

# The seed keepers' TREASURE

by Alaric Francis Santiago

Challenged and threatened by development intruding on their lands and traditions, the seed keepers of the Philippines' Cordillera region fiercely held on to their native rice varieties. Now, the world is discovering the precious gems in their possession: heirloom rice.



CREAM OF the crop. Seed keepers such as Editah Dumawol (inset) carefully scour the rice fields for robust panicles heavy with grains. Only those that meet the seed keepers' standards are set aside for future planting.

For thousands of years, the indigenous tribes of the mountainous Cordillera region in the northern part of Luzon Island in the Philippines placed their fate in the hands of chosen women. They are the "seed keepers" and they are tasked with harvesting the life force of their rice.

Seed keepers select the grains to be saved and sown for the next planting season, thus playing a crucial role in the turnout of the next rice harvests. Before harvesting begins, they scour the field and take great care in picking the panicles with the best form and structure. The prized seeds are then planted and nurtured in specific areas in the rice paddy isolated from other plants. These are propagated until the seed keepers

have accumulated enough stocks to share with farmers.

Through the millennia of crop domestication and selection, the seed keepers were, and still are, instrumental in shaping the characteristics of their rice varieties. Only the most vigorous, acclimated, and healthy seedlings make the cut—which means they are the most suited to withstand pests, diseases, and the environmental conditions of the region.

### Heirloom harvest

After being handed down in an unbroken link, from generation to generation, more than 300 of these native rice varieties achieved a venerated status as tribal heirlooms. Heirloom rice is a spiritual bridge to the ancestors who

built considerable knowledge through trial and error and fashioned unique technologies from experiences collected over the centuries. It has become as much a part of the region's culture and identity as the resplendent rice terraces that the people's forebearers carved out of the mountainsides.

What actually separates native varieties of rice from heirloom rice is hard to identify. "What makes a family belonging something treasurable?" asked Nigel Ruaraidh Sackville Hamilton, an evolutionary biologist and head of the International Rice Research Institute's (IRRI) T.T. Chang Genetic Resources Center. "If it's something that's been handed down from your great-grandparents, it gains some meaning to

you. Some emotional meaning that has a particular value in your way of living.

"I would think of it as a community judgment," he added. "It's not really the individual farmer. It needs a bigger scale than just a farmer. But we're talking about just opinions here. This is a concept that's developing in many countries, recognizing that something is special about some old varieties that you don't get in new varieties."

### Genetic reservoir

But heirloom rice has intrinsic values to outsiders as well. The seed keepers were the original rice plant breeders. The enormous diversity of rice they developed in the Cordillera region is like a big box of genetic tools that serve as a crucial line of defense against the threat of insects and diseases.

"When we bring rice into the genebank and make it available for breeding, the value in that comes in specific genes," said Dr. Sackville Hamilton. "Maybe the aroma gene, maybe something special about the texture, the taste, the resistance to diseases, and many different attributes. We can generate a value that's good for farmers out of the material in the genebank, just by virtue of its genetic properties. We can combine these genetic properties into other varieties and make, we hope, better varieties."

But these native rice varieties were not always viewed this way.

### Out with the old, in with the new

"When IRRI started, in the 1960s, the mentality was: we need more food," Dr. Sackville Hamilton explained. "IRRI knows how to produce more food, higher yields, with more fertilizer, with dwarf genes, all those kinds of things. We developed the technology that replaced the technologies that farmers had at the time."

But every community had its own culture, its own way of growing rice, and its own varieties. So, Dr. Sackville Hamilton said that by adopting IRRI's early technologies, "We just threw away their old technology and replaced it with the new technology."

