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Teaching Them to Fish

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"The dikes seem to get smaller as we cross a valley full of rice paddies. A stream meanders through the rice fields that are gradually terraced up the valley and stretch a few hundred yards across it between the abrupt hills. Clusters of banana, coconut, and papaya cling to the slopes while Kogan grass, favored for making roofs, covers the tops of the mountains, waving in the tropical breezes. Though the air is clear as we approach today, during the winter, we are told that smoke blankets the valley when the grass is burnt to eliminate lantana and other woody plants."

The year was 1988, we were Peace Corps volunteers, and this is how I recorded our first impression of the area around the small rural village of Maite on Luzon, the main island of the Philippines, where we were to work for two years.

The Maite valley lies between 1000 and 2500 feet elevation in the mountainous Bataan Peninsula, a strategic finger of land that forms the western edge of Manila Bay and lies between the capital and the sprawling former U.S. Navy base at Subic Bay. The region saw bitter warfare in 1942 that culminated in the infamous Bataan Death March: 8,000 U.S. soldiers who had surrendered to the Japanese died under conditions of privation and brutality. The area remains a hotbed of conflict between the Philippine central government and the National People's Army (NPA), an armed insurgent group with communist leanings. During our stay we would often hear machine-gun battles in the next valley and get a count of the dead the next day. Into this theater of past and present warfare, we brought our idealism and our hopes: We wanted to make a difference in livelihoods for the people of this valley where protein was scarce and kids regularly died of malnutrition or dysentery.

The Peace Corps provides experiential training in language, culture, and technical skills to its volunteers. Kim trained in aquaculture, visiting various sites and learning about nursery, pond, and cage systems. I had previous education and experience in agriculture and knew the benefits of small-scale systems that applied sloping agriculture land technique (SALT)-a method of creating terraces, double digging of garden beds, poultry raising, and working with the community.

On a 1950 map, the Maite area was designated as forested wilderness. Commercial loggers later denuded it and exported the logs via the port of Olongapo. A few trees are left at the top of the valley but they are controlled by the NPA. Residents continue to harvest trees for their homes and boats, though this is illegal. I often thought the illicit harvesting should be made legal and commercial harvesting illegal.

Strangely like war...

Like much of the Philippines after the 1960s, this area was drawn into the Green Revolution, a worldwide effort sponsored by the Rockefeller Foundation to replace local varieties of rice, corn, and wheat with hybrid seeds which would produce large crops under irrigation and fertilizer. Although the avowed aim was to improve food production, and this was to some degree achieved, the less visible but more corrosive effects of the Green Revolution were to increase dependence on chemical inputs, fuel, and parts for pumps, and to devastate agricultural biodiversity in the target countries. Many small farmers lost important aspects of self-reliance, others were forced off the land by the resulting concentration of ownership. Some farmers

went into debt and got bigger, others committed suicide or drifted into the slums of Manila, Bombay, Mexico, and other third-world metropolises. Worldwide, exposure to toxic chemicals was greatly increased, and many thousands of local landraces of humanity's key cereal crops vanished out of the hands of the people whose ancestors had bred and nurtured them, only to wind up locked away in the gene banks of the international institutions and their corporate sponsors. This set the stage for subsequent concentration in the seed industry and later for genetic engineering.

On the ground

Most the area's three hundred families make their living by growing rice with small gas-powered tillers and harvesters. The water buffalo, called kalabhow, is still commonly used for tillage and to pull carts. Each family owns from one to several hectares, but must contract the tilling, cutting, and threshing of the rice. Since they live hand-to-mouth, the farmers cannot pay for the contract work until they harvest, and at that time they pay in rice, including interest at rates over 300%.

The farmers live in houses made of bamboo and thatch, which are placed in family groups along the dirt road that provides the valley's only access. Typhoons are a regular feature of the region's climate, and after each major storm many of these grass houses must be rebuilt.

A few people who have gotten employment off the land have been able to build more durable homes of concrete block with tin roofs-but these are real furnaces. When we arrived, the valley dwellers were drawing their water from a handful of contaminated shallow wells, and used even fewer outhouses. Most of the daily humanure was deposited directly into the rice fields. Sanitation is not the only health challenge in Maite: During the two years we were there, two people received bites from rice snakes. One died, the other barely survived.

The basic diet of the area consisted of rice, fruit, and fish. A few large mango trees grow near the houses but because they belong to wealthy people in Manila the trees don't contribute to the valley's economy. The residents have to breathe the many insecticides sprayed on the trees but cannot touch the fruit. Cancer, especially of the liver, was common and was probably linked to fish from contaminated Manila Bay consumed by the people. Sadly, there was a great deal of ignorance about the toxic effects of biocides. The villagers also ate fish from the local stream, which was harvested once a year: one person would dump insecticide into the meandering river to kill the fish. Then the rest of the villagers would gather to collect the dying fish. They stopped this practice only after we showed our disapproval and a better way of getting fish.

Though we found the area and the people to be beautiful and friendly, they had many social problems, which made economic development work more difficult than it seemed from the outside. The area had been settled by groups from different parts of the Philippines, therefore different languages were used, even in this one valley; the resulting cultural differences created mistrust. Corruption was commonplace and was taken in stride by the local residents. Donated food designated for the valley never got to the people. One priest was accused of feeding donated food to his pigs. The captain, or head, of the valley had a large family, so he had been able to stay in office for 24 years, often misusing his power. In fact, if the captain had not been defeated in an election while we were there, we feel certain the following scenario would have been completely different.

Looking for an audience

Kim was carrying a flip chart on how to build and manage a fishpond. A group of men gathered around a table listