

Travel Completion Report  
May 20 to June 6, 2004

Traveler: Gordon Y. Tsuji  
Action Plan No. 11

Narrative:

Nine soil pedons were described and sampled by Patrick Niemeyer of USDA/NRCS and Antonio Lopes of MAFF/Baucau and Julio Correia of MAFF/Dili. The 9 pedons were collected from Venilale (Uaitobono-2, Bubu Ana Cala), Gariuai (Watowa (Uatoua), Fatumaca-2, Watome (Uatome), Ostico), and Seical. In addition, auger holes were drilled from the area of the Baucau airport to Venilale to check for common soil features observed in the pedon sampling and to check on the imaginary soil map units delineated by ACIAR using Portuguese soils data and maps. Fourteen auger samples were examined in both the Venilale and Gariuai sub districts. Road cuts also offered examination of soils to and at Seical.

Soil samples from the 9 pedons were handcarried back to Hawaii for analysis at the University of Hawaii's Agricultural Diagnostic Service Center in Honolulu.

Soils in Uaitobono were characterized by pH values of 7+, sticky with clay texture. Soils at both locations displayed vertic characteristics. Soil pH at Bubu Ana Cala was 6 and sampling revealed plinthic features throughout the lower horizons of the pedon per Niemeyer. Auger samples confirmed the presence of manganese dioxide nodules at the lower depths. These nodules showed strong effervescence to hydrogen peroxide. Soils at Uatoua and Uatome are located at the bottom and mid-level of the slope from the road through Gariuai to Venilale. Both soils also had pH of 7+, sticky with clay texture, strong effervescence to 1NHCl. Both soils at Fatumaca had similar features. The lower field at Fatumaca School was deeper than that at the upper field where the weather station is situated. Soil depth to a "soft" limestone bed was more than 50 cm at the lower field. A "hard" limestone, chert, was found at about 25 cm in part of the profile.

To sample the higher plateau of the Fatumaca area, we used a site at Ostico instead of Buburaga. The location is in a more central location of the upper plateau. The soil pH of the surface horizon was 5.1. Patrick used a newly dug hole by the farmer to describe the pedon. The hole was more than a 1-meter deep and stopped at the limestone bedrock. This soil showed no effervescence. The soils of the Ostico area appear to represent a sizeable area that includes most of the area surrounding the Baucau Airport. Limestone outcrops are commonly visible and limestone fragments are commonly visible in areas used for agriculture.

The Seical site was sampled on our first full day in the watershed as Andre and Fernando had scheduled planting of a rice demonstration trial at the Duarte farm. The pedon was collected east of the weather station and the rice planting. Antonio had a two-man team open a pit a meter square and a meter deep. Patrick identified slickensides in the middle

to lower horizon. The pH was >8 throughout the horizon. The EC in dS was off of the scale at the surface and at 15+ dS in the second horizon. The soils were described as sticky and plastic.

The pH of the irrigation water was 8.1. The pH readings of water sampled at the Seical River and at the irrigation channel prior to Duarte's farm when traveling from Baucau were 8.1 and 7.9, respectively. Both measurements were taken a week later.

Patrick Niemeyer will submit the soil samples to UH/CTAHR's ADSC.

#### USAID

We were requested to have each UH faculty or travelers supported by grant funds to provide the mission with a narrative travel report for their information and use. I agreed to ask each to do so, starting with Kent Fleming, Patrick, and me. A copy of the DVD report was submitted to Kim Jones, EG Officer. I informed them the quarterly report should be forthcoming and apologized for the delay.

Kim and Angela (Nina) reminded me to keep them in the loop whenever we extend invitations to MAFF staff to travel abroad. They were not prepared to assist Justino as the timing was too short. Odete had called Kim when she was in Jakarta for information and assistance. I agreed to do so. Both also informed me to keep them apprised of any shipment of items into Dili that required customs clearance. Angela will assist us.

We were introduced to Chip Oliver in the parking lot as we were leaving the compound and he was arriving for a meeting. Oliver informed us he has Hawaii ties as he holds a MS in Public Health and PhD from the med school at UH. He was here during the time when Siddique was indicted for embezzling funds from USAID grant to study malaria.

#### MAFF

The Minister is very supportive of the UH program as expressed by his general comments and interest in the soil survey work. He has some interest in the soil survey as he studied soil science in the Netherlands many years ago. Patrick provided him with a copy a NRCS publication on soil survey. Of interest to the Minister was the land classes depicted in that report. When informed land classes can be generated from soil survey reports and data, he was pleased. We informed him that the ALGIS group in MAFF could implement such an activity.

A set of sampler products from Oils of Aloha was given to the Minister. He immediately opened the jar containing moisturizing cream. He smelled it and was pleased by the smell. He asked if he could use it. I referred him to the written material provided by Oils of Aloha with testimonials from users. I informed him that Goro and the CEO of Oils of Aloha are planning to travel to Dili in early August to look into importing candlenut oil from Timor-Leste.

Julio Correia of MAFF/Dili and Antonio Lopes of MAFF/Baucau worked with Patrick and me in site selection for sampling in the sub districts. Julio had previous experience in

soil survey after working with Vincent Lefevbre of FAO in Viqueque and Manatuto. He observed, listened, and had hands-on tutoring on field methods of soil survey as carried out by the USDA/NRCS. By Wednesday of the second week, Patrick had Julio describe and characterize the pedon in Uatome, Gariuai sub district. We both felt Julio could do a reasonably good job in conducting a soil survey but would need to gain more confidence. If soil survey work is planned, a person like Patrick Niemeyer from the USDA/NRCS would be an important mentor to corroborate the description and field characterization of pedons. Patrick was great in explaining methods and principles to Julio who in turn had many questions. Antonio helped in running field measurements of soil pH and EC (electrical conductivity). He organized the crew to open (digging) each of the 9 pedons described and sampled.

Bio Ferreira of ALGIS was helpful in allowing us to use their stereoscope and aerial photos to view landscapes of the Baucau District. Claudino Nabais and Deolindo da Silva of the Crops Division updated us on training and application of the soil test kit in their program. They have a farmer demonstration trial in Manatuto that's visible from the main highway to Baucau. Fernando Sousa (UH staff) meets regularly with Deolindo to report progress of project activities in the Baucau District.

Of note, Odete is not the Minister's secretary these days. She's now heading up the administrative support services office of MAFF. Am not sure of her title or name of her office.

#### Peace Corps

Patrick arranged to meet Richard Stoll, Associate Director of the Dili office at 4PM on June 3. Pat was in the Peace Corps in Honduras and wanted to meet with Stoll to share materials he thought the Peace Corps may find useful for their volunteers. We learned from Stoll of their plans to have an additional 20 PCVs. These new PCVs would receive training in agriculture in-country before posting to their assignment. My understanding from Stoll is that an Australian permaculture expert will handle the training. Stoll asked if we had products or technology that could be useful to the trainees. He expressed interest in the soil test kit and its application. We should consult with Stoll further on the PCV training to have them become familiar with the application of the soil test kit.