Bird's-eye views of an enduring rice culture

AN OVERHEAD VIEW of the central part of Batad District with its famous ampitheater-like terraces rising to the mountaintops (about 16 km from Banaue town center; location 2 on map). Getting there requires hiking over a steep ridge into the bowl-shaped valley.

By **Gene Hettel**
Color photography by **Ariel Javellana**

In early 2006, *Rice Today* editors decided to begin featuring a breathtaking photo in each centerfold, starting with the April-June 2006 issue. We anticipated that this would normally be a visually stimulating rice landscape. But coming up with something particularly spectacular for the inaugural centerfold was easier said than done.

Then, fortuitously, Harold C. Conklin, the renowned anthropologist, linguist, ethnobiologist, and preeminent authority on the Ifugao people of northern Luzon in the Philippines, approached staff photographer Ariel "Biggs" Javellana with a proposition. He offered to take him on a couple of unforgettable rides in a small airplane if he would bring along his camera equipment. The expedition would document some 40 years of both change and stability across Ifugao Province's topography encompassing rice terraces, rivers, and forests.

Mr. Javellana accepted. Dr. Conklin located a hard-to-find but suitable small plane with an experienced pilot for the journey. The unpredictable cloud cover in the region cleared for two rare back-to-back glorious days. And the rest is history. *Rice Today* got its first stunning centerfold photo (see *Claiming rice fields from wild rivers* on pages 19-21 of *Rice Today* Vol. 5, No. 2), award winning no less. And Dr. Conklin got his treasure trove of 1,000 photos to pore over and evaluate, capping more than 40 years of study he has made of the Ifugao people's

environment, culture, and society.

Rice Today is also fulfilling a promise to publish more spectacular photography from this collection. These images have the same incredible detail as the first centerfold of a bird's-eye view of the winding Alimit River in northeastern Ifugao Province. As stated by the judge, who awarded that image the Silver Medal in the feature photo category of the 2007 photography competition sponsored by the Association for Communications Excellence (ACE), "The oxbows create a stunning graphic. The photo is sharp, bold, and interesting. Readers will take time to stop and look. When they do, they'll spot the rice fields in the lower right. It's fun to look at the buildings, the rapids, the steeply forested banks, and other details." Many of these details show up in the photos of this article. This undoubtedly leads to a very important question: What observations does Dr. Conklin make from the photographs and, apart from being a magazine editor's dream, what is their significance, culturally and scientifically?

Dr. Conklin, now professor emeritus at Yale University, Connecticut, began his research on the Ifugao people in 1961 and has since devoted half a lifetime to studying these architects of the famous Banaue rice terraces. In addition to the Ifugao's well-known magnificent skills in agricultural terracing, he has observed and examined their intricate ritual and legal systems; their distinctive patterns of social organization, sex, and warfare; their rich oral literature; and their artistic achievements in wood carving and basketry. For more about the Ifugao, see *Contours of change*, on pages 8-13 of *Rice Today* Vol. 3, No. 1).

"I took my first aerial photographs of the Ifugao area from a small plane in the summer of 1961," says Dr. Conklin. "I also arranged for concentrated photographic efforts in 1962, 1963, 1968, and 1969. Additionally, I had vertical aerial pictures taken, which facilitated the photogrammetric plotting and mapping of a significant part of the region. During those years, I also took many photos of Ifugao rice agriculture at ground level (see page 22)." Many of these photos and resulting maps appear in his *Ethnographic atlas of Ifugao* (see box on the next page) published in 1980, some of which are reproduced in this article with permission from Yale University Press for comparison with those taken during the March 2006 Conklin-Javellana foray.

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THIS OVERHEAD shows a central section of Bannāwol District (location 3 on map), which can be compared to the photo inset at left taken on 23 April 1963. After 43 years, nothing much has changed, even the shape of the terraces. Compare this with the development activities in the Banaue town center in the photo on page 19.

THIS BIRD'S-EYE VIEW of central Hingyon District (location 4 on map) shows hamlets, fields, and woodlots. A new road can be seen alongside the ritual field (circular field in the center) when compared to the inset photo at right, taken on 24 April 1963.

