

Cambodian Glimpses Part I.

For those old enough to remember, Cambodia conjures images of the killing fields. There, in a territory once known as French Indochina, one of the 20th century's most bizarre and brutal chapters of social engineering took stage in April 1975 when columns of guerrilla fighters known popularly as the Khmer Rouge (Khmer communist) marched into Phnom Penh and toppled the US-backed Lon Nol government.

With maniacal fervor, the KR sought to establish a self-contained agrarian utopia. Christened Democratic Kampuchea, birth date Year Zero, it was a crucible out of which a new and unprecedented human transformation would emerge. Every conceivable token of modern life, including money, private property, commerce, education, medicine, and religion, was banished. Stoked by perverse xenophobic paranoia and suspicion, the KR vision of ideological purity was severe: wearing eyeglasses in Democratic Kampuchea marked one a traitor, begging execution. In 1979, Vietnam invaded Cambodia and toppled the KR. The ensuing decade of Vietnamese occupation failed to eradicate the KR menace. In 1993, UNTAC established a process for democratic transfer of power in Cambodia, but civil unrest continued to rack the nation well into the 1990s.

The KR has disbanded, at least for now. A long-awaited opportunity presented itself: why not go there and have a look? Contemporary images of Cambodia center on the splendors of Angkor. But what lies beyond? We begin this journey by exploring Angkor, now a World Heritage Site. Thereafter, our footsteps turn inward to rural Cambodia, which is still, twenty years after this journey, little known to outsiders.



Buddha and disciples at Phnom Tet Srei, Kampong Cham province.



Cambodia is one of the smallest and least developed nations in Southeast Asia, with a total land area of 181,040 km² and a nearly circular outline. The country's length and breadth are approximately 450 km east-west and 580 km north-south. Located between 10° and 15° north latitude, all of Cambodia's territory is situated within the tropics. Cambodia shares 2,569 km of land border with three countries: Thailand, to the west and north; the Lao People's Democratic Republic (Laos) to the northeast, and Viet Nam to the east and southeast. The capital is Phnom Penh. Cambodia is a former French colony and, together with Laos and Vietnam, forms part of the territory known as Indochina. Cambodia gained its independence from France on 09 November 1953.

Cambodia's climate is characterized by monsoonal (rain-bearing) winds, resulting in a distinct pattern of alternating wet (May-November) and dry (December-April) seasons. This rhythm sets the pace for rural life in Cambodia. At the time of my visit (February 2002), the dry season was in full swing, so the accent is on activities captured during that period.



Angkor Wat is the largest temple complex in the world. Built by Suryavarman II (AD 1112-1152), it was sacked in 1431 by invading Siamese. The Khmer empire faded, and with it the Angkor civilization. In 1860 an eccentric French naturalist, Henri Mouhot, accidentally stumbled upon the temple ruins while hacking through the jungle searching for butterflies.



South entry to Angkor Thom. Four heads face North, South, East, West. Angkor Thom was constructed by Jayavarman IV (1181-1218), the last Khmer king to rule before the collapse of the empire.



**Typical Bayon bas-relief carved in sandstone.
Angkor Thom.**



Weird shapes imbue the jungle ruins of Ta Prom with a surreal aura. None of these sanctuaries has been altered since their discovery in the 19th century. The ruins were used as Khmer Rouge enclaves until recently, but are safe to explore, provided you don't wander too far off the temple confines due to the real risk of land mines.



The Lost World of Ta Prom. The jungle continues tightening its grip on the remnants of this once-grand edifice of Khmer civilization.



Serpentine roots cascade over the cultural artifacts of a gone empire.



Buddhist statuary lining the entrance to Angkor Thom. Note the missing head on the second Buddha. There is an active trade in stolen artifacts from Cambodia. Although it would be hard to conceal a headstone this size, numerous small packable relics can be found scattered willy-nilly around the ruins.

Voyage to the Interior





In Cambodia, you don't go off the beaten track without provisions. A meat market is just the place to pick up those odd cuts of pork and whatnot. No extra charge for the flies.



