Proceedings June 2007 American Samoa

Pacific Island Environment Conference

The conference opened Monday morning June 18th, 2007 with an Opening ceremony. The Honorable Togiola Tulafono, Governor, American Samoa; Dr Toafa Vaiaga'e, American Samoa EPA; and John McCarroll, USEPA Pacific Islands Office provided opening remarks and welcomed participants. The meeting facilitator, Lori Lewis, USEPA, reviewed the conference agenda and logistics.



Monday and Tuesday morning focused on a keynote presentation and four panel discussions.

Keynote Presentation

Gil Masters, Stanford University “Renewable and Efficient Energy Systems: The Keys to Climate Stabilization and Energy Security”

Panel Discussions

1) Improving Utility Performance

Moderator: John McCarroll, USEPA R9

Panelists:

Dan Jackson, Economist.com “Affordable Utility Rates for Territories and Small Communities”

Jan Gregor, Institute of Environmental Science & Research Ltd., NZ “Water Safety Plans for Small Communities and Risk Management”

Gigi Ong Cairel, Rural Community Assistance Corporation

2) Green Building and Renewable Energy Panel

Moderator: Dave Schaller, USEPA R8

Panelists:

Kelly King, Pacific Biodiesel “Production and Use of Biodiesel”

Gil Masters, Stanford University “Renewable Energy and Community Planning”

Tina Sablan, CNMI Division of Environmental Quality “Green Building Design Competition”

3) Solid Waste / Recycling Pollution Prevention Panel

Moderator: Lorilee Crisostomo, Guam EPA

Panelists:

Steve Hiney, CNMI Division of Environmental Quality “Regional Recycling and Waste Diversion”

Barbara Torres, Guam EPA Solid Waste Advance Disposal Fees in Guam”

Mark Ricketts, South Pacific Regional Environmental Program “Recycling in the South Pacific”

4) Water Quality and Watershed Management Panel

Moderator: Bernard Matatumua, American Samoa EPA

Panelists:

Elena Vaouli, American Samoa EPA “Reducing Non-Point Source Pollution and Leptospirosis through Piggery Management”

Fran Castro, CNMI Division of Environmental Quality “Revegetation at Lau Lau Bay to Reduce Non-Point Source Pollution”

Carl Evensen, University of Hawaii, Manoa, Dept of Natural Resources and Environmental Management

After lunch on Tuesday, Lori provided an overview of the Open Space Meeting process.

In Open Space meetings there are

Four principles

- 1) Whoever comes to talk about the topic are the right people
- 2) Whatever happens is the only thing that could happen
- 3) When it starts, it starts
- 4) When it's over, it's over – if you have finished saying and asking everything about the topic, then it's okay to stop talking about it



And one law

Law of Mobility – If you are in a place and you aren't learning or contributing then you should go somewhere, where you can....

You may also notice that some people go from group to group and talk about all the topics. These people are called “bumblebees” because they share ideas, e.g., “cross pollinate” between groups. Other people are quieter and don’t talk as much or hang out by the coffee, etc. We call these people “butterflies” because although they may not talk as much in the small groups, they may say one or two things that really make us think.. Finally, knowing that we will never all meet again like this, we should prepare to be surprised by what we learn, hear and accomplish.

The group then worked to set the agenda for the rest of the meeting. Individuals within the group identified specific topics that they would like to talk about and volunteered to be conveners. The agenda was set with a total of four different session times (Tuesday through Wednesday) and 22 different topics for discussion were identified.



On Thursday we reviewed the sessions, answered the following questions and then identified seven topics for the last discussion session



What are the key or common themes that you have seen or heard?

- Deep caring for island ecosystems
- Regulations and enforcement
- Need for jurisdictions to work jointly
- Exchange of resource and ideas
- Consistency
- We all love to listen and tell stories about what we do
- Need to develop strategies to get cooperation from communities
- Resources is an issue for most
- Technical assistance in capacity building
- Be consistent on enforcement
- Mutual aid and cooperative efforts in the Pacific
- Outreach and cooperation is essential
- Desire to share even more information among Pacific Islands
- Let's get something done and let's get results

What are some of the ideas that you can move forward on?

- Governor to issue general memo on energy mechanisms in government
- Assign mentors/mentees
- Share our expertise and skills with children/youth /community leaders
- Renewable energy
- Mandate solar water heating for residential/small business usage
- Continued communication with one another
- Celebrate success
- We've heard the needs/issues from the FAS/Territories next steps for a strategy/coordination of the resource agencies (EPA, PHS, etc)
- EPA/RCDC/USDA partnership to leverage resources on individual projects
- Lab certification for my island
- Potential partnerships/projects for green building competition that I hadn't thought of before
- Fukuoka method- can we do a trial on US territory
- Guam/CNMI coordination for resources w/r/t Military buildup

What questions do you still have?

- What is EPA doing in solving global warming
- Why has the USA continued to refuse to comply with the Kyoto protocol
- How can we further understand the impact/advantages of the Basel Convention between islands/countries within the Pacific
- How do you measure success or effectiveness
- How do we define sustainability? Is it a priority?
- Are we doing enough to integrate the management of different aspects of environment- land, water, air, people ?
- How can we instill continued stewardship in island based resource protection
- Why is environmental protection still seen as an unaffordable luxury by some people
- How will global trends now underway (climate change, peak oil, trade (wto), etc.) affect everything we are talking about?
- How can we overcome the misperception that environmental protection enforcement is "anti-business"?

What else do you need to talk about?

- CROP agencies – SPREP and SOPAC: Their involvement with the US territories
- What to do with used tires? Recycle, burn for energy/fuel
- Action items for Guam Military expenses
- How to expedite piggy compliance process
- Goals for renewable energy and zero waste
- How do we change people's behavior (attitudes) towards the environment?
- What are some effective tools/strategies for inspections?
- How do we develop regulations to enforce against substandard/inefficient appliances/vehicles?

- Vetiver grass and soil erosion
- How to keep moving forward addressing water and wastewater issues in FAS (FSM, RMI, ROP)?

The meeting concluded with participants sharing comments about what

- Surprised them
- Inspired them

And general comments about the format and location. The following is a summary of those comments:

What surprised me, what inspired me and thoughts about the format/location..

- Surprised that I could participate and that I did have things to contribute my first time attending this conference
- Surprised and impressed that we have made progress on issues that we have started
- Following conference for last few years, seems same issues come up a lot. I challenge us to action and applaud EPA for inviting us here
- Inspired that we have the continued dedication of folks; enjoyed networking with everyone
- My first time, enjoyed it immensely; all of us had an opportunity to shape the sessions; food and venue great; like the networking
- Inspired by the new technologies and methods coming up. In Open Space after we discuss it is important to discuss/id action items
- Great I enjoyed it
- As an engineer I was certain that the OS format would fail miserably but it was good
- OS format inspiring ; I was mostly a butterfly but enjoyed listening to everyone
- OS process great and the location wonderful
- Inspired by the presentations; good discussion; happy to be in open space; thing that there were several new issues that came up that were good to start talking about, e.g., tires
- I am back after working here in the 90's and I am surprised and saddened to hear that we are still dealing with some issues, but inspired that certain issues have been tackled. It takes effort and face time – great format.
- Not surprised about OS. We want to encourage everyone to speak
- Want to address some misgivings that people had , about not being sure if it was worth the time to come here and meet. As professionals it is important that we convene together to work on these important issues
- Great to be here, thank you to the Pacific Island Environmental office and ASEPA – great hospitality
- Thank you to PIOEPA inspired by mutual concern and partnerships; appreciate OS format – very effective
- Surprised about OS; liked that we talked about things we are concerned about; inspired that we have common goals, liked tour, field trip reminded me of home

- (past) and my grandmother; important to remember that progress is good but to hold onto our culture
- Attended past conferences, OS a winner; suggest involvement of local high school and college
 - I'm from Hong Kong, thought we had some of the same and some different issues; format good, very interesting, OS allowed me in a short time a short course on island sociology
 - Inspired by everyone's inspiration in the room. Love the format, like to use it for more specific issues, like an open space on Solid waste
 - Format was great- like principle when it is over- love being a bumblebee. Allowed us to learn about other programs, OS empowers us to go to sessions out of our area and learn. Inspired by the AS culture.
 - Surprised that I got here, that I liked OS I thought it would be more touchy feely, but it wasn't
 - Thank you to EPA for bringing me here and giving me an opportunity to present. Surprised how interested people were and how much everyone shared and that we have similar issues. Inspired by the fact that we are often faced with issues that seem impossible but realize that we have options
 - Loved the hospitality and generosity of the AS people. Inspired by the school buses. Last year, I did OS and was skeptical that it could work with a larger group, but it did. I liked that I could talk about what I wanted to and that inspired me.
 - I was looking forward to OS I was surprised that a lot of the environmental issues seem to be rooted in tradition. Inspired by the emphasis on solving problems for islands of 12, 000 people as important as for islands with 150 people
 - As a peace corp volunteer in the PI, I decided to work for EPA. Now at the end of my career I am back working in the PI. Inspired by all of you and your organizations and that everyone is here talking
 - Surprised that the people on all of the islands care about the issues and that we are not isolated. Inspired by the commitment to help, this is my second time with OS, it really works. I would like to see a thread for academia. Also educational Programs work well in churches
 - Surprised and Inspired by the the progress we have made. Congrats on the work done on the piggerys. Last year I was anxious about the format but it works for us.