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"Unfortunately," says Dr. Conklin, "during the 1960s, I never had the chance to survey the whole area from the air at the same time. But, thanks to the unusual break in the often dense cloud cover, Biggs and I were able to do this over most of the 140+ traditional Ifugao agricultural districts (within 9 of the province's 11 municipalities; see map on page 14) spread across a vast area of rugged terrain." Up until then, he had walked through some of the valleys only once or knew of them only from reputation.

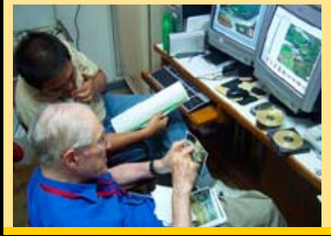
Pictures then and now

GENE HETTEL (2)

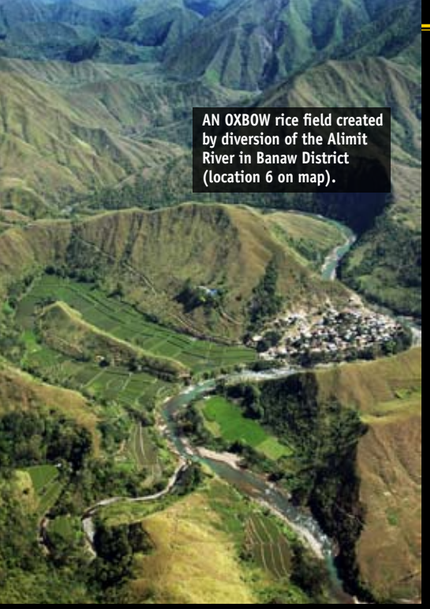
Although officially out of print, Harold Conklin's *Ethnographic atlas of Ifugao: a study of environment, culture, and society in northern Luzon* (Yale University Press, 1980) can still be found in little out-of-the-way bookshops in Manila and through Amazon.com itself, which warned at this writing that "only two copies are left in stock but more are on the way." Pricey at $296, strategically sized at 18 1/4 × 16 × 1 inches to show the photogrammetric plotting and mapping to scale, and weighing 6.5 pounds, this atlas has been called a work of art and a Philippine national treasure by one reviewer, who adds, "Rarely in this world do we find individuals as dedicated to their scholarly work as Dr. Conklin."

Another reviewer writes, "There are books that are fine and attractive volumes, books that are valuable for their purview of other cultures, books that stand alone as art. This atlas, in truth a working volume and nothing to be set aside in some sterile cabinet, is all of those and then some. There are a couple of books that joust for the title of the most beautiful and well-conceived in late 20th century bookmaking—without a doubt this would be one of the very few." Read more reviewer comments at Amazon.com.

In the photo above right, Dr. Conklin shows long-time Ifugao friend Aurora Ammayao and her daughter Maria Hettel some of the 40-year-old aerial images of the terraced landscapes appearing in his atlas. He says these landscapes have both delighted and baffled him over the years. How have these and similar tropical upland agricultural systems developed? And what are their long-term effects on soils, terrain, vegetation, and animal life as well as on human activities? The atlas is at least a partial report of his first 20 years of investigations.



In the photo at left, Dr. Conklin and *Rice Today* photographer Ariel Javellana inspect more than 1,000 new aerial photos taken over Ifugao Province in March 2006. These exquisite images may add more pieces to the puzzle or perhaps, in some cases, raise even more questions than provide immediate answers.



AN OXBOW rice field created by diversion of the Alimit River in Banaw District (location 6 on map).

According to Dr. Conklin, his very preliminary inspection of the photos has yielded some fantastic and perhaps surprising findings. "Of course, the greatest changes across Ifugao have been in the vast improvement and expansion of roadway networks and population growth, especially along these routes," he says. "The town centers of Banaue (photo at top of page 19) and Lagawe are now tremendous little cities instead of small crossroad hamlets." However, when flying over most of the districts, they found that the agricultural centers—the places where the largest pond fields are located—have not been affected by the urban sprawl or the roadway system.

The photos show that no valleys where agricultural activities were under way in the early 1960s have been abandoned since then. Dr. Conklin pointed out that Ifugao Province is blessed with abundant rainfall and irrigated fields are kept inundated during all seasons.

"Cement has been the greatest additional 'concrete' input," he says with a smile. "It did not exist before—at all. The cement does not go into the pond fields or into agricultural landscape. It stays along the roads, which are usually above the terraces and the agricultural land below."