We dare to sample a local treat at a country road stop: fried tarantulas. Grab yours fast before they disappear! Skoun, Kampong Cham.



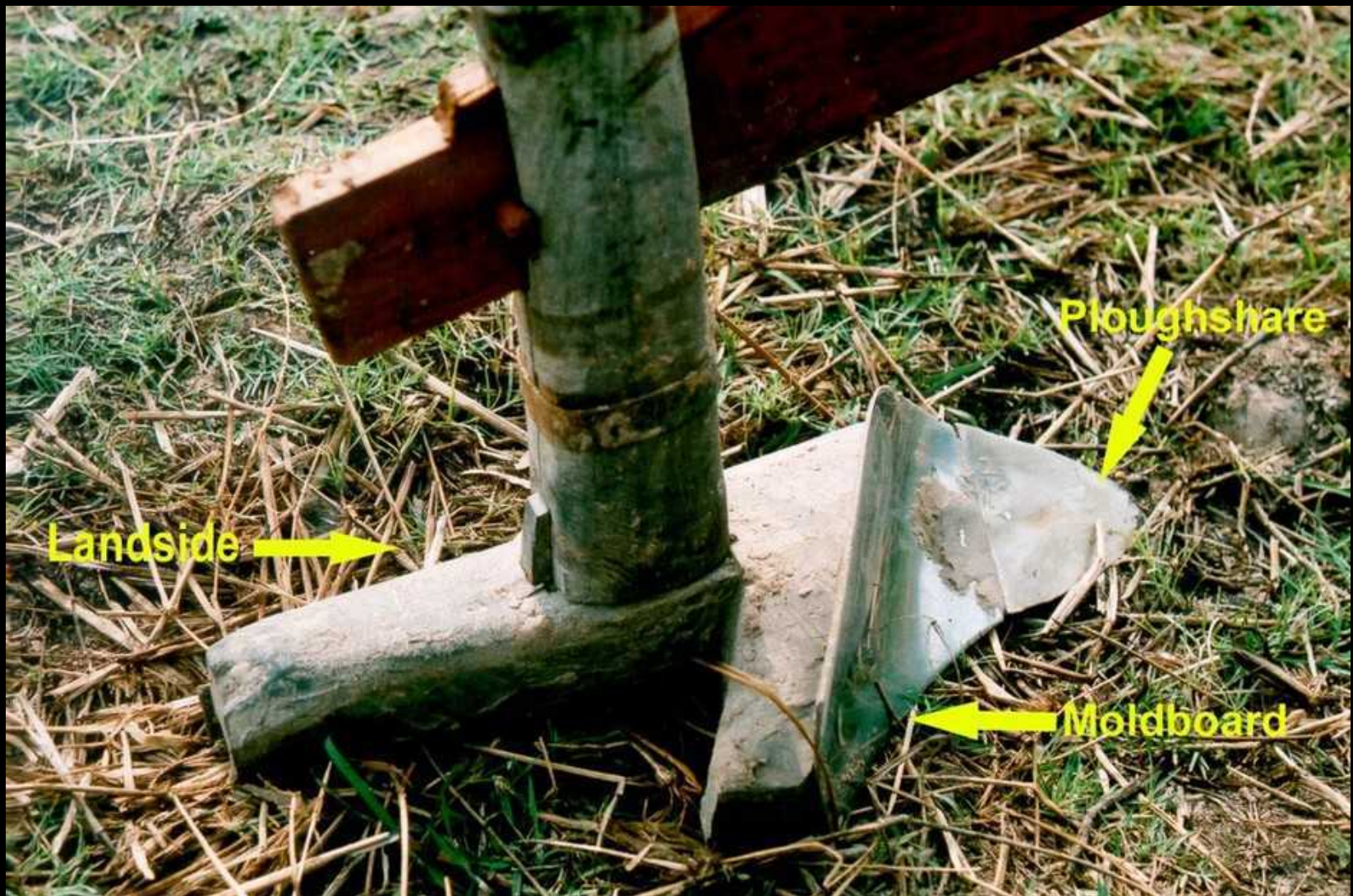
Fried arachnids (tarantulas) by the plateful. Dining *a la Khmer* is not for the timid, but well worth the occasional intestinal blowback. A few Tiger beers to wash it all down help immensely.