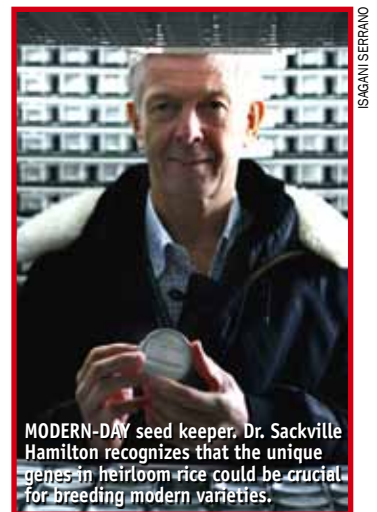
The new technology included new high-performing rice varieties and vegetables. The Banaue terrace farmers in Ifugao Province, impressed by the new varieties, swapped their heirloom rice varieties for nonindigenous, high-yielding rice varieties, which can be planted and harvested twice a year,

and also for temperate vegetable crops promoted by the Philippine government through the Green Revolution.

### The high price of change

But the new rice varieties and vegetable crops required expensive inputs such as fertilizers and pesticides. Years of heavy use of pesticides and commercial fertilizers diminished the fertility of the soil.<sup>1</sup> It also "accelerated the poisoning of the rice terraces,"<sup>2</sup> thus destroying agrobiodiversity and making traditional rice paddy cultivation of fish, shells, and clams no longer feasible.<sup>3</sup>

The spiraling cost of pesticides and chemical fertilizers had put farmers in debt.<sup>3</sup> When the farmers were forced to stop using agrochemicals because of their high prices, the yield capacity of the rice in the Banaue terraces suffered drastically. Robert Domoguen, chief information officer, Department of Agriculture in the Cordillera Region, reported in 2008 that farmers who tried to plant high-yielding varieties in their fields stopped doing so when they observed that, without chemical fertilizers, the succeeding crops grown in the same paddies produced low yields.<sup>4</sup> He added that modern varieties also required pesticides to protect them during diseases and pest infestation.



MODERN-DAY seed keeper, Dr. Sackville Hamilton recognizes that the unique genes in heirloom rice could be crucial for breeding modern varieties.

<sup>1</sup> Carling J. 2001. The Cordillera indigenous peoples, their environment and human rights. Paper presented at the Asia Society.  
<sup>2</sup> UNESCO Bangkok. 2008. The effects of tourism on culture and the environment in Asia and the Pacific: sustainable tourism and the preservation of the World Heritage Site of the Ifugao Rice Terraces, Philippines. Bangkok (Thailand): UNESCO Bangkok. 90 p.  
<sup>3</sup> Baguilat Jr., Teodoro. 2005. Conservation and land use: using indigenous management systems in Ifugao, Philippine Cordilleras. Paper presented at the Conférence Internationale Biodiversité: science et gouvernance Atelier 13—Diversité biologique, diversité culturelle: Enjeux autour des savoirs locaux.  
<sup>4</sup> Domoguen, Robert. 2008. Best practices on agricultural crops production and resource management in the highlands of the Philippines Cordillera. Philippines: Department of Agriculture, High-Value Commercial Crops (HVCC) Programs. 184 p.





**TWO WOMEN, one passion.** Vicky Garcia (left) and Mary Hensley (far right) teamed for the ambitious undertaking of bringing heirloom rice back from obscurity and introducing it to the world.

The increasing hardship eventually triggered a mass migration as many farmers sought greener pastures. The abandoned and unproductive Banaue rice terraces, a United Nations Educational, Scientific, and Cultural Organization World Heritage Site, slowly started to deteriorate through erosion and poor maintenance.

### A recipe for poverty

Interestingly, however, the rice terraces in the neighboring provinces of Kalinga, Mountain Province, and the very remote areas of Benguet, where government efforts to modernize agriculture failed to make an impact, remained vibrant. This is not to say that the people in these areas were significantly better off.

Although their devotion to their heirloom rice spared them from the toxic chemical blight, it didn't shield them from the economic difficulty many far-off subsistence agriculture communities face. Isolated from the rest of the country, the peoples of the Cordillera grow only enough food to feed their families or for trade within the community.

Situated outside a cash-based economy, the people in these areas did not have other sources of currency to pay for their other needs. They had no access to modern health services and education. In this perfect recipe for poverty, many also found the lure of a better life outside the region simply irresistible.

### Corrosion of indigenous knowledge

The seed keepers watched helplessly as their children and grandchildren moved out and abandoned their ways. Their greatest fear was that heirloom rice would fade into oblivion as more people left the community.