Dr Toafa Vaiaga'e, American Samoa EPA and John McCarroll, USEPA Pacific Islands Office provided closing comments and thanked everyone and wished them a safe journey home.

Pacific Island Environmental Directors Meeting -Open Space Topics

Session A: Tuesday 2:15-3:30

1. Green Building Competition (Convener: Tina Sablan)
2. How to convince home owners to convert/develop their homes into greener or more sustainable residences (Convener: Barbara Z.)
3. Effective methods of disseminating information to Pacific Island villagers (Convener: Pam)

Session B: Tuesday 3:30-4:45

4. Military Build-up – Guam and CNMI (Convener: Neelam)
5. Leptospirosis in the Pacific (Convener: Ilima)
6. Village-scale alternate energy (Convener: Mark R)
7. Water/Waste water/Solid Waste facility financing (Convener: Gigi)
8. How can I raise my rates and keep my job (Convener: Dan Jackson)) *Session did not convene*

Session C: Wednesday 8:45- 10:15

9. Pigs and People in Paradise (Convener: Ilse, Bernard, Elena)
10. Garbage (Convener: Trashman Steve Hiney)
11. Shipwreck damage Management (Convener: Mike Gawael)
12. FSM UST/AST Training (Convener: Norwood Scott)
13. FSM/RMI/ROP Wastewater and Water Needs and Issues (Convener: Mike Lee)
14. Don't Bug me (DVD) an awareness DVD on causes of illness from drinking water (Convener: Jan Gregor)
15. Brownfields (Convener: Steve S)

Session D: Wednesday 10:15 – 11:45

16. Coral Reefs and Watershed Protection (Convener: Fran Castro)
17. Strategies for and Goals of Effective Enforcement (Convener: Kate Fuller)
18. Rain Catchment possibilities (Convener: Kay Delafield)
19. Directors Issues (Convener: John McCarroll)
20. Keeping programs running when “champion” leaves island (Convener: Pam)
21. Is the approach described for drinking water safety planning useful for other environmental topics (Convener: Jan Gregor)) *Session did not convene*
22. Air Quality (Monitoring and regulations (Convener: Portia) *Session did not convene*

Thursday Session E 10:00- 11:15

23. Tires (convener: Benny)
24. Guam Military expansion – identify action items (Convener: Neelem)

25. Vetiver Grass (Convener: Larry)
26. More on SPREP (Convener: K.D)
27. Moving forward addressing environmental issue in Freely Associated States
(Convener: Barry Pollack)
28. Why is Environmental Protection considered an “unaffordable luxury”
(Convener: Bernard)
29. Public Health and Environmental Issues (Convener: Jan)

Session Notes

Issue A-1: Green Building Design Competition

Convener: Tina Sablan

Notetyper: Neelam Patel

Participants:

Tina Sablan, Neelam Patel, Jane Alamandies-Cruz, Lorilee Crisostomo, Pat Young, Joe Kaipat, Bernard Matatumua, Daniel Heintzman
Steve Simanonok, Kirs McPhee, Ray Masga, Sue Muza, James Espaldon, Edward Manibusan, John McCarroll, Larry Hirata, Dave Schaller, Wayne Mitsko, Barbara Torres, Gigi Cairel, Manny Minas, Peter Cruz, Benny Cruz, Michael Lee, Ike Sagaga, Faamao Ashiele, Iosefatu Vaouli, Ian Gurr, Daystar Parker

Discussion Notes, key understandings, outstanding questions, observations:

How can we get architects to use green design?

What are the judging criteria?

Where will designs be used? Each jurisdiction will decide its own criteria

The intention is for design to be built.

Include local building codes/building standards (e.g., construction materials)

Building materials/construction codes already exist for each jurisdiction (Guam has certain energy efficient codes in the energy department, CNMI has laws).

Categories for building: Schools. Use public places can be used as demos, they are community based, improve student learning. Retrofit, increase efficiency in existing school buildings.

Guam – Military barracks, schools (3 more schools to be designed and built)

CNMI – homestead areas,

Palau – retrofit capital building

Potential sponsors:

Chevron Green Division (Senator Espaldon), Bank of Hawaii (Gigi is contact),

Criteria for contest –

Radon resistant new construction in Guam,

Cost-estimates (life cycle cost),

Use local materials
Develop local criteria e.g., typhoon

Each jurisdiction should look at construction that will happen in the future.

Should contest cover sustainable development vs. green building technologies?
\$ that can possibly be tapped for constructing the winning designs – FSM compact \$,
USDA \$ available for facilities development (less than 50,000 people or 10,000 people
depending on the situation), department of commerce EDA Economic

Potential sponsors/partners and donors to support competition development:
Building material industry
Mortgage lending companies/banks
Architects in the school of Hawaii
Contact builders of federal building in San Francisco GSA (General Services
Administration)
Clean Hawaii center (Gigi)
DOI (\$ for competition, has lots of land and building)
HUD
Department of Public Lands

Work with Judges to get feedback on criteria
Have a one-page description written up on contest to show judges

Involve IGIA representatives in Green Building competition. Esp. if many federal
agencies are contributing.
Judges:
Steve Hiney has contact, Professor in Florida
Judge – Jeremy Harrison?
Gil Masters may have contacts at Stanford.

Need letter to invite AS into competition

Leads for each jurisdiction:
AS – Bernard until he finds someone else
CNMI – Tina Sablan
Palau -

Issue A-2: How to create a more ecologically sound island (how to convince people to move toward greener homes/options)

Convener: Barbara Zennaro

Notetaker: Barbara Zennaro, Ryan

Participants: Ryan Tuato'o, Brad Rea, Ilima Hawkins, Micheal Gawel, James Espaldon, Benny Cruz, Peter Cruz, Athena Pratt.

Discussion Notes, key understandings, outstanding questions, observations:

Key understanding: The use of more environmentally friendly solutions should not be viewed as a luxury/option anymore, but as an expectation.

How is it possible to build a greener island?

Four approaches were identified:

1. Market approach
 - a. Find new options
2. Government incentive
 - a. i.e., getting new fridges after the energy crisis
3. Government requirements
 - a. Laws (Buildings codes...)
4. Public outreach
 - a. Education approach, teaching new values.

Market approach

- Involvement of companies, create dialogue
- Find alternative (i.e. Corn starch plates versus Styrofoam)

Government/business incentives

- Stilt homes are cooler and are less contaminated by radon emissions
- Improve efficiency: proper planning before installing A/C (use proper windows in building designed for A/C system to keep the cool in longer)
- Houses and roofs painted white are much cooler.
- Change from incandescent to florescent lamps
- Discount on coffee for refill in own mug (instead of getting Styrofoam cup)

Government requirements

- Ban on plastic bags (lesson from Western Samoa)
- Special requirement for governments offices: i.e change from incandescent to florescent lamps
- Expectation of more environmentally sound decisions from people.

Public outreach

- Annual building expo (i.e. Hawaii expo): fun meeting for the whole family where environmentally friendly projects, designs, ideas, can be shared.
- Award ceremony: recognize people and businesses that are creating a good example (i.e. use of recycled boxes for groceries instead than plastic bags). Advertise it.
- School education: change youngsters' behavior.
- Offer suggestions: leaflets on easy, practical changes anyone can do, i.e. the use of coconut husks to absorb radon.
- Stress the fact that using A/C with open windows will NOT cool the island!!!
- Expectation of more environmentally sound decisions from people.