Live specimens lurk nearby, so don't get careless with your hands. Tarantulas are large, lethargic, inoffensive spiders. Vendors are happy to let customers handle them as shown here. The spider farms were rumored to be located somewhere in Siem Reap Province, quite a distance from Skoun. I wanted to go there and be the first one to document this curious enterprise. Unfortunately, time was not on my side.



Preparing land for paddy rice the time-honored way using oxen and a Khmer single-bottom turning plow. Paddy rice production in Cambodia is confined to the seasonally flooded Delta lowlands. Some irrigation controls exist, but the systems are typically poorly designed and inefficient. The dry season lasts from November to March; during this period, farmers plow the land in preparation for the new paddy crop. Kandal Province.



Khmer single bottom turning plow showing principal parts. The upright member attached to the landside is for steering and depth control. Member attached perpendicular to the steerage is the draw beam, which connects the plow to the draft animal via the yoke and cordage (not pictured).



Freshly plowed paddy field. Large fields are divided into small holdings, each tended by an individual farm family. The acreage is usually small enough for a family to manage without modern inputs. Grain yields, however, are the lowest in Asia.



Khmer woman harvesting late season rice with a traditional hand sickle.



Traditional Khmer rice harvesting sickle. Most hand tools are manufactured locally using recycled scrap metal. In heavily mined areas, empty mine casings are melted down and refashioned into agricultural tools. How's that for beating swords into ploughshares?



We try our hand at harvesting rice with the native sickle. Slow food is a great concept when you're not doing the work. Thank God for Cyrus McCormick and his legacy!



Harvested rice drying in windrows before threshing. Note the puddles of standing water at midfield. Here, an early-season rain has interrupted grain drying outdoors. Some of this grain will undoubtedly spoil before it can be threshed. Improved post-harvest technologies are sorely needed in Cambodia.



Threshing rice, the old-fashioned way. Here, the thresher man beats the sheaves of rice against a wooden board to dislodge the grain. Then, the woman winnows the grain by gathering it in a basket and pouring it out onto a ground cloth. The slightest breeze carries off debris and chaff. Kandal Province.



Winnowing the chaff. Slow but sure.



Those with money to pay for mechanical threshing get more done with less effort. Threshers and other mechanical devices have become more common in the countryside since Cambodia adopted an open market in the mid-1990s. Most of the machinery is imported from neighboring Thailand or Vietnam.



Rice cleaning demonstration using a hand operated blower. Grain is placed in the square hopper (top) while the operator turns the fan crank. The fan is enclosed within a circular wooden drum. Chaff and other debris are removed as fresh air circulates through the grain, so yielding a clean product. Lack of electricity doesn't stop the show in Cambodia!



Every village has at least one rice mill. Some are collectively owned, while others may be operated for hire. This mill may not be cutting-edge technology, but it works. Behind the mill, bags of clean rice are placed under a wicker dome to protect against hungry fowl. Kratie Province.



Soil slumping, observed here in Kandal Province, results from an improper design that failed to stabilize the soil along the side slopes of an irrigation canal. As these soil chunks are detached, they eventually mix with floodwaters and are carried away. Slumping not only poses a danger to humans and livestock but also deprives farmers of land when fields lie adjacent to canals.



Disc plow and tractor, for hire. Cambodia adopted an open trade policy in the mid-1990s. Since then, a limited amount of farm machinery has been imported to help with the heavy tasks. Most machinery in Cambodia is owned by individual entrepreneurs who operate on a fee basis. Consequently, only the most well-off landholders can afford the service.



Phantoms of the Apocalypse: Piles of skulls pay tribute to the killing fields. No one is sure how many people perished under the Khmer Rouge but estimates of 1-3 million are frequently cited. More troublesome is how persistent the KR have been. Well into the 1990s, bands of KR roamed Cambodia, kidnapping and killing both Cambodians and foreigners alike. Where are these people today? Did they simply trade sides, declare a truce, and go home?



Finding water for irrigation during the dry season is not straightforward if your farm is located far from a river. Often, the only solution is digging down to the water table. This hole was about 2.5 meters deep. A bucket attached to the end of a vertical bamboo pole, which in turn connects to a weighted beam, serves as a simple lifting mechanism similar to an Egyptian *shaduf*. Water is dispensed into nearby cans and sprinkled on crops via a balancing beam. Kampong Thom Province.



A healthy stand of dry-season cabbage needs daily watering. Farmers use a balancing pole to dispense two streams of water at the same time as they walk the rows. Low-lying fields in the Mekong delta may be flooded to a depth of 2-3 meters during the rainy season. Rainfed rice, or perhaps a crop of floating rice, may follow in the wet season. Kampong Cham Province.



Hand-dug reservoir and settling pond for irrigation water. Most waterways in Cambodia are loaded with sediment, so farmers often excavate stilling wells close to the field and fill them with water. After the sediment has settled on the bottom, they skim off the “clean” water for irrigating.



More “high-tech” irrigation systems exist in Cambodia. Here, water is pumped into flexible elevated tubing, which is then gravity-fed to remote fields. During the Khmer Rouge period, the tubing was typically bamboo, but open markets now permit more durable alternatives with better hydraulic properties. Kampong Chhnang Province.



The people's pumping station. Water is pumped out of a nearby ditch and elevated to flow by gravity to its destination. Provided there's fuel, of course.



Taking shelter in a local farmhouse away from the intense heat of the day, where friendly faces beckon. A pot of sour soup is bubbling on the fire, which we gratefully accept. Cambodian sour soup is made with fish, tomatoes, peppers, chopped green onions, and lemongrass. Kampong Chhnang Province.



Fish is the preferred source of protein in the Khmer diet. Cambodians eat it fresh, salted, dried, and fermented into a pungent paste. Fish traps of all sizes and styles clutter the streams and backwaters throughout the Cambodian countryside. A simple stick trap consists of clumps of branches placed in the water. Fish seek shelter among the branches during the daytime. A net is placed around the perimeter of the trap, and the fish are driven into the net. Simple as that. Kratie Province.



Conical fish traps, such as the one pictured here, are placed in swift-flowing river waters. Kampong Chhnang Province.



The family that fishes together, eats together. A drop net captures many small fingerlings, which together make a meal. Kandal Province.



Houseboats on the Tonle Sap River. Note the TV antennas. There is no electricity here, so families need a generator if they're watching TV. Or perhaps the antennas are merely decorative, a signal to onlookers that boat people are on the up and up? In the foreground are terrestrial vegetable gardens tended by members of this waterborne community.



A lone fishing outpost on Tonlé Sap lake. The Tonlé Sap is the largest freshwater lake in Southeast Asia. From the beginning of the rainy season, flood waters from the Mekong river back up into the lake, increasing its area over six-fold, and volume 80-fold by the peak of the monsoon in September-October. The lake is extremely rich in fauna and aquatic life. It's Cambodia's "fish basket".



The iconic sugar palm (*Borassus flabellifer*) thrives on the central plains of Cambodia and is widely exploited for food, fiber, and medicinal purposes. Sugar palms are tapped during the dry season for their sweet sap, from which palm sugar is derived. Male (staminate) trees are preferred for this purpose, so preserving the females (pistillate) for multiplication.



Tapping a sugar palm requires nimble feet. A long piece of bamboo is fashioned into a Jacob's ladder-like affair and secured to the trunk. Side shoots are pruned off, giving the tapper purchase on the trunk.



Sugar palm sap is collected in a bamboo *ampong*. The sap may be consumed raw or fermented. Typically, the raw sap is boiled down in an evaporator to form a viscous, ultimately crystalline, amber-colored solid, 'palm sugar'.



Every village household with access to sugar palms has an evaporator. Here, sap is boiled down to concentrate the sugar.



Cakes of palm sugar as sold in the market. The sugar has a nutty flavor that rivals maple sugar. Cambodians could make a killing exporting this stuff to the West.



Palm sugar, also available as a thick, peanut butter-like paste.



As we venture deeper into the Cambodian countryside, local boat operators are employed to cross ever-present waterways. The services of local “guides”, who can lead to hopeful prospects while avoiding the hidden hazard of land mines underfoot, are *de rigueur*. Fortunately, we are insured by Mutual of Omaha, so we can afford the prospect of comfortable, well-appointed body bags.



Typical Cambodian rural scene. In the Mekong Delta, houses are built on stilts because of frequent flooding during the rainy season. The conical pile adjacent to the house is rice straw. Kampong Cham Province.



Succulent browse is scarce in the dry season. Gathering enough straw to feed livestock is therefore an important task. Bundles of straw are piled upon an elevated bamboo platform, with a vertical pole sticking up from the middle. Great skill is needed to build one of these artisan stacks.

Sunken dry-season vegetable gardens. These are typically carved out of river terraces where supplemental water is within reach. Sunken beds may also capture water from random dry-season showers. Pictured here are lush beds of water convolvulus, a highly prized vegetable closely related to the sweet potato, but that does not form a root tuber. Water convolvulus is commonly grown under aquatic conditions but also grows lush in terrestrial beds with good irrigation.



Farmer concentrates on sowing water convolvulus while children frolic in the newly cultivated bed.



Harvesting pumpkins (squash). Oxen are the primary means of transport in rural Cambodia, where motor vehicles are still quite rare. Water buffalo are also encountered, serving mainly for animal traction in the rice fields. Kratie Province.



Yam beans (*Pachyrhizus erosus*) interplanted with maize. My first encounter with the yam bean was in Cambodia. Like all legumes, the yam bean fixes atmospheric nitrogen in its roots. But this curious bean goes further: the root forms a succulent turnip-shaped edible tuber. The seeds contain rotenone, a botanical insecticide. In the 1940s, efforts were undertaken to extract rotenone from the seed, but for some reason, it proved uneconomical. The wooden platform in the center field is a perch for children to scare away crop predators. Kratie Province.



Sacks of recently harvested yam bean tubers by the roadside are waiting for transport to market. Modes of conveyance range from bicycles to bullock carts, the latter still the most common means of transport throughout rural Cambodia. Kampong Cham Province.