Over the years, much of the tribes' expertise and wisdom have already disappeared. And, with further neglect, most of what was left could also be lost soon. Only through continued use in the fields can heirloom rice be preserved.

The conservation of heirloom rice is more than just an exercise in nostalgia. "We don't know about all the culture," said Dr. Sackville Hamilton. "All the knowledge associated with them [the varieties] gets lost once we put them in the genebank."

"If we can find a way to provide better livelihoods, in which farmers can use heirloom varieties, then those varieties will remain," he added.

### Rice renaissance women

The answer to the seed keepers' prayers came from two women who used their limited personal resources and passion for preserving heirloom rice cultivation. One of them, Mary Hensley, a Peace Corps volunteer in the Cordillera in the 1970s, was enamored of *Tinawon* and *Unoy*, two heirloom rice varieties possessing an intense aroma and flavors she could not forget.

When she returned to the region in 2002, she was determined to put heirloom rice in the gourmet spotlight like basmati and jasmine rice. The terraces and the native rice of the Cordillera are too important, she said. So, she resolved that something must be done or the terraces, the native rice, and the cultures of the Cordillera would pass beyond the tipping point.

Her timing was impeccable. The world's appetite for earth-friendly, nutritious foods was growing. And so was the backlash against harsh modern agricultural practices in industrialized countries where most food crops are grown on large, monoculture corporate farms.

Heirloom rice varieties, on the other hand, are highly suitable for organic farming and leave a smaller carbon footprint. "Rice terrace farming in the

Cordillera is different," according to Mr. Domoguen. "It follows traditional practices that rely on organic production strategies and inputs. The crop is grown naturally twice a year without using chemical fertilizers and pesticides."

In 2006, Ms. Hensley started to market the heirloom rice in North America through her company, Eighth Wonder (see [www.heirloomrice.com](http://www.heirloomrice.com)). Saddled with a minuscule marketing budget, the company's effort to raise awareness has been slow. "We do it one store at a time, telling the background story of the rice with its connection to the culture and the historic terrace landscape," she said.

Ms. Hensley shared that most consumers try it initially because of its story, but it is the characteristics of heirloom rice that win them over. Like so many other heirloom foods, the rice is very tasty and has its flavor, aroma, and texture qualities intact.

"Buyers are almost always impressed with the very beautiful color and size of the grains," she said. "People have e-mailed to say that their children love eating this rice while others have said it's hard to go back to eating other varieties of rice."

Professional chefs are also becoming avid converts. Michael Holleman, corporate chef at Indian Harvest, a leading supplier of rice, exotic grains, and legumes to many top restaurants in the U.S., described the varieties as "easily the most flavorful, aromatic, and unique varieties of rice I have ever had the pleasure of cooking."

Victor Béguin, chef and owner of La Bonne Table, a culinary school and catering service provider based in New Hampshire, U.S., was taken in by the wonderful aroma and mild flavor of tinawon. "When cooked, it produces a very good texture and does not break down or become starchy," he said. "It's a very savory rice with more flavor and a denser texture than other short-grain, arborio, or valencia rice varieties. It must be the mother of all arborio types," he added.

Because consumers are willing to pay extra for these varieties, the healthy profit margin allows Eighth Wonder to buy heirloom rice from Cordillera terrace farmers at a higher price. This becomes

an economic incentive for maintaining traditional knowledge.

### Culturally conscious development

Ms. Hensley teamed up with Vicky Garcia, founder and executive director of Revitalize Indigenous Cordilleran Entrepreneurs (RICE), and created the Heirloom Rice Project in 2004. This project provides organizational support to commercially produce and export heirloom rice without disregarding the people's way of life. It incorporates the culture, needs, and aspirations of the people into the production process, because preserving traditional ways is not only about financial rewards. More importantly, it is also about respect.

"Our process is participatory," Ms. Garcia explained. "Of the more than 87 varieties of heirloom rice in the project areas, only 17 were chosen for their export potential. But we do not require farmers to plant only specific varieties that we want." Some fields are planted with rice varieties for export. Others are planted with the varieties of farmers' choice for their own consumption.