Action Items/Next Steps

<u>What</u>	<u>Who</u>	<u>By When</u>
Make a change, TEACH to change	YOU, ME	NOW

Issue A-3: Effective methods of disseminating information to Pacific island villagers

Convener: Pam

Participants: Vicom Ram, Mark R. John Morrison, Craig Cloue, Barry Pollock, kay D. Dan Jackson, mat Vojik, Doug Juergens, Richard E., Faamao Asauele, Iosefatu Vaouli, David Schaller

Key thoughts, ideas:

Must be repeated with several methods

Work with school presentations

Make issues part of curriculum

Use local language

Get input from locals/must have 2-way communication

Re-identify 'value' of issue to community

Use rewards for 'performance'

Use traditional leaders and information transfer systems

Strive for village 'ownership'

-Assemble panel of influential village leaders

Pulenuu, matai, village council, religious leaders, woman's association

Have panel 'design' program

Use successful pilot for model and to 'benchmark'

-Create village 'panel' to 'panel' network

Use disaster aide to develop 2-way communication

Village must recognize there is a problem

Make issue tangible

Package programs with additional issues

Use 'social marketing' and 'impact imaging'

Target 'youth' ie., young professionals

Enforcement and advertising

Issue B-4: Military expansion on Guam and CNMI

Convener: Michael Wolfram

Notetaker: Neelam Patel

Participants:

Michael Wolfram, Neelam Patel, Lorilee Crisostomo, Frank Rabauliman, John McCarroll, Steve Hiney, Kay Delafield, Mike Lee, Susan Muza, Jane Almandres-Cruz, Wayne Mitsko, James Espaldon, Barbara Torres, Rick Zimmer, Benny Cruz, Manny Minas, Mike Gawel

Discussion:

Participants' interests in Military Build up on Guam:

- Green building, sustainable development, and resource conserving technologies (water, electricity) in construction of new homes and communities inside and outside of the baseline for military personnel and Guam residents.
- Opportunity for sustainable development
- Impact on Guam's environmental infrastructure (solid waste, etc.); and BUILD UP Guam's existing infrastructure
- Create working relationship with DOD and Guam
- Impact on Guam's water resources
- How can we handle additional wastewater, water quality impacts
- Infrastructure (solid waste, wastewater, etc.) on Tinian. What can CNMI do to prepare and improve conditions on CNMI?
- Extending CNMI water taskforce's work from Saipan to Tinian
- Get more specific details on plans for CNMI and the effect on its infrastructure
- Share information and input on environmental agencies concerns with military build up
- Openly communicate reaction and feedback from USEPA and environmental agencies on meetings related to military buildup, specifically the recent partnering meetings on June 4, 5.
- Funding availability at the front end
- Learn general info on build up and the impacts on public health
- EVERYTHING!

Recap of situation (Michael Wolfram):

EPA has been encouraging DOD to work with Government of Guam and USEPA on infrastructure improvements and green building/sustainable development. Asked to set up teams and this was done at Partnering meetings in June.

At Partnering Meetings, representatives from key military branches and almost all environment agencies attended. This is first step in becoming partners.

Partnering Meeting Outcomes:

- Quarterly meetings are scheduled for regulatory environmental agencies and military branches. Each agency is asked to provide a list of names of experts in each subject area (project teams) to possibly help review studies done by DOD.

- Each resource agency was asked to assess their needs (technical areas, skill sets, etc.) in preparation for the August 2 meeting.
- August 2nd meeting is to highlight needs. DOD will ask our individual agencies to dedicate needed resources to DOD military buildup.

Feedback: Overall issues: 1) Can we use military expansion as opportunity (to improve infrastructure and do sustainable development), and 2) resources to do something about it

Suggestion: Regulators are not the only people who should be included in teams. The operators of each facility should be included on teams.

Suggestion: Hold separate meetings for each type of infrastructure and invite key island experts to participate and provide their feedback and planning expertise.

Comment: Governor Camacho as lead for August 2 meetings in DC

Comment: Apply pushback on DOD for resources during August 2 meeting in DC

Concern: Governor's office was not invited to June 4, 5 partnering meeting. Environmental issues are not the only issues in build-up. The build-up/environmental issues affect other areas – Perhaps, we don't want another power plant but instead upgrade the current one and build up and improve the schools. Michael and Lorilee made calls to get the Governor's office invited.

Concern: Legal differences in permitting with leased land in Tinian vs. military owned land in Guam. Who is permitting authority?

Concern: What is DOD's commitment to comply with local regs? Unsure of DOD's willingness to comply. Trust issues. After environmental forum, military changed agreement.

Concern: Presently, there are not enough resources to complete all work. There is a need for resources with larger workload.

Concern: In the past, Navy has not complied with Guam permits. Will they comply in the future? Don Schregardus addressed this issue with Navy.

Concern: During Civilian Military Taskforce, Secretary Kempthorne suggested that Governor Camacho should bring their people to meetings including the August 2 to be sure their issues are brought up at higher levels.

Concern: Collecting fees from Federal agencies has been difficult or been denied. Need to be creative in how fees are administered; federal agencies will not pay taxes. Will DOD do the same thing once their facilities are built on island?

Suggestion: Can we ask DOD to change their strategies/negotiation for FTEs so we can meet their timelines.

Suggestion: Ask DOD to inform meeting participants about other meetings that are conducted (including issues and participants). So GovGuam knows whether or not other key concerns are being addressed

Update on plans for CNMI: Continuous training on Tinian. Infrastructure needs to support continuous training – barracks and other supporting infrastructure. How is Tinian going to be used? How will non military land be impacted by continuous military activity?

DOD is figuring how to share information. Concern: DOD is not making an effort to trust us, why should we trust them?

Looking Forward: The quarter meetings will be good opportunity to build trust. High levels are supporting sharing information.

Opportunity: Japanese \$ for maintenance/operation of WWTPs, etc. What are the opportunities for WWTPs? Working with GWA? This discussion may become part of input to EIS/DEIS. What effect will use of Japanese \$ have on current operators?

Concern: Benny wanted to do a study on the water catchments area. DOD in Hawaii was not supportive of this idea (which is desired by Guam EPA).

Other concerns when thinking big pictures:

- Senator Espaldon: Possibility to develop or build a model community on the Texas A&M land
- The local population of Guam will be diluted. Renting market for local people will become more costly and local people will not be able to afford purchasing a home.
- There is a possibility to develop a prototype development for the entire Pacific.
- Does Environmental Justice apply to this situation? Can we use EJ to get local needs highlighted? YES
- Lorilee – there are ex-officio military success stories that should be shared with GEPA and the military. Perhaps these can be used to address and integrate GEPA and other Guam concerns with the military

Issue B-5: Leptospirosis in the Pacific

Convener: Ilima Hawkins

Notetaker: Ilima Hawkins

Participants: Jeff Satele, Bernard Matatumua, Dori, Jose Kaipat, Abraham Salevao, Larry Hirata, Albert Koenig, Ray Maska, Daystar Parker, Iosefatu, Carl Evensen, Barbara Zennaro, Tony Maugalei, Elena Vaouli

Discussion Notes, key understandings, outstanding questions, observations:

Facts about the disease Leptospirosis:

- Caused by an infection from pathogenic *Leptospira*, and results in many varied symptoms.
- Symptoms include: (early or first phase) headache, nausea, vertigo, mild flu.
(later or second phase) organ infection and failure, hemorrhaging, and death.
- Most people only develop the first phase of the disease and many people are not diagnosed. Either the sick person doesn't go to the doctor for help or the doctor doesn't think to test for Leptospirosis.
- There are over 100 strains, or serovars, of *Leptospira* bacteria, but not every strain causes disease. Those that do are called pathogens, and must infect a mammal to survive.
- When *Leptospira* infect a mammal, it can either cause disease OR remain in the host for a long period of time without causing sickness. In this second case, the bacteria colonize in the kidneys and a small proportion is passed into the environment when the animal urinates.
- Many common mammalian reservoirs for *Leptospira* include dogs, pigs, rats, mongooses, goats, cattle, but not cats. Mainland areas also are concerned with raccoons.
- Humans become infected when an open cut or mucosal membrane (eye, ear, mouth, etc...) contacts material containing the bacteria. This most often occurs when a person goes swimming in contaminated water.

American Samoa: The problem and management efforts

- The problem was first discovered by accident during a conversation with a microbiologist in Hawai'i. A. Samoa officials quickly recognized the conditions spoken about seemed to fit those of Samoa.
- A seroprevalance survey was conducted in 2004 which found approximately 17% of the population had been exposed to pathogenic *Leptospira* in the past 5 years.
- Several people mentioned how impressed they were with the speed ASEPA has organized and dealt with this problem.

- Since lepto. is occurring in other island groups and is likely under-recognized, there is an opportunity for A. Samoa to become Pacific leaders for Leptospirosis management.
- As of right now, A. Samoa community college is waiting for USDA support to proceed with an animal survey that will detail which animals are infected, and where those animals are.
- Currently water monitoring is taking place, mainly using fecal bacteria as an indicator for lepto, but LBJ hospital may be able to process water samples for *Leptospira* detection. If anyone has any further information, please join our e-mail list!

***Leptospira* survival, sanitation, and detection methods:**

Survival

- Data is available on the survival of the bacteria, but information can sometimes conflict. For more information, please refer to the Standard Methods for the Examination of Water and Wastewater, put out by the American Public Health Association, Water Works Association, and Water Environment Federation.
- We are sure temperatures over 70°C can kill *Leptospira*.
- Composting may be able to kill the bacteria but no tests have been done to confirm this.
- *Leptospira* do not like salinity and perish in the ocean.
- They are not easy to culture. They are slow and require liquid media for growth.
- Much about the bacteria's survival is still unknown, or not tested.

Sanitation

- Animal eradication or management was discussed as a necessary step, but wild animals would be hard to manage (rat populations are large and impossible to eradicate).
- Water treatment options for catchment systems subject to contamination from rats could be identified, and possibly treated with chlorine or other sanitation technique.
- At this time, it is impossible to engineer a livestock animal resistant to infection. Routine vaccination/treatment is suggested instead.

Environmental Detection

- Collaborative work has begun developing an environmental test for *Leptospira*..
- This test is currently specific to stream water and uses a three-step protocol including filtration, DNA extraction, and DNA identification.
- Evaluation of the procedure is almost complete. This July researchers will evaluate how sensitive the test is for low levels of bacteria. This work is being performed at U. Hawaii Manoa, Department of Natural Resources and Environmental Management.

- So far, we know we can filter up to 10L of stream water per sample. We do not know the efficiency of DNA extraction (how much starting material ends up in the end material).
- Test specificity is high: it can test for only harmful pathogens, or for specific serovars.
- Soil and compost testing possible because there is also a DNA extraction kit for those materials (see MoBio.com for more information).

E-Mail List

We set up an e-mail list for those interested in the Lepto. issue. If you would like to be included, please e-mail Ilima Hawkins at ihawkins@hawaii.edu.

Issue B-6: Alternative Energy in Villages

Convener: Mark

Notetaker: Kris

Participants: Kris, Mark, Kelly King, Kathryn, Doug Jergens, Faamao Asalele, Brad, Tina, Matthew Vojik

Discussion Notes, key understandings, outstanding questions, observations:

Need small scale or village scale alternative energy technology in villages in the pacific.

Problems:

Villagers can not afford it. Village does not have technical skills to operate and maintain system. Need for up front capital.

Possible solutions:

Like in Alaska (Alaska Village Power Cooperatives), small communities have own power system, and two people to do O and M. Home has debit meters where owner purchases electricity ahead of time on a swipe card and the electricity is shown in dollars on the debit meter screen. But these small systems are not maintained well.

Biofuel or biodiesel is an option. Fish oil, waste cooking oil, coconut oil. Better to reduce glycerin first then use as biofuel. Coconut oil did not meet ASTM flashpoint, but ASTM standard is being revised. Changes to fuel standards may assist coconut oil use.

In the next 5 to 10 years countries will receive millions in “combating climate change” money, so alternative energy systems can be funded.

PVs are an option. Better not to use battery storage

Issue B-7: Water, Wastewater, Solid Waste project financing needs

Convener: Gigi Cairel, Rural Community Assistance Corp. (RCAC)

Notetaker: Gigi Cairel

Participants:

Anthony Guerrero, Commonwealth Utilities Corporation (CUC)

Barry Pollock & Pat Young, USEPA Region IX

Discussion Notes, key understandings, outstanding questions, observations:

We began this open space session talking generally about CUC and RCAC. We also did a re-fresh on Gigi's earlier presentation on "Technical Assistance and Access to Resources"

Discussed general eligibility requirements of USDA RD water/waste loan/grant program

- Project area: less than 10,000 in population -- Rota & Tinian population are each under 10,000. Saipan population is approx. 60,000 and approx. 20,000 accounts. However, CUC can provide a breakdown of population and # of connections by sub-water system area.
- Priority given to water/waste facilities serving low-income rural communities.
*Note: Seek clarification from USDA RD on "low income" definition used in the Pacific region. For projects in the US, "low income area" is defined as the median household income (MHI) of the service area is below the federal poverty line or below 80 percent of the statewide nonmetropolitan MHI (SNMHI).

Unique structure of the CUC water system

The CUC water system is legally recognized as one system. However, CUC maintains data on sub-systems by community area. CNMI Dept. of Environmental Quality (DEQ) is the primacy agency.

US Federal partners

US EPA and the US Dept. of Interior (DOI) have assisted CUC by providing grant funds for improvements to the water system.

CUC application to USDA RD for a wastewater project

CUC made an attempt to apply for USDA RD funds for a wastewater project.

Unfortunately, the application was not funded because the project area was determined not rural by USDA. *Note: Seek clarification from USDA RD on areas in Saipan eligible for USDA RD funding.

CUC efforts to improve water system

- Good mapping of the sub-systems
- Recently completed a rate study (this will be important for USDA RD funding in order to show repayment ability of any USDA RD loan funds)

Can RCAC also assist Territories and Freely Associated States with other project financing such as non-USDA, banks, bond market, etc.?

Generally, yes. We will probably need to bring in our RCAC Loan Fund staff to discuss financing options for water/wastewater systems

Bank of Hawaii has a presence in Saipan. RCAC can follow up with BankOH.

RCAC's relationship with USDA RD?

RCAC is a technical assistance and training nonprofit or "NGO". We provide a wide range of assistance to rural and small communities in water/waste, affordable housing and project financing.

USDA RD is one of many funders that support our work. For water/waste in Hawaii/Pacific, RCAC is grant-funded to assist rural communities with the application process for the USDA RD loan/grant program.

To access RCAC assistance, please visit our website at www.rcac.org to locate the nearest office to you. For the Hawaii/Pacific region, you may also contact:

Gigi Cairel, Hawaii State Coordinator
Rural Community Assistance Corp.
33 South King Street Suite 319
Honolulu, Hawaii 96813 USA
Office phone: (808) 531-5716
Email: gcairel@rcac.org

How is USDA RD – Hawaii/Pacific structured?

USDA Rural Development is a US federal agency. The RD Hawaii State Office is responsible for activities in the state of Hawaii and the Pacific region (US Territories and the Freely Associated States)

The USDA RD Hawaii State Director – Lorriane Shin – is a politically appointed position.

The USDA RD Hawaii State office is located in Hilo, Hawaii on the Big Island. It is the only US federal agency who has its state office outside of Honolulu.

