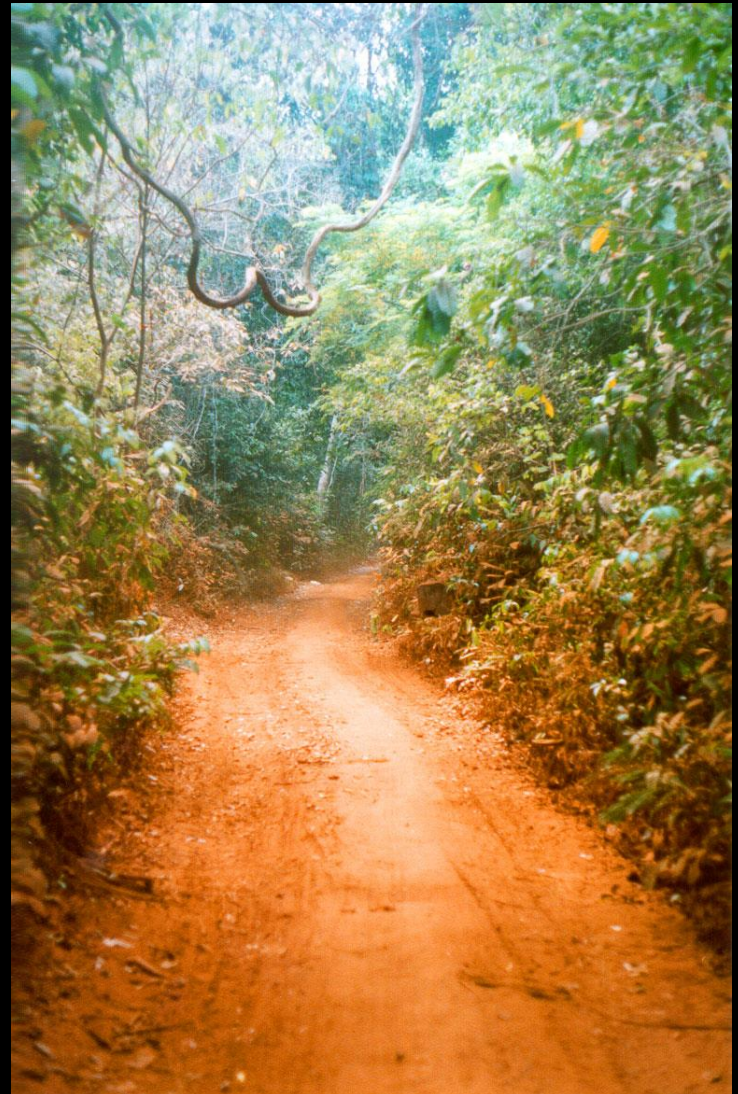
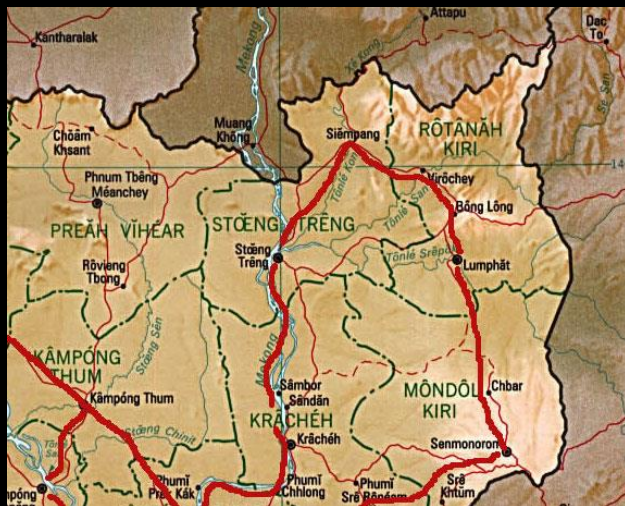


Cambodian Glimpses Part I I.

We depart the alluvial plain of the Mekong River Delta, heading northeast to Cambodia's most remote provinces. Travel in these parts is strictly by motorcycle. The northeast provinces of Stung Treng, Ratanakiri and Mondulakiri are inhabited mainly by ethnic minorities referred to as Khmer Loeu, Montagnards (French), hill tribes, etc. In its heyday, the Ho Chi Minh Trail cut through Ratanakiri Province and probably resembled the photo at right. Unfortunately, *le piste Ho Chi Minh* drove Cambodia into the widening theatre of the Indochina War, setting the stage for the grim chronicles of Democratic Kampuchea.





