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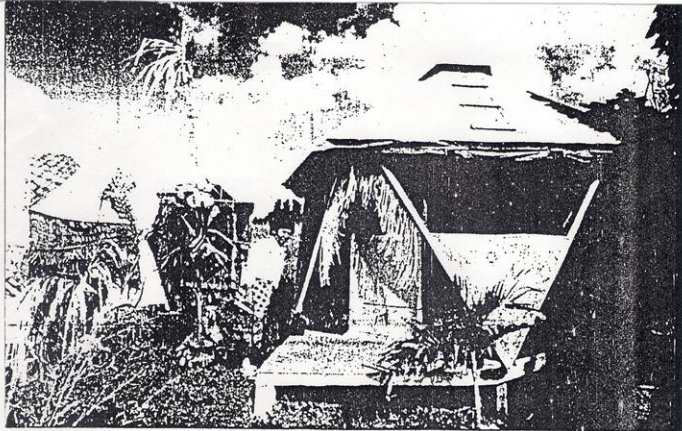


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SURYA DARMA, a visiting scientist from Bali, welcomes visitors to his home on Kauai, a guest house built for him by members of the local Bamboo Guild.

Thomas Tamura/Kauai Times photo

The bamboo exchange

Kauai's Bamboo Guild, Balinese scientist swap development techniques

By SUSAN DIXON-STONG

ANAHOLA — Near a banana patch in the farm lots outside Anahola a small man wearing a sarong and a big smile listened as a former Yale professor talked about his three-month-old bamboo tree.

The native Hawaiian species has already sprouted two keiki and is thriving along side another bamboo plant imported from South America. If all goes well, a bamboo nursery will be established here to boost development of bamboo cultivation and utilization on Kauai.

"We would like to introduce bamboo as a more abundant resource because we believe it has both long-term and short-term benefits," said Don Riedel, the professor turned farmer who plans to start the nursery.



DURING HIS STAY on Kauai, Surya has added a Balinese touch to the Bamboo Guild's guest house. Today Surya (center) is having tea with Larry Rueter (l) and Don Riedel.

Thomas Tamura/Kauai Times photo

Bamboo

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Riedel, who is a member of Kauai's new Bamboo Guild, explained the origins and uses of his young bamboo plant, which is called 'ohe in Hawaiian. It is one of a number of "canoe plants" first brought to Hawaii by the ancient Polynesian voyagers and is said, with taro and sugar cane, to be the *kinolau* (body form) of the Polynesian creator god Kane.

The man in the sarong knows all about bamboo. He's a professor who teaches ecology and environmental sciences at a Central Java university. His home is the Indonesian island of Bali where his family, like most families there, relies on bamboo forests for everything from food to shelter.

Near the 'ohe is a *gudua* bamboo brought to Kauai from Columbia by Bamboo Guild Chair Larry Rueter. A horticulturist at the National Tropical Botanical Garden, Rueter has been propagating bamboo for about 10 years.

With Riedel and Rueter is Patricia Maria Stezzi, a member of the Guild, and their guest, Professor Surya Darma, the Balinese scientist who had taken leave from his university post to help establish bamboo on Kauai.

Surya, who will be 45 on Christmas Day, has been on Kauai since Oct. 9 as part of an exchange program hosted by the Bamboo Guild in cooperation with the National Tropical Botanical Garden and supported by the Indonesian Department of Higher Education and the World Bank.

He comes from an island, where at least 13 species of bamboo grow and countless uses are employed. During his time on Kauai, he has worked with Guild members on various propagation techniques and has demonstrated new uses not only for bamboo but many other indigenous species.

"We're now trying to rapidly propagate very desirable bamboos for various uses," Riedel said. "So his visit is quite timely."

The exchange program is an idea that germinated early last summer when Riedel, Rueter and others from Kauai attended an International Bamboo Congress in Bali. They came home from the conference with bamboo plantings and the hope that the

exchange program, suggested to Surya's brother during the conference, would materialize.

A few months later, the Balinese professor arrived. And in January, the program will continue with a visit from a bamboo basket weaver, who is a member of the Hmong tribe from northwest Laos.

Surya, who speaks English with no hesitation despite a heavy accent, said he was struck by the similarities between Bali and Kauai, both of which are known as the Garden Island. The full name of his home is Bali Pulau Taman, which strictly translated means Bali island garden.

Bali's population (about 2.7 million) far exceeds Kauai's and geographically it is about four times larger (2,175 square miles), but the climate, flora and some of its challenges, particularly with respect to tourism, are similar.

With a population density of nearly 500 persons per square km, the Balinese have learned to practice conservation in ways Kauaians have long forgotten.

"One of my mottos is eat a weed," said Surya.

He demonstrated that during his stay by gathering various materials from the National Tropical Botanical Garden and cooking them. He ended up with three tables full of food, which he served the staff.

On Thanksgiving, Riedel said, Surya helped prepare a meal from only Kauai-grown food. They shopped at farmer's markets, NTBG and picked weeds outside Riedel's home.