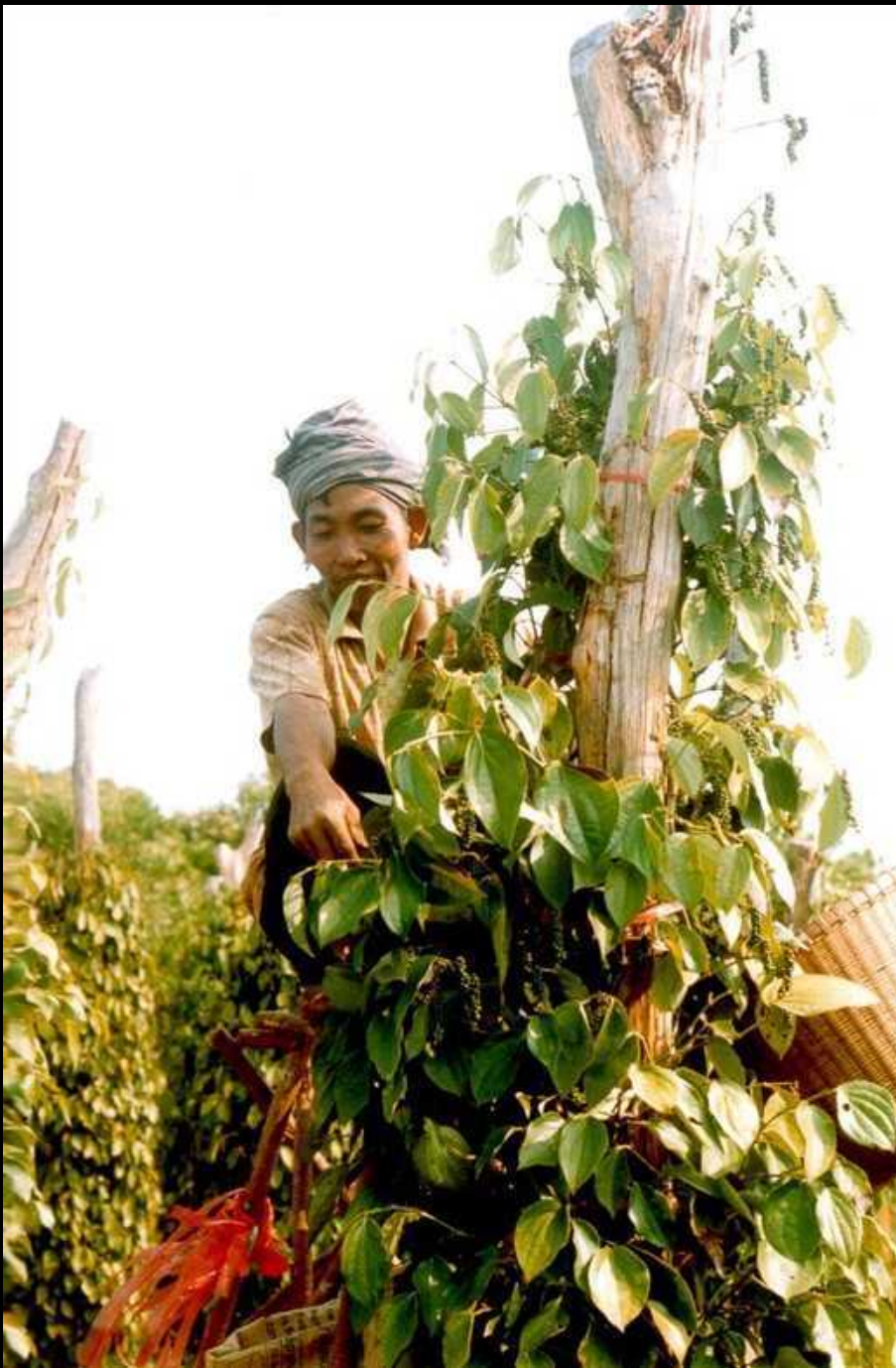
Riverside chalet...Cambodian style. Note the omnipresent TV antenna. There is, in fact, very little on Cambodian national television worth watching, but it's the novelty that counts. The straw-colored residue in the foreground is water hyacinth harvested from a nearby river. Water hyacinth residue is either burned or allowed to compost naturally on the surface. The fertilizer value of water hyacinth likely depends on both the type and concentration of nutrients in the water where it grows.



A thick mulch of water hyacinth placed between rows of corn suppresses weeds and conserves soil moisture during the dry season. As water hyacinth decays, it releases valuable nutrients that are absorbed by the growing corn. Water hyacinth is considered a noxious weed, but it's a surprisingly valuable plant. In addition to its value as mulch, water hyacinth may be used to produce paper, furniture, rope, mats, hats, pressboard, biogas, soap, among other products. The more you exploit this plant, the better the environment gets!



How many peppers did Peter Piper pick? Apparently, lots of them. Chilies roasting on mats present an eye-catching sight. Most of the chilies are destined for export. They fetch about riel 800 (about US\$0.20) per kilo.



Field worker harvesting black pepper (*Piper nigrum*). Pepper plants bear long clusters of green berries that turn first red, then black, and, when dried, yield black pepper. The climbing plant produces aerial roots that attach to a single wooden stake around which the plant twines. Black pepper has a long history as a cash crop in Southeast Asia. One kilo of berries fetches about riel 10,000 (US\$2.50), a fortune by Cambodian standards.