Along a path in the jungle, we encountered artisan gem miners. In a typical mining operation, a hole about 1.5 meters in diameter is excavated by hand and, as downward progress is made, the miner is lowered into the pit in a bucket suspended by a rope wound tightly around a wooden spindle. A surface operator then spools the rope and bucket up and down by twisting the attached crankshaft. This hole is about 12 meters deep. When such mines are abandoned, the holes are left uncovered. Open mine shafts are scattered everywhere in the jungle, often skirting foot paths. One must be very alert and possess quick reflexes to avoid them. Since the jungle paths are used daily by people going to and from their farms, I asked the miners whether the holes were a hazard. 'No, no,' they insisted. 'The people know exactly where the holes are, even at night.' I was skeptical of this. The open pits were a hazard in daytime; in the darkness, I could only imagine the consequences of blindly traipsing around the bush.



Earth excavated from the bottom of the hole is brought to the surface in bucketfuls and carefully sifted. Soil in this plateau region of northeastern Cambodia is derived from basalt, of a stable granular structure, and often weathered to a depth of 30 meters or more. Good soil stability is ideal for tunneling, as exemplified by the infamous Cu Chi Tunnels in Vietnam. The gemstones unearthed in this place are of various types; the unpolished stones I examined appeared to be rubies.



Further afield, we encounter a Kreung farmer at work clearing a new farm in the jungle. According to the chopper, it will take about three hours to fell this tree. His family shelters in a nearby thicket. After all the vegetation is cleared, it is burned to produce soluble ash. The ash heaps are incorporated into the soil as fertilizer. Most slash-and-burn farms in Cambodia are devoted to upland rice. Upland rice is like its lowland aquatic cousin but is adapted to grow under rainfed conditions.



We seek out the Kreung farmer's family and discover they are living next to a cavernous bomb crater gouged out during the Indochina War. A staggering tonnage of bombs was dropped on Cambodia between 1968 and 1973. Many pieces of unexploded ordnance still litter the countryside. Still, some good has come of this 30 years on. Here, the farmer has excavated a well at the crater's bottom, a source of drinking water for the family. If not for the crater, it would have taken much more effort to find water in the dry season.



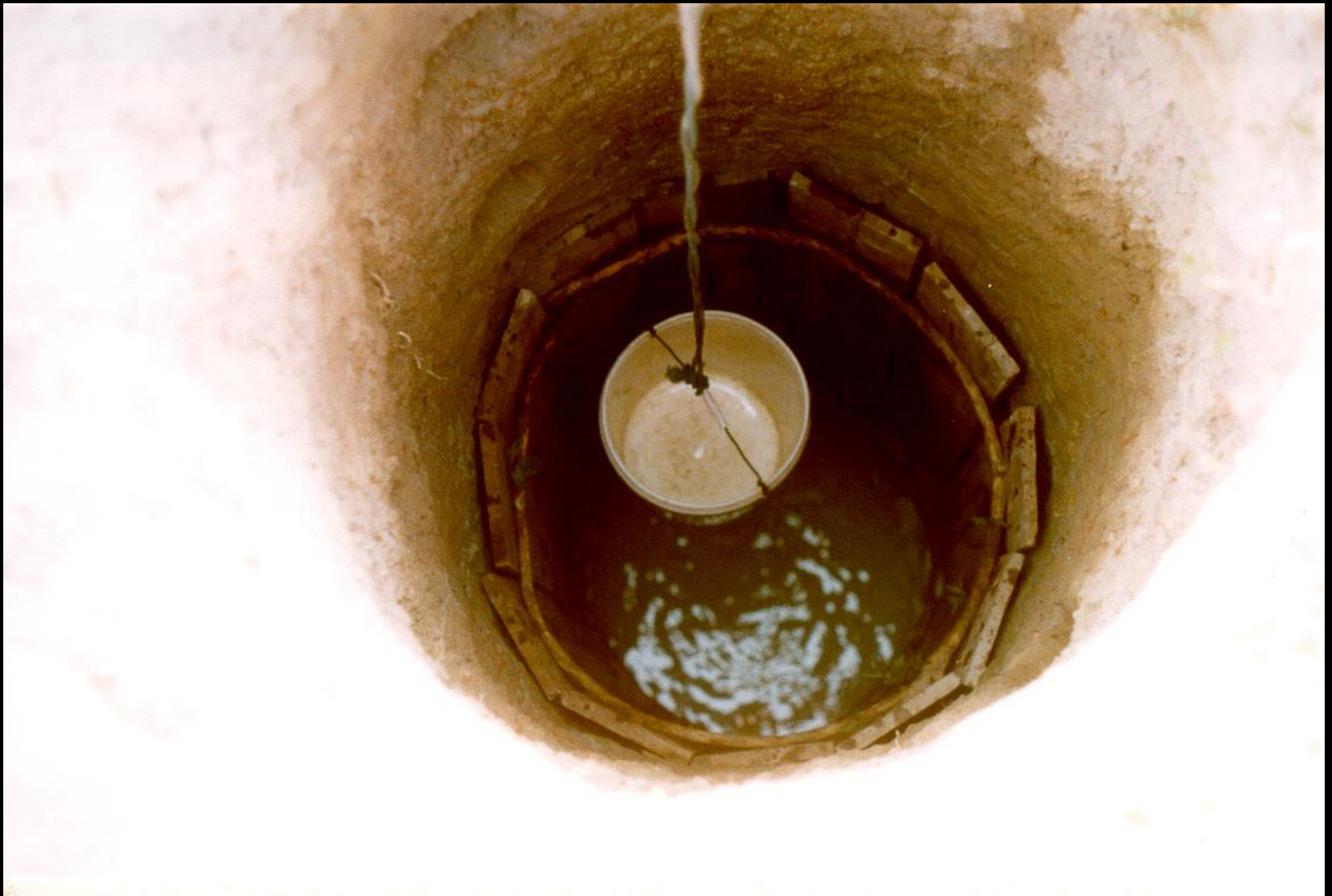
Family water supply. Water filters through the soil into a shallow excavation, providing some clarity, though it's far from potable. Hill tribe people suffer the most significant deprivation in terms of living conditions, which are low even by Cambodian standards.



Typical slash-and-burn farm in Ratanakiri Province. The family shelters under a blue tarp (visible on the hill to the left) while the farm is under construction. The land will be cultivated for 2 or 3 years before being abandoned. Exhausted soil and encroaching vegetation are the primary reasons for moving to a new location.



Wherever a hill tribe family settles to farm, the first necessity is digging a well. Everything pictured here, except the string and the bucket, is furnished from local materials.



Downhole view of a Mnong family's tailor-made water supply.



In Ratanakiri Province, the trend among hill-tribe farmers is to convert former slash-and-burn farms to perennial crops such as cashews. The cashew thrives in acidic, infertile soil, so this is a good choice. In the foreground, a recently abandoned field sprouts young cashew saplings. Visible in the background are rows of mature cashews wisely planted along the contour of the slope.



A rice granary constructed by a hill tribe family. The granary is perched on stilts to protect against vermin and keep stored grain away from damp earth.



Appeasing omnipresent evil spirits is key to successful farming in hill-tribe country. This talisman was erected to ward off malevolent forces.



Small animal trap used by Cambodia's hill tribes.



Small animal trap, inside view. It's a one-way trap: the animal goes through a funnel that narrows at one end, and the pointed sticks on the other end prevent it from exiting.



We stop for a roadside rest. Boy, do my legs hurt! But we can't linger long. New horizons beckon. The man to my left (name forgotten) is a local, well acquainted with the area, who served as our interpreter and point guide. Secluded hill tribes are still not used to foreigners being present among them. A local who spoke the dialect, plus a small gift, was an invaluable icebreaker.



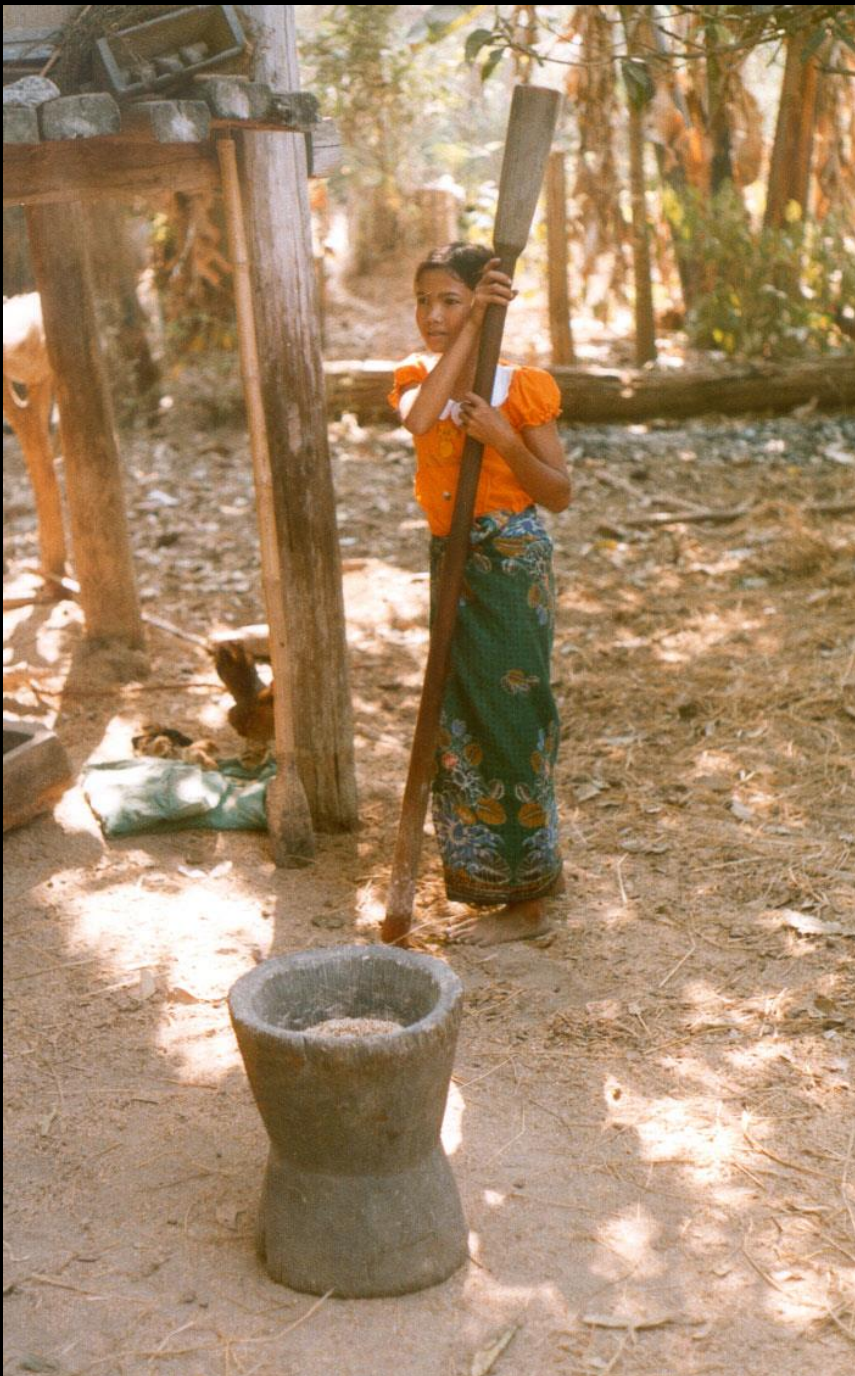
We voyage up the Se San river in pursuit of more remote prospects.



View of the Se San River. Lacking maps and GPS, I had no idea where we floated, which was fine with me.



Many Laotian villages are in the cross-border area. Here, a Laotian girl weaves palm thatch to be used as roofing shingles.



A young Laotian girl husking rice with a mortar and pestle. This is a daily ritual and no easy task. Gives new meaning to the concept of 'slow food'. If only the slow foodies knew just how hard and slow it really was, they'd be queuing up behind the counter at KFC in a heartbeat. Trust me.



My guide proudly displays his latest acquisition, a real fighting bird. Purchased with a day's earnings.



Here, we stumbled upon a tribal cemetery deep in the bush. These carvings are unique because none of the hill tribes possess the custom of carving figurines. Where did they learn this? It has been conjectured that at least some tribes migrated from the Pacific Islands to the Southeast Asian mainland and then moved to the hills, where they remain today. Do these totems reflect something of that distant past? Intriguing.



Native snare used by Cambodia's hill tribes. Individual snares are connected in series by a continuous strand. Bait is then scattered on both sides of the trip wire. We practiced our snaring skills on a nearby fowl and captured the bird within minutes. I wanted to buy this artifact, but the owner was unwilling to part with it. Several pictures, including this one, are all that I managed to take away.



Typical hill tribe dwelling. This dwelling shelters both livestock and people. The roof is shingled with forest leaves skillfully woven together.



Roofing press. Forest leaves are pressed together in an interlocking mesh; the leaf bundle is held together using strips of thatch. After pressing, the finished “shingles” are ready to use.



Small depressions enriched by alluvial deposits make excellent dry-season vegetable patches. For irrigation, a pit is excavated near a stream, and a gasoline pump is installed to distribute water via a polyethylene pipe to the distant field plots. In the foreground are beds of water convolvulus. In the background are green onions or perhaps shallots, both popular ingredients in Cambodian cuisine. The owner of these plots, an old-timer in Ratanakiri who still spoke French, was overjoyed by our unscheduled visit.



Agro-forestry in practice. Coffee plants, bearing dark green leaves, are interplanted beneath a canopy of leguminous trees. Coffee beans are rich in caffeine. Caffeine is a nitrogen-rich Alkaloid. Problem: Coffee plants must obtain nitrogen from the soil. Most mineral soils are nitrogen-poor, as the parent material from which they are derived contains no nitrogen. On the other hand, nitrogen gas makes up 80% of the Earth's atmosphere. Solution: Interplant coffee with nitrogen-fixing leguminous trees. The legume obtains nitrogen from the atmosphere through free-living soil bacteria that colonize its roots. Eventually, the nitrogen is released in the soil and taken up by nearby coffee plants. Question: Did farmers learn this practice from outsiders, or is it an expression of native wisdom?



We prepare to cross the Sre Pok River in Ratanakiri Province, on our way to Sen Monorem in Mondulakiri Province. This was one of the most challenging legs of the journey. I hired two Cambodian escorts (one for myself, the other for my guide/interpreter) to help us cross this mostly uninhabited territory, as none of the locals in Ban Lung could tell for sure what was out there.



View of the Sre Pok River from our launch.



Except for a few scattered rice paddies, most of the country between Ban Lung and Sen Monorem was parched and desolate. The heat was intense, our water supply boiling over, and the bush trails were treacherous, barely existing. Aside from occasional rice paddies, the only evidence of human activity in this area was ancient hulks of rusted artillery scattered about, a testament to some long-ago jungle combat scene.



Outside Sen Monorem we spied this fertile gulch under busy and careful management. Looks like a promising prospect for gathering 'frontier intelligence'. We approach using well-practiced tactical stealth. Too late! Here comes the boss, cabbage in hand...



Chef du jardin. The Khmer proprietor proudly showcases her premium hybrid cabbages. She is happy to see us and openly shares the secrets of market gardening in Sen Monorem.



First, you get the grass...Field worker piling dead grass in a windrow on top of future vegetable bed.



After burning the windrow, the ash residue is incorporated into the soil as fertilizer. Inorganic fertilizers are a scarce commodity in Cambodia. Most farmers rely on cattle dung or vegetable ash to enrich the generally nutrient-poor upland soils. Ash contains no nitrogen, so reliance on fertilizer ash alone ultimately results in nitrogen deficiency, which must be corrected by applying scarce manure or by importing nitrogen from outside. Growing leguminous green manures would help remedy nitrogen deficiency; however, few farm operators in Cambodia currently use them for this purpose.



A field hand sowing beds of water convolvulus. Much of the produce from this farm is delivered fresh to nearby markets in Sen Monorem. As always, the farm's location relative to the market is key to success.