Rough outline of how USDA RD Hawaii is organized

USDA RD Hawaii State Office

Lorraine Shin
State Director

Program Director

Ted Matsuo
Community Programs

- Water/waste
- Community Facilities

Program Director

Vacant, housing

Program Director

Steve Chapman
Business & Industry

Area & Local offices

Area 1 – Honolulu &
American Samoa

Thao Khamoui

Area II – Guam

Joe Diego

- RMI

- FSM

- CNMI

- Palau

Action Items/Next Steps

<u>What</u>	<u>Who</u>	<u>By When</u>
Gather specific project information Aug 2007		CUC July-
RCAC meets with USDA RD state office to set annual technical assistance workplan	RCAC	Sept 2007

Issue C-9: Pigs, People and Paradise

Convener: Bernard

Notetaker: Elena

Participants: Solialofi Tuaumu, Veronika Mortenson, Ike Sagaga, Wallace J. , Jeff Satele, Larry Hirata, Ilima Hankins, Carl evensen , Frank R., Neelam patel, Manny Minas, Benny Cruz, Marc, Tony, Lui Mafa, JR, Jason

Discussion Notes, key understandings, outstanding questions, observations:

- Review 3 waste system designs – described by Larry
- GEPA asks what happens to waste in heavy rains
- Main decision for dry or wash down system
- Key is to separate solids from liquids
- Septic systems not good idea for islands
- What about wetlands or lagoon systems
- Palau presents dry litter systems
- Co-op pigs but hard with stealing
- EPA percolation tests
- Where do setbacks come from?
- Economic value of pigs? Why?
- Where do coconut husks come from? It is a limitation
- Do sloped systems wit dry litter systems work? Yes, certain materials
- ADAP & UH for other resources

Costs and zoning

List from the flip chart

- Water quality
- Permitting
- Wetlands
- Agriculture
- Natural resources
- Research
- Resource management
- Waste water

Issue C-10: Solid Waste Management

Convener: Steve Hiney

Notetaker: Steve Hiney

Participants: Barbara Torres, Mark Ricketts, Jane Almandres-Cruz, Matt Le'I, Kris McPhee, Albert Koenig, Taleo Sitama, Tina Sablan, John McCarroll

Discussion Notes, key understandings, outstanding questions, observations:

The discussion focused on the adaptability of the Fukuoka method of landfilling and how best to introduce the technology on a smaller scale. The information seems to indicate that relative system costs and capital construction costs would be generally lower by a significant factor. This coupled with the lower secondary costs to develop sufficient infrastructure to allow adequate collection renders this technology viable.

It was discussed that a reasonable alternative to central disposal locations may well be the introduction of the Fukuoka technology at the village level. Coupled with the lower initial capital cost, the elimination of substantial capital costs in developing the collection infrastructure would create a community based “ownership” of the operation of the facility and significantly reduce the need to recover operating cost revenues. However, there was concern that to site the facility may be problematic due to “NIMBY” considerations. Regardless, demonstration projects have been instituted on Apia and Palau which can provide a baseline for evaluation.

The group felt that a “pilot” hybrid of the Fukuoka method may be suitable for the island of Tinian in the CNMI. This would take the technology and adapt it to the regulatory constraints faced by American flagged territories. Mark Ricketts of SPREP, indicated that a letter offering technical assistance in developing this technology would be directed to the CNMI. This will initiate the introduction of the technology to allow us to determine its viability and effectiveness. The group was relatively confident that the technology would meet any standard and then be adaptable to other island communities.

Additional discussion revolved around system cost recovery and capital financing of facilities. Even though we felt the technology would be delivered at a lower relative capital cost and that operating costs may be less, the recovery of revenue to offset expenses is critical to the continued effective operation of a solid waste management system. The example of New Caledonia was introduced. In this instance private financing was secured for capital construction and monthly charges were applied by the government through utility bills to recover debt service and operating costs.

Lively discussion ensued regarding the application of fees on American Samoa and how fees may be applied in other jurisdictions. A number of methods of revenue recovery were offered as examples. The one that seemed to hold some promise is development of some form of cost recovery based on actual waste generation. Volume based charges of

some sort, designed to recover full system costs, seemed to be the revenue generation ideal. This type of arrangement encourages waste reduction and more appropriately applies charges to system users based on their individual waste generation habits. The more a system user generates, the more cost that is charged.

This led to the final topic of discussion. Waste minimization or reduction is a critical component of any effective solid waste management system. It is imperative that each jurisdiction included a plan for waste reduction as part of their overall solid waste management plan. It was felt that a combination of regulatory action may be the most effective manner of encouraging societal change in waste generation habits. Be it product bans or implementation of taxes or fees on specific commodities, regulatory action is the only viable alternative to effectuate the needed change.

Residually to the group discussion, it was felt that Mark Ricketts from SPREP, Steve Hiney from the CNMI, and representative of the U.S. EPA would continue to share information and assistance designed to continue to encourage effective local responses to solid waste challenges in the Pacific. SPREP's solid waste management strategy adopted in 2005 is an excellent starting point to continue to champion environmentally responsible solid waste management in the Pacific region.

Issue C-11: Shipwrecks

Convener: Mike Gawael

Notetaker: Mike

Participants: Peter, Wayne, John M., Mike, Carl

Discussion Notes, key understandings, outstanding questions, observations:

- Process of dealing with shipwrecks in islands discussed.
- Coast Guard has main responsibility under law, but only if oil or fuel is on board.
- Navy has been involved when Navy ships are wrecked
- US NOAA stepped in to remove wreck from Rose Hall, Samoa and helped get ? long line wrecks from Pago Pago
- Peter explained the ongoing Cheholis wreck process in Pago Pago Harbor. Using UE EPA funding, the WWII Navy tanker that burned and sank at the fuel pier in Pago Harbor in 1949 was studied for assessing needs and methods of fuel removal
- By searching archives and doing surveillance dives and ship penetration dives and cargo sampling the quality and quantity and accessibility of fuel was determined and methods for removal proposed.
- 70,000 gallons of still useable aviation fuel was found as well as 40,00 gallons of motor gas and about 5,000 gallons of diesel.
- American Samoa is providing results to USEPA, the Navy and the Coast Guard for further action plans to remove the fuel.
- WWII, Navy wreck in Ulithi Lagoon, Yap state had fuel removed by Navy a few years ago
- WWII wreck in Chuuk Lagoon leaking picric acid from ammunition was cleaned by US volunteer divers in 1970's , but current laws prohibits the type of dangerous work by volunteers
- Old wrecks remain throughout the islands and clean-up responsibilities are not taken
- New US laws and efforts better address future shipwreck management

Issue C-12: FSM UST/AST

Convener: Norwood Scott

Notetaker: Norwood

Participants: Norwood, Simpson, Albert, Ishmael, Manny, Stephen

Discussion Notes, key understandings, outstanding questions, observations:

We discussed the itinerary and goals of the training that will be conducted on Kosrae and Pohnpei the last 2 weeks of August. Norwood will follow-up with an email that discusses the action items from the meeting

IssueC-13: Water and Wasterwater Issues and Needs for the FSM, RMI, and ROP

Convener: Michael Lee

Notetaker: Barry Pollock

Participants: Mike Lee, Barry Pollock, Albert Roby, John Bungitak, Simpson Abraham, Ismael Mikel, Fotualii Vainauga, Douglas Juergens, Gigi Cairel, Daniel Heintzman, Salu Hunkin, Freddy Malala, Norwood Scott, Rick Zimmer, Benny Cruz, Joe Kaipat, Manny Minas, M. Kimie Ngerchechol,

Discussion Notes, key understandings, outstanding questions, observations:

The focus of the discussion was on the major water and wastewater issues and needs for the Freely associated States – FSM, RMI, and Palau.

We started by going around the room with introductions and asked participants to briefly discuss what they considered the major water and wastewater issues in their areas.

General areas identified as follows:

1. Untreated wastewater
2. . Drinking water quality (public health) and quantity issues
3. Regulations/ water quality programs
4. Need for more Education related to water – children and adults
5. Need for Public Outreach
6. Appropriate Treatment technologies
7. Sustainability of W/WW projects infrastructure, operations and maintenance, funding and financing, etc.

We then went through State by State to go through the major W/WW issues

Chuuk

- Wastewater – There is a major rehabilitation of the main WWTP - they need continued design review assistance.
- Laboratory improvements are needed
- O&M training
- Budgeting for all aspects of utility operations
- Assistance with environmental assessments

Drinking Water

Many infrastructure problems. Lack of Operations and Maintenance. Heavily contaminated water (bacteria) in the main public water system serving Weno. Issues related to utility management, operations. Lack of sufficient funding/budgets, insufficient rates.

Kosrae

- Wastewater – need for an assessment of ocean outfall and recommendations for improvements
- Drinking Water – New ADB projects coming in. Issues with water rights/easements. Need for developing regulatory oversight (program development, assistance, etc.)

Pohnpei

- Wastewater – failing lift stations, wastewater overflows (assessment and rehabilitation of lift stations)
- WWTP – not sure how its working / adequate (treatment system and outfall) – needs assessment needed with recommendation.

RMI

- Wastewater – Majuro collection assessment (leaking pipes) impact on drinking water pipes
- Laura – problems with wastewater over drinking water lens, looking at some funding/projects for septic systems. Working with farmers on pesticides, fertilizer applications.

Water – Still major water quantity issues. Drought this year, almost ran out of water (2 hours per week!). Identified need for individual rainwater catchments for homes, buildings.

- Laura – many people are putting in their own wells separate from the system – concerned about quantity and impact on main system.