Before Surya arrived, Riedel constructed a small geodesic dome structure as a guest house for the Balinese scientist. He will leave Christmas Day having decorated the screened cottage with various creations made of locally grown materials.

At the entrance, he constructed a Balinese *penjar* that rises in the air like a decorated flag pole made of banana palm. Inside were other decorative creations.

"This is the symbol of the sun," he said, picking up a woven piece with a red hibiscus in the center.

"It's not just a decoration," Stezzi said. "Everything has a meaning to it. It's making physical the invisible. That's what he does."

It has been said that all Balinese are artists, that they make an art out

of even very simple necessities of everyday life. Surya, for example, made thatch from banana leaf and used it to cover one side of Riedel's outside shower.

The Balinese visitor was impressed with the harmony between Kauai's diverse racial population, and he stressed the value of integrating traditional cultural concepts with modern technology.

"One thing he always brings up is making use of the traditional culture and its many ideas and creative examples put together with modern technology," said Rueter.

"For example," Surya said, "how do I make pizza from the raw material?"

During his stay on Kauai, Surya has developed a taste for pizza, but in his country no wheat is grown. How do you make pizza crust without wheat? Well, Bali's major crop is rice. Why not rice flour? No, he said, that won't work.

Instead, he wants to develop a Bali-style pizza using all local materials, no imports or transfer of traditional uses.

There is a rhythm, a sense of balance, in Bali, that makes it possible for millions of people sharing a small space to live in relative harmony.

It's not man and environment, it's man in environment, said Surya. There must be a balance inside and out.

The Balinese are known for their colorful and perpetual ceremonies, appearing to devote most of their waking hours to a series of offerings, purifications, processions, dances and dozens of other religious rites.

Balinese people work before a ceremony, for example, and hold a ceremony before they work. It's an endless cycle. They don't kill an animal for meat until they have performed a ceremony, Surya said. That would be wrong. The motivation to kill must be to make the offering. Only after the offering has been made is it permissible to eat the meat.

"You remember God in everything you do," Stezzi said.

The concept goes beyond that, Surya explained. "It's not only the abstract concept of God. Everything (taking a shower, watching bamboo grow) is an aspect of God."

As far as this Hindu is concerned, God is everywhere.

"I go to a church, no problem, because God is the same," Surya said.

Bamboo Guild joins RC&D's tree project

ANAHOLA — Since its initiation, the Bamboo Guild has worked closely with the Forestry Committee of Garden Island Resource Conservation & Development, Inc. and has recently been included in RC&D's Trees for Tomorrow project.

"That's a recognition that bamboo is a valuable resource and that it is a tree," said Guild member Don Riedel. "Although technically it's a (giant) grass, the end product is more like a tree than grass. It has really unique properties."

One aspect of the Trees for Tomorrow project, which is aimed at establishing a commercial timber industry on Kauai, is promoting the planting of a number of tree species in different areas of the island, monitoring their growth and gathering locally produced seeds for propagation of additional trees.

RC&D is seeking private land owners who are willing to plant trees on their property and to permit the organization to study them.

As part of the program, the Bamboo Guild is looking for landholders and lessees who will enter into cooperative agreements with the Guild that would allow the Guild to provide genetic bamboo stock for planting. The organization would then use the experience to learn about what works and what doesn't work in various soil conditions.

The best species would eventually be used for crops.

Members of the Guild have begun to accumulate and grow bamboo. Earlier this year, 11 species and varieties of bamboo considered superior for use in construction and/or food were collected from Indonesia. The plants are in quarantine and will be used for propagation when released in June.

Guild members are also engaged in mass propagation of several highly desirable species from South America and Asia and are looking for land for large-scale planting.

The Guild is engaged in a variety of activities including research, education, demonstration and conservancy.

Members are experimenting with new propagation techniques; developing effective methods of pest control and preservation; and documenting mechanical characteristics of various bamboo for use by engineers and architects.

The Guild is developing informational packages on the utility of bamboo, methods of propagation and maintenance, harvesting and preservation. Seminars on employment of bamboo in construction and crafts are planned, and videos directed toward children will be emphasized.

The Guild is working with the county on a program to construct a series of bamboo bus stop shelters. The project has been approved by the county building department, adopted by the transportation department and supported by the public works department, but it's been placed on hold until the status of the county bus system can be determined.

"Before you can build a shelter, you have to have an officially designated bus stop," Riedel said, "which means that you have to hire a consultant."

So instead of waiting for government bodies to make Kauai's three-year-old bus system official, the Guild is exploring the possibility of designing bamboo pavilions for county parks.

The Guild's botanical facilities are located in Anahola and Kahili Mountain Park.

enting me towards the practical side of my pursuit."

With Surya's assistance, he said, the Guild has been provided some

visit has been one of observing the man and his creativity. "Surya is an artist," she said. "He's a scientist, he's a farmer, he's an artist. He's all these