Ashes are a precious commodity where fertilizer is scarce, which is the case nearly everywhere in Cambodia. A storage bin like this protects a farmer's stash for future use. The gourd-like fruit protruding on the top right is winter melon (*Benincasa hispida*), a popular ingredient in Asian soups.



A bamboo trellis has been erected to support snake bean plants (*Vigna unguiculata*). Note grassed buffer strips between the beds. These multipurpose strips provide an alleyway for traffic, channel runoff, and help conserve soil during the rainy season.



Small farm plot near Sen Monorem. With careful management, the moist, well-granulated 'red earth' (oxic) soils of the Chhlong Plateau in Cambodia's northeast can sustain high productivity.



As we venture into the wilds of Mondul Kiri Province, the familiar landscape of slash and burn once again returns. Slash-and-burn is the bane of environmentalists. However, unless inputs of organic residues are available in sufficient quantities to balance the nutrients lost through cropping and leaching, there is no alternative. Importing fertilizer NPK is out of the question for most of Cambodia's ethnic minorities.



The *real* environmental disaster descending upon Cambodia is the indiscriminate burning of open forest and scrub land during the dry season. Southeast Asia faces the familiar nemesis of widespread land degradation caused by uncontrolled burning. Indonesia's devastating forest fires during the 1997-98 season should have been a wake-up call. Burning converts nutrients in the vegetation to very soluble ash, which is quickly carried away in runoff during the rainy season. Over time, burning results in progressive depletion of soil fertility, thereby impairing the natural regeneration of native vegetation. The sparse, open thicket depicted here was once a rainforest with a closed canopy. It has now been reduced to impoverished, infertile scrub. How or why the ubiquitous dry-season fires start is unknown. Undoubtedly, some are started accidentally by tossing lit cigarettes and the like. No attempt is made to control the fires unless they directly threaten settlements.



Corn is often interplanted with upland rice in slash-and-burn plots to spread the risk of crop failure. Here, harvested ears of corn are “hung out” to dry; the sticks in the lower right corner are cassava, a starchy root crop from which tapioca is made.



We stopped to chat with a Cham family working on their farm in Mondulkiri Province. Chams are an ethnic minority in Cambodia, but distinct from Khmers. Their origin is unclear, but evidence points to early colonization of coastal areas in what is now Viet Nam. Over the centuries, the Cham migrated to Cambodia, where they number about 165,000 today. Cham people are most often found in places like Kampong Cham and Kampong Chhnang. This family welcomed foreigners with open arms, and we spent a pleasant afternoon in their company.



This simple lever-type contraption is used to grind rice into flour. The operator's foot is placed on one end of the plank, which levitates the pestle. Modulating foot pressure on the plank causes the pestle to rise or fall at different rates, as needed. A spindle inserted through the middle of the plank actuates the up-and-down motion. After some time (and work), the grain is pulverized into flour. Slow food lovers, take note.



A device like the last one, only hand-operated. Whole-grain paddy rice is placed in the wooden hopper (top) with a hole at the bottom. As the device is turned by hand, rice dribbles through the hole while a flat stone beneath provides the friction needed to pulverize the grain into flour. The ground flour is forced out of the space between the rock and the hopper and falls onto a concave wooden block below.



Some hill tribe people have taken to cultivating vegetable gardens to supplement meager incomes. We stopped to chat with this enterprising Phnong farmer in Doc Dam, close to the Vietnam border. We came to Doc Dam hoping to discover legendary vegetable gardens alleged to exist there. Sadly, those were defunct, and the Jarai people who cultivated them no longer lived in the area.



Resting below the waterfalls at Doc Dam. Often, I was pressured to check out the local waterfalls and finally relented. Although Cambodia has many jungle waterfalls scattered throughout the northeast frontier, none are spectacular. The topography just isn't there. Apparently, Cambodians believe waterfalls exist only in Cambodia, nowhere else on Earth. When I expressed no interest in visiting these places, the locals seemed disappointed and unable to grasp that waterfalls are neither rare nor unique to Cambodia. Oh well.



Want to help Cambodia? Visit <http://www.cambodiacorps.org/>. Disclaimer: The author has no affiliation with this organization. Their work is worthy of your support.