### Key to a brighter future

Money from the export of heirloom rice is breathing life back into the languishing tribal communities by transforming them into thriving agricultural centers. Some of the people who left the region for jobs elsewhere are coming back, reuniting with their families, and renewing their covenant with their land. The health centers and schools they once dreamed of are now part of the landscape, according to Ms. Garcia.

The philosophy of heirloom rice is also spreading to other areas in the region where these varieties are critically endangered after farmers opted for modern varieties. Now, there is growing interest in reviving the rice of their ancestors in their fields.

Heirloom rice isn't merely a link to the past any more. It is now key to the Cordillera's brighter future.

<sup>5</sup> Originally developed in France, many developed countries have protected their Geographical Indications that identify a good as originating in a territory and where a particular quality, reputation, or other characteristic of the good is largely attributable to its geographic origin. Examples include Champagne, Cognac, Scotch whisky, Sherry, Napa Valley wines, Kobe beef, Parma and Teruel hams, Grimsby smoked fish, Darjeeling tea, Roquefort cheese, Swaledale cheese, Parmigiano Reggiano, Yorkshire forced rhubarb, and Tuscany olives.

### Ready for the world

Ms. Hensley and Ms. Garcia are convinced that heirloom rice is ready for the next level. "Their [these people's] knowledge of traditional terrace agriculture and the plant breeding that has resulted in these varieties should be legally protected," said Ms. Hensley. So, she contacted Slow Food Foundation for Biodiversity, an international organization based in Italy that promotes sustainable, environment-friendly agriculture, respects the cultural identity of local people, and advocates animal well-being.

Ms. Hensley nominated three varieties of heirloom rice to Slow Food's Ark of Taste, an international catalog of heritage foods in danger of extinction. These are the *Imbuucan* from Ifugao, the *Ominio* from the Mountain Province, and the *Chong-ak* from Kalinga. In July 2010, Slow Food Foundation approved the inclusion of the three varieties of heirloom rice in the Ark of Taste.

Inclusion in the Ark means that these rice varieties meet the Foundation's standards for taste quality, environmental sustainability, and respect for the cultural identity of the producers, Ms. Hensley stated. All products listed in the Ark are recognized to have real economic viability and commercial potential.

This sets the stage for the world debut of the Cordillera's heirloom rice at Slow Food's Terra Madre Conference in Turin, Italy, in October 2010. This biannual conference, which attracts more than 5,000 food producers, chefs, food writers, and students from over 130 countries, focuses on sustainable, earth-friendly agriculture and the preservation of biodiversity and indigenous knowledge. Ms. Garcia and five Cordillera terrace farmers will attend the conference as invited delegates.

**CORDILLERA KIDS.** Though not all of them will stay and be farmers, the resurgence of heirloom rice cultivation is giving the new generation more options for the future.

### The other treasure of the Cordillera

With the listing of the first three varieties, the Cordillera terrace farmers are a step closer to giving heirloom rice a legal status under protected Geographical Indications. This is a special type of intellectual property protection for names of regional foods and other agricultural products to distinguish them in the market and help preserve traditional cultures, geographical diversity, and production methods.<sup>5</sup>

Geographical Indications not only ensure that customers are not confused or misled by copied products made by other brands, but that the genuine producers can also benefit from the goodwill of internationally recognized brand names. If they succeed, *Imbuucan*, *Chong-ak*, *Ominio*, and possibly other heirloom rice varieties cannot be used on products that haven't been traditionally grown in the Cordillera terraces. No other place on the planet can claim it produces these varieties. For example, the grains from *Imbuucan* varieties cultivated, harvested, and processed outside the Cordillera region cannot be called *Imbuucan* rice. This would make heirloom rice an economic engine for the region and a means for preserving the fragile biodiversity of the terraces and the cultural identity of the indigenous people.

But beyond the obvious financial boon, protecting its Geographical Indications would validate the work and dedication that went into keeping heirloom rice alive. And that would truly be a just reward for the Cordillera seed keepers who remained faithful in guarding and keeping their treasures.