One thing that truly surprised and impressed Dr. Conklin is the amount of forest land in Ifugao today. "Looking at any early picture of an Ifugao agricultural district (as a whole) will show considerably less forest cover than was revealed by our recent survey," he says. "In terms of luxuriousness, density, and height, the forest landscape is remarkable, a situation not at all the case in most of the rest of the Philippines."

Why is this? Dr. Conklin surmises that, as in many other parts of the Philippines, Ifugao overseas workers are sending back remittances, which have allowed many Ifugao remaining at home to buy imported food and be able to eat rice more than once a day.

"Certainly, the amount of rice being produced on the terraces has also increased tremendously," he says, "but unquestionably the Ifugao diet is now less dependent on sweet potato than before. Previously, most Ifugao didn't eat rice two or three times a day throughout the year. They often depended on sweet potato tubers cultivated in temporary slopeland fields that did not have access to sufficient water for rice field terracing. The area devoted to these shifting cultivation plots has very greatly diminished and has grown back as second growth forest and woodlots."

AS OF THE 2000 census, the municipality of Banaue had a population of 20,563 people in 3,952 households. The town center of Banaue depicted here lies within the agricultural district of Bannāwol (location 3 on the map).

THIS AREA in Hu'yu district (location 7 on map) shows one of the few areas in Ifugao where new terracing has occurred. Many Japanese soldiers died here in the final stages of World War II.

Dr. Conklin speculates why there are so many Ifugao overseas workers who have directly made it possible for local forests in the province to flourish by putting less pressure on the land. "The Ifugao were among the first Cordilleran pioneers to venture far from home, initially in-country and then around the world," he says.

One unique cultural quirk contributing to so much out-migration from the province is the Ifugao custom of primogeniture, that is, inherited fields are not split up. Explains Dr. Conklin: "If there are seven children in a family (and even today, there often are), only the oldest will get the 'lion's share' of the landholdings. The rest of the siblings have to seek their livelihoods elsewhere." Also, there are no absentee landlords. Very little land is in the hands of others outside of Ifugao. Land tenure and land usage in Ifugao have traditionally been tightly managed and integrated culturally.

Some other ecological observations that can be made from comparing photos from the 1960s with those taken in 2006 show that many partially terraced areas have expanded a little. However, significant new terraces can be detected in only about three or four districts, such as shown in Hu'yu (see photo at left). "They are very important for these people who have not had much land before," says Dr. Conklin, "but I don't think these new terraces are very economic."

At the spry age of 82, Dr. Conklin is working on yet another book to complement his ethnographic atlas. Featuring Ifugao rice specifically, it will show the staple from a traditional Ifugao view. "I am tapping into a large body of information that is shared by the people living in the agricultural districts and doing the agricultural work in the pond fields all year long," he says. "What do they know about rice? How do they feel it, taste it, live with it, use it, classify it, sample it, and use all of its by-products? This will be a culmination of my, to date, 47-year study of the Ifugao people. The body of information is very great. I've written and given papers and now I'm trying to put all of it together."

He anticipates that many of the aerial photos will certainly have a place in his book, but surmises that it might be worth doing something separate on the photos themselves as well. "One really good aerial picture can tell researchers a tremendous amount if they know what's truly happening on the ground. A collection of such photos showing the variation of landscapes and places—which we now have—can tell us a very rich story."

Editor's note: The photos featured in this article and other magnificent scenes shot during the March 2006 Conklin-Javellana expedition can be accessed and downloaded on the *Rice Today* Web site at www.irri.org/ricetoday.

ARIEL JAVELLANA

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THIS VIEW OF HAPPAW, DU'LĪGAN (DUKLIGAN) DISTRICT (LOCATION 5 ON MAP), SHOWS NO SUBSTANTIAL CHANGE SINCE 1913 (*INSET*).

At ground level...

A closer view of Ifugao rice agriculture

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Bringing in the rice harvest to the drying ground (1963).

Removing rice seedlings from a seedbed for transplanting. Remaining seedlings will be carried to other pond-field plots (1963).

An elder chooses the best rice panicles containing the next season's seed for planting (1963).

Terrace maintenance and dike repair are backbreaking work (1962).

GENE HETTEL

A traditional Ifugao priest sacrifices a pig to the rice gods during a harvest ritual in Lugo near location 3 on map (1995).