Palau

WWTP – (new capital) – questions about system (submerged filters and UV). Reclaimed water, open spigots (public health issues). Need an assessment.

Existing plant (malakal) – need assistance on existing WWTP – mosquito problem worse

Water – Babeldaob – since road opened, people moving back, more development/activities in watersheds impacting rural water system sources.

Rural water systems – still have high turbidity after rainfall.

Action Items/Next Steps

<u>What</u>	<u>Who</u>	<u>By When</u>
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Follow-up and coordination with participants on how to proceed tomorrow In prioritizing areas to focus on.	Mike Lee	
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Issue C-14: Playing the DVD “Don’t Bug Me” from the New Zealand Ministry of Health. An awareness DVD on pathways for pathogens to enter drinking water supply and make people sick.

Convener: Jan Gregor, ESR
Notetaker: Jan Gregor

Participants: Brad Rea, Ryan Tuatoo, Kay Delafield, Mary Midkiff

Discussion Notes, key understandings, outstanding questions, observations:

Introduced the DVD as a resource that has been prepared by the New Zealand Ministry of Health to assist small communities appreciate the importance of thinking about drinking water as a possible cause of illness.

Comments about the DVD were positive, “excellent”, useful as a resource for schools, community/village operators and utility operators.

Broader discussion around drinking water supply, monitoring methods, management and treatment for household and small communities.

Jan outlined the concept of drinking water safety planning for small communities, and showed the booklet/template used in New Zealand. Again, looked useful for the Pacific.

Action Items/Next Steps

What	Who	By When
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Jan has the contact details of the participants, and will provide these to the New Zealand Ministry of Health to send copies of the resources to participants.		
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Issue C-15: Brownfields

Convener: Steve Simanonok

Notetaker: Ed Manibusan

Participants: Susan Muza, Peter Cruz, Fesoliai Time, Iosefatu Vauoli, James Espaldon, Toafa Vaiaga'e, William Sili, Faamao Asalele, Matt Vojik, Lorilee Crisostimo

Discussion Notes, key understandings, outstanding questions, observations:

1. Establish a State Response Program
2. Grants to Assess and Cleanup Sites
3. Legislative Oversight/ Legal Authority for Implementation
4. Needs:
 - Administrative Procedures
 - Regional Definitions for Programs
 - must comply with EPA definitions= Superfund amendments
5. CNMI
 - State Response Program
 - Voluntary Cleanup Program (VCP) → must follow EPA/State regulations
6. Use Action Levels to address contamination
7. Goal= Issue "No Further Action" letter
8. Contracting Brownfields activities
 - Site Inventory
 - Environmental Screening Levels as basis for action levels
 - similar to PRG
9. Develop a GUIDANCE for the State Response Program
10. CNMI Web- www.deq.gov.mp; go to Site Assessment and Remediation Branch
11. Local Priorities to address contamination
12. Brownfields Grant types:
 - Petroleum
 - Hazardous Substances
13. Competitive v. Non Competitive Grants
 - Competitive: National
 - Government may apply
 - Non Profit organizations may apply
 - must be eligible under Brownfield requirements
 - Assessment Grant and Cleanup Grant
 - Non Competitive: Receive money to do assessments and cleanup
 - annual and consolidated grant
14. EPA Guidelines → July 2007
 - www.epa.gov/brownfields
15. Overall public purpose
 - not private

- not polluters
- 16. Applicant must not have caused contamination
- 17. Form a Brownfields Coalition within the region
 - short term rotation of employees between different states to enhance and share Brownfields experience
 - also for education and diversity

Issue D-15: Coral Reefs and Watershed Protection

Convener: Fran Castro, CNMI DEQ

Notetaker: Kimie Ngirchechol, Palau EQPB

Participants:

Doug Juergens – AS Legal counsel, coastal management program
Veronika Mortensen – AS Coastal management program, permitting section
Mike Gawel – Guam EPA
Jane Almandres-Cruz – Guam EPA
Ian Gun – Land grant AS
Manuel Minas – Guam EPA
John Bungitak– RMI EPA
James Espaldon– senator, Guam
Craig Clouet - Hawaii
Ike Sagaga - ASEPA
Bernard Mutatumua - ASEPA
Alofa Silaumea -ASCMP
Shamarte Evagelia -ASDOC
Benny Cruz - GEPA
Peter Cruz – GEPA
Ed Manibusan – CNMI DEQ
Malelega Tuiolosega - ASEPA
Larry Hirata – ASCC land grants
Kris McPhee - ASEPA
Maryann Toleafoa - ASEPA
Tina Filmed – Yap EPA
Simoa Asiata - ASEPA
Dan Jackson – economists.com

Discussion Notes, key understandings, outstanding questions, observations:

monitoring wq improvement

Palau watershed monitoring - sedimentation

Guam – mitigation of harbor development with a different watershed
(erosion from fires, road expansion)

US NRCS

Clearing and grading permits for large land clearing

Coastal zone (all island)

CNMI – water samples, reef coral checks

Issues from dirt road, burning

24 acres of revegetation, vetiver, public land (Lao Lao); Rota (in certain areas
permission from private)

Military – expected to impact CNMI along with Guam

Guam- civilian military task force

Need more infrastructures, more water use, increase waste

Impacts beyond military land fall under local regulations

Mitigation efforts from military (reforestation) 300K, 7.2 million

Military will not do science, comes from ag department

Environment promotion, volunteers for replanting, ownership, stewardship

Entry:

Samoa: village permission needed to enter village to do volunteer work.

Chuuk: protective of shorelines (privately owned)

Landfill: SPREP's 500K fix for Samoa Dumpsite, maybe some ideas to assist other issues

SPREP – good with technical assistance, everyone needs money and assistance:

SPREP funnels money into the Pacific Islands. Current Director opened to SPREP to Guam and CNMI.

Japanese government has interest in Solid waste. Ministry of environment willing to help finance with grants for new technology, to mine old landfills (remediate) for slag (?).

Maybe expensive in terms of upkeep (electricity).

Vetiver grass: American Samoa has a hill with vetiver contour hedges, farmer on steep slope.

Mohamed Golabi (UOG) studying vetiver, dies under shade

Are there any areas with no development that still has natural sedimentation?

Guam – burning

A. Samoa – areas with no development still has sediments. Vines overgrowing canopies may be killing understory. More sediments in these bays than before

Control here is to improve/decrease man-made sedimentation problems

Costa Rica – coffee plants; holding soils?

Jurisdiction and overlapping of agencies.

A.Samoa – governor executive order defining responsibilities

Sand mining

A.Samoa – individuals use sand to beautify homes, decreases surge protection, hard to enforce regulations. Setback – 200 feet

Guam/CNMI – locals don't really mine beaches, limestone sand quarries, import sand for golf courses. 50 feet setback

Palau – Dredging, quarry

Hawaii – dredged sands off shore may have contaminated with bacteria

Marshalls – dredge and blast reef for building materials; permits required for blasting; now, how to get construction material? New development: need to get materials off-island (invasive species an issue). SPREP/SOPAC assisting with lagoon survey.

Corals naturally came back after blasting (in areas with good circulation), hard corals, better growth on vertical surfaces.

Action Items/Next Steps

<u>What</u>	<u>Who</u>	<u>By When</u>
Provide CRI Executive Order to CNMI and Guam June 30	Doug Juergens	

Issue D-17: Goals and Strategies for Effective Enforcement

Convener: Kate Fuller

Notetaker: Tina Sablan

Participants: Mark (SPREP), Kelly King (Pacific Biodiesel); Norwood Scott (USEPA); Edward Manibusan (CNMI DEQ); and others (really big group, attendance sheet at hotel)

Discussion Notes, key understandings, outstanding questions, observations:

BARRIERS TO EFFECTIVE ENFORCEMENT

1. Close-knit community (everyone knows everyone; large extended families)
2. Diverse community (large immigrant populations; language/cultural barriers, etc.)
3. Economic challenges – enforcement seen as “anti-business” especially in a poor economy

GOALS OF ENFORCEMENT

1. To change behavior
 - a. It can't be cheaper to do the wrong thing – need to create incentives for compliance and disincentives for violations
 - b. Enforcement also helps educate the regulated community, and the public in general
2. Create a level playing field for all businesses
 - a. Inconsistent enforcement penalizes responsible businesses because it allows noncompliant businesses to operate more cheaply