The Mekong River at Kratie. In 2002, the only way to reach Kratie town was to voyage upriver on a bullet boat, a bona fide adventure. We didn't find Kurtz, but this beautiful sunset induced a copacetic trance.



View of the Prek Te river in Kratie Province. To reach prospects further afield, we hired a dugout canoe, dropping anchor wherever green farm fields came into view.



Visiting with a farm family on the banks of the Prek Te river. Though we are not many kilometers from Kratie, the sight of foreigners to these people is quite astonishing. After walking about the farm, making notes and taking photographs, we return to the shelter where the family gathers. Cups of tea are prepared with the leaves of a wild tree called, in Khmer, *s' daev* . This tea is a popular drink in rural Cambodia, offered to guests in the same manner as coffee or English tea.



Left: Leaves of a small tree, “s’ daev” used to brew tea. The identity of this plant is unknown (possibly *Ilex* spp?) Right: Brewing a pot of s’daev tea.



Khmer moldboard plow at rest.



In addition to the ubiquitous turning plow, most Khmer farmers own a harrow and roller for secondary seedbed tillage. These simple tools are handcrafted and present on every working farm in Cambodia.



Local roadside fare, Cambodia-style. Pictured here are little snakes pierced on a stick, a curious tidbit consisting mainly of spiny ribs interspersed with occasional dabs of dry, chewy meat. And wouldn't you guess: They taste like chicken!



Jackfruit (*Artocarpus heterophyllus*), one of many strange tropical fruits found in Southeast Asia.



Those tasty cashews sold in American supermarkets and by purveyors of specialty foods probably originated somewhere in Southeast Asia. In Cambodia, the cashew is the up-and-coming cash crop, with new plantations being established rapidly in the forest clearings. Pictured here are cashew flowers and young fruit in various stages of development.



Ripe cashew fruit. The kidney-shaped 'nut' at the top is encased in a fleshy, tan pericarp. The pericarp contains a toxic, flammable, phenolic substance. We burned a few nuts to see what would happen. Besides generating lots of acrid black smoke, we also got a few roasted whole cashews in the process. The nut is attached to a fleshy, yellowish-orange 'apple' which is edible and very sweet.



The armored Durian (*Durio zibethinus*) is described by its admirers as the most exquisitely flavored fruit in the world. However, the one I sampled reeked of decaying flesh. The fruit is truly an acquired taste.



Lotus farm in Kandal province. The lotus is not just a pretty flower; it's also a valuable food source. The roots and mature seeds are edible.



Mature lotus seed pod ready to harvest. Seed pods are picked green and sold in local markets. The seeds taste slightly bitter but are otherwise crunchy, ready-to-eat snacks.



The pepperoni-like wafers are betel nuts, but you wouldn't want to decorate a pizza with them. Betel nuts contain a mild stimulant and are chewed mainly by female workers who, unlike their male counterparts, are discouraged from smoking cigarettes. A dash of lime (white substance on the leaf) is consumed with the nut to neutralize the acid. Betel nuts are obtained from the areca palm, a native of Southeast Asia.



Tobacco is a major cash crop in Cambodia. Pictured here are giant plugs of the fresh stuff and everything you need to roll your own. Very potent medicine.



Ant larvae, anyone? Food phobias, so entrenched in the well-fed industrialized world, do not exist in Cambodia. Might as well get over that real quick! These juicy tidbits are quite wholesome, often gracing the menu *de jour* in Khmer restaurants under strange, English-ified nicknames. Larvae of bees and wasps are also highly esteemed culinary items. They're also gluten-free. What's not to love?



Nature's pharmacopoeia. Few Cambodians have access to skilled medical personnel or Western medicine. Instead, they rely on the jungle for health and healing. Pictured here are forest roots marinating in broth. The roots are gender specific: male and female. Plastic amphoras like this cram the shelves of rural markets throughout Cambodia. Who knows what awaits discovery in the magic jars? Maybe a cure for the Palestinian problem!

End Part I. To continue exploring, check out Part II.