STRATEGIES FOR EFFECTIVE ENFORCEMENT

1. Ask industry to self-regulate
2. Solicit ideas from businesses themselves (especially industry leaders) for effective enforcement
3. Education and outreach
4. Consistent and well-documented procedures – written warnings, notices of violation, enforcement action
5. Publicity
 - a. Publicize enforcement actions – embarrasses the noncompliant facility, gives notice to other businesses in the industry, and also educates the community
 - b. Give recognition/rewards/contracts to businesses that are compliant
 - i. Contracts should be awarded to businesses that are permitted and compliant
 - ii. Approved vendor lists
 - iii. Green business/green license programs -- Successful examples include Brisbane “Green License” program; Kuliana Business Association (Kona, Hawaii)

6. Strategic enforcement – targeted inspections
 - a. Go after facilities that would have the biggest environmental impacts if discharges occurred; or facilities that have the most citizen complaints; or facilities with a history of noncompliance
7. Tap into existing cultural and business associations to educate the regulated community and the community at large
8. Support for inspectors
 - a. Safety precautions
 - i. Inspectors should not be the ones who issue court documents, notices, etc.
 - ii. Inspectors should never go out into the field alone
 - iii. Police should be contacted for support if necessary
 - b. Management should be willing to follow through on enforcement actions

Issue D-18: Rainwater Catchment

Convener: Kay Delafield

Notetaker: Kay

Participants: Kay, Neelam, Gigi, Barry, Carl, Joe K.

Discussion Notes, key understandings, outstanding questions, observations:

Discussion focused on the CNMI's water systems. The water is non-potable

Questions were posed to Carl Evenson concerning individual residential catchment for drinking water – including construction, treatment and other safety concern. Especially backflow prevention. Also discussed feasibility of large scale systems to add to public water system. Discussed CNMI DEQ's concerns as to isolation and treatment

Also discussed resource for information for small systems testing

Issue D-19: Environmental Director's Session

Convenor/ notetaker: John McCarroll

Participants: John McCarroll, Portia Franz, Simpson Abraham, Lorilee Crisostomo, Portia Franz, Dr. Vaiagae, Ismael Mikel, Frank Rabauliman, Peter Peshut, Susan Muza, Pat Young, Mike Lee, Michael Wolfram, Carl Goldstein, Wayne Mitso,

Issues:

At last year's Environmental Director's meeting, agreed to get together as directors at this meeting. Did brief recap of last year's session & outcomes.

Ideas:

Lots of similar challenges, but possibly different priorities. Training a priority for all. CNMI could lead coral reef training. (Not just DEQ, but other CNMI resource agencies).

Training needs – rainwater catchments, train the trainer so someone could go through the different jurisdictions. This would aid capacity building.

What about work exchange program . . . AS w/ GU or Saipan, where exchange employees for up to 3 months; e.g., leptospirosis, brownfields. Idea worth pursuing.

2008 Directors' meeting:

Desire to continue these meetings.

Preference expressed for meetings in HI; would save \$\$, save travel time, would be every other year format in HI (like SPREP does).

Wayne can help Army Corps provide space at Ft. Shafter.

What about grant writing training? Major need at local level. Can we identify when that's available? (especially in HI).

Portia: can tech assistance be expanded to specific water testing? (Yes, can do on case-by-case basis). What about

Enforcement training for Palau . . . forms for inspectors to take out in field. (Issue of funding trainers). Training on fines? All FAS interested in enforcement training. Can follow-up. Looking for NETI-type basic inspection + CID training + program specific enforcement (pesticides, fuel tanks),

Frank: could we develop list of expertise in our islands? Capacity we have in region?

Pat: e.g., radon assessments

Simpson: how can we keep everyone in loop, up to date on what's going on, training's etc., so we're one big family.

Pat: chat group site.

Frank: resources – can FAS leverage international aid to benefit of region?
(or can an org like PIRRIC leverage both US & international aid for region).

Portia: could use chat group to post questions like incinerator tech assist. Would be very helpful.

Action items:

- Will schedule 2008 Environmental Directors meeting for Hawaii
- Will follow-up on training needs with FAS & territories
- EPA (Pat Y) will follow-up to create chat group to keep everyone in loop.
- Director's would put together list of expertise in each jurisdiction.

Issue D-20: Keeping a program running when the “champion” leaves

Convener: Pam

Notetaker: Jan Gregor

Participants: Brad Rea, Ryan Tuatoo, Mary Midkiff, Daniel Heintzman, Barbara Zenaro

Discussion Notes, key understandings, outstanding questions, observations:

General discussion to get started. What needs to happen within an organization – mentoring, succession planning, hiring of local people, trainees may get a better offer elsewhere. Organizations will continue, but people may change. People go off-shore for training, come home, but who will provide proper mentoring/support on return. The grass is greener on the other side.

Led in to a more detailed discussion on mentoring.

Some solutions:

- Identify mentorship for each program, each position
- No program should depend on one person – back up, shared leadership
- Establish apprenticeship programs, short-term placement, training
- Organization can offer incentives (eg. Training for qualifications) to encourage people to stay
- Bring trainers into country, as well as trainees going off-shore
- Those who have been well mentored and have achieved can become good mentors themselves
- Management/leadership training for managers, including being able to recognize the skills and abilities of people
- Develop and implement organizational policies and procedures, use them and review.

Action Items/Next Steps

What	Who	By When
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Brad & Ryan (from PHS) to assist Mary (Pacific Islands Centre for Educational Development) with a talk about drinking-water, during the summer school program – NOW.		
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Mary to call Pam /Edna @ ASEPA to arrange others talks for the summer school.

Issue E-23: Tires

Convener: Peter G. Cruz

Notetaker: Barb Torres

Participants: Faleosuna V., Luki T., Fred M., Peto M. Manny M. Stephen Le., Wayne M., Faamao A. , Joe K., Ed M., Dori E., D. Parker., Anthony G., Mike M., Ike S., Benny Cruz, Norwood, William S., Lui M., Tumau L., Simoa A., Mary T., Faruatele V. Kimie N., Jane C., Doug J.,

Discussion Notes, key understandings, outstanding questions, observations:

- Solid Waste Issue
- Burning
- Renewable Energy
- Other Ideas
- Vector Fire Hazard

Issues

ASDPW Ideas

- reuse Tires, Finanacial Figures
- Baling /Crumb rubbing
- Where does it go
- Alternatives?

AS DOH

- Control tires
- Eliminate import of tires (old years)
- Mass transit
- Recap tires

Technologies/Ideas

- Rubberized asphalt
- Embankments
- ADC for landfills
- Ralletize – running track W-T_E F?
- Decorations

State making it a requirement

- Highway/roads/parking lots
- Rubberized asphalt
- DOT specs/engineering specs, specs w/in scope of work

- Federal highway money – use rubberized asphalt
- Law/regulations vs. Points for Bids

Local end use

SPREP – Mark

? vs. risk

- Money to pay for process/MARKET DEMAND
- Import tax on tires
- Recycling fees/refund

Free market (yes or no))

- Public sector not private
- Contract formulation contract oversight
- Government shall regulate market demand

ACTION ITEMS

- Process of W-T-E for tires – small units for islands
- Economic impact
- Review of options for the islands
 - Feasibility, cost, specifications
 - End markets
- USEPA to assist/Brownfields
- Chat room/updates
- Tores- Biodegradable or not?
- Tires – solutions – Politics
- Someone need to focus on tires for the islands
- Look at rubberized asphalt (engineering specs, cost, feasibility, existing laws, asphalt plants req., DOT issues)
- Resources for Marshall Islands
- Look at extended product responsibility
- Followup on existing studies of different options for tires and verify applicability appropriate changes needed, etc.

Issue E-24: Guam - DOD buildup and follow-up

Convener: Mike Wolfram

Notetaker: Neelem Patel

Participants: Mike W., John M. Lorilee C. , Mike G. Frank R., Kay D., Neelam Patel

Discussion Notes, key understandings, outstanding questions, observations:

Prepare for DOI/JGPO meeting in Washington DC on August 2, 2007

IssueE-25: Vetiver Grass

Convener: Larry Hirata

Notetaker:

Participants: Douglas J. Larry H. Jane, G. Tavai, Benny

Discussion Notes, key understandings, outstanding questions, observations:

- Vetive grass does not geminate
- Is it indigenous anywhere?
- Grass planted by Japanese in Saipan, is similar to this, not sure what it is called
- Vetiver grass used as some type of retaining wall for sloped topography
- Somebody interested in soil erosion data concerning vetiver gras? Is there research done on the use of vetiver grass and how effective it can be
- It may be from Asia (ie., v. grass)
- Is it sustainable supplies (vetivewr) for the local people?
- NRCS pays an individual to maintain at least up to 5 years?
- What's the longevity? When you pick out to plant?
- Erosion control using v. grass
- What's the mortality
- There are farmers that are locally contracted to grow vetiver grass
- Almost 100% of the grass grows
- Larry would like to work as a network with other territories to see how they work with vetiver and if there are any success stories
- Benny and Jane from Guam are concerned about erosion in their territory
- Invasive species tangantangan in Guam that just kills everything, is sort of like a pest and grow like vetiver or is similar to it
- ASCC Land grant grows the vetiver grass and experiments with planting it on slope,, a slope develops what seems to be a bench mark or terraces on the slope
- ASS landgrant gives away free vetiver grass
- website vetiver.org
- vetiver is planted using cuttings
- vetiver roots grow about 6-8 feet using any type of soil
- vetiver slows down water run-off helps prevent or slow down sedimentation and erosion
- grass grows about 4-5 feet high
- will vetiver hold soil that accumulates below a slope
- in guam they have a similar type off grass called soar grass
- vetiver takes about a year for it to become effective

Issue E-26: More on SPREP

Convener: K. Delafield

Notetaker: K. Delafield

Participants: Mark R., Carl G. Kay

Discussion Notes, key understandings, outstanding questions, observations:

Discussion of resources available from SPREP SOPAC website, current issues and concern:

Specifically discussed Samoa's current scrap metal program, the role of the government in initiating program, privatization of project and practice of including both high value and low value recyclables in contract for shipment and disposal off island

Issue E-27: FAS (Freely Associated States) Environmental Issues Next Steps/Action Items

Convener: Barry Pollock, USEPA R9

Notetaker: Mike Lee/Gigi Cairel/Christina Fillmed

Participants: Barry Pollock, Kelly King, Taleo Sitama, Pat Young, Albert Roby, Simpson Abraham, Christina Fillmed, Ismael Mikel, Edna Buchan, Gigi Cairel, Mike Lee, Kimie Ngirchechal, Portia Franz, Norwood Scott, Kate Fuller, Tina Sablan

Discussion Notes, key understandings, outstanding questions, observations:

FSM:

Each states has an environment program office but there no counterpart National Environmental Agency.

Each State has developed or established environmental regulations.

FSM gets \$2 million per year for environmental programs under the environmental sector of the Compact. Money is not evenly distributed and is based on workplan accomplishments and performance for each FSM State. As an example, Kosrae gets \$200,000 per year to cover all costs such as staff, supplies, equipment, travel.

There is separate environmental funding for capital improvements (roads, water, wastewater). Each state establishes a project priority list and submits up through state and then through national government. State and National government make decisions on which projects get selected. National list is submitted to JEMCO (Joint Economic Management Organization?) which includes 3 US and 2 FSM representatives. JEMCO makes final decision on which projects finally get selected.

FSM also has a Strategic Development Plan (SDA) which includes a environmental component.

Environmental Program Needs:

Kosrae: staffing (engineers, science, environmental), technical capacity development, laboratory.

Chuuk: enforcement, public awareness, environmental programs.

Pohnpei: upgrade laboratory facility.

Yap: 6 staff and focusing on basic needs and budgeting. Funds are project based so includes program personnel and other costs in the project budget.

RMI: Budgeting – RMI EPA gets \$200,000/year from Compact funds and RMI Government puts in an additional \$200,000. RMI EPA has 8 staff. Environment is not given the highest priority.

ROP: Budget is about \$400,000/year for program plus some grants. Compact is up for review in 2009. Interested in EPA technical assistance, NRCS Equip program (Palua not eligible), development fees (legislation needed).

Micronesia Conservation Trust (MCT) recently included in Palau and RMI. Focus was on roads and other areas but not water or wastewater.

Other/General Statements:

Raise awareness of health and environmental education and linkage.

Medical waste assistance: SPREC and SOPAC has some expertise in this area.

Pesticides: Glen Sahara (Hawaii) “circuit rider” and will be in going to eastern Micronesia this year and western Micronesia (Palau and Yap) next year.

CDC sponsoring global pacific conference this year (summer) in Honolulu, HI. Conference will be hosted by the Hawaii Public Health Organization(?).

Need engineering, legal and EIA/EIS capacity development.

American Samoa recruited attorney through EcoJobs. Received a lot of applicants.

Need recruitment assistance.

Lab certification.

Coral dredging

Risk Communication/Public Outreach

RCAC: May be able to provide funding assistance. Example – facility construction.

Issue E- 28: Why do some people consider environmental protection a luxury?

Convener: Bernard

Notetaker:

Participants: Gene, Veronika, Albert, Pamela, Kathryn, Tina, Kimie, Kelly

Discussion Notes, key understandings, outstanding questions, observations:

- Recycle, Reuse, Reduce
- Strengthening the programs eg., safe drinking water; solid waste (plastics, Styrofoam)
- Set goals
- Education – tour-de-trash (for schools)
- Sustainability – think about what you buy
- Green industry – buy local, make it popular
- Pigs- status, faalavelave
- Educate – using music
- Waste disposal – streams, fees
- Instead of fines – community service, public service announcement
- Education of the public/intervene before the problems et worse,
- AS has a positive role model in the governor
- Political pressures vs. pro-environment; needs a balance/job opportunities/community donations
- Need facilities; wastewater treatment plants that major funding
- Top leaders needs to lead by example
- Solid waste? Pass a law to dispose properly with a fee. Luxury tax
- Proactive approach to environmental problems
- No funding for solving problems
- Elevate and prioritize all environmental problems, e.g., piggeries
- CNMI – practical people whom do not tend to worry about ten years down the road ...now is now!
- Action item – legislative; beef up preventative programs; safe drinking water (maintain)
- Mandate to displace polluting fuels – recycle, reuse, reduce
- 10 % of renewable energy in 3 years
- Plant for burning trash to be used as energy (gvt) to lead by example
- Set goals (get rid of styrofoams, plastic products, etc.)
- Biodegradable materials are thrown out the window and is creating a litter problem
- Be responsible for upstream/downstream (awareness)

- Reduce purchasing imported produce – local produce requires less packaging
- Need to change people's attitudes on "simple living" instead of trying to keep abreast with western lifestyles
- Give support to local farmers
- Educate people to appreciate more of the locally grown products instead of buying from the stores that import overseas's produce which is more expensive (status differentiation?)
- Customs do change ---hopefully the pigs will be replaced by chickens!
- People need to walk the talk
- Implementation of enforcement flawed – credibility was lost, need to strengthen prevention strategies
- Identify a popular entertainer to present preventive measures (via music) to the youth; public service announcements
- Your competition about prevention/protection – why is this done?
- Garbage collection is charged, easy way of disposal
- Even with universal collection people do not use trash cans; illegal dumping despite universal collection is a result of laziness
- Shame people with t-shirt saying you are a polluter and doing community service
- Advance disposal fees need a proactive approach only have firefighting
- Piggeries – needed the diseases – have maybe 50% voluntary compliance

Issue E-29: Public health and environmental issues

Convener: Jan Gregor

Notetaker: Jan Gregor

Participants: Ray Masga, Carl Everson, Susan Muza, Ilima Hawkins

Discussion Notes, key understandings, outstanding questions, observations:

How do/can we change behaviours? Looking after the environment & making sure we don't get sick.

How sick is "sick" enough to change behaviour?

Importance of proper diagnosis of illness to assist communities recognize they can get sick from interaction/practices/actions in their environments.

Awareness raising of symptoms of various diseases, so people will know when to seek help.

How good is the connection between environmental agencies (eg. EPA's, EQ's) and public health agencies (eg. Ministry/Department of Health, hospitals, villages clinics, primary health and public health divisions) and utilities (water & wastewater, landfill.)? **A starting point for action.**

Educaiton & awareness needs to be respectful of cultures and protocols.

Sense that while people know about the public health issues, they don't know how to deal with these issues.

Hard to make the connections between environmental regulations and how these relate to public health and the actions needed.

Capacity building in environmental agencies and utilities in public ealth so they can build this aspect into their programs.

Consider running the Pacific Islands health conference (going on this week in Hawaii) back-to-back in the same location with this Pacific Island Environment conference, so a day or sessions can be joint. **A starting point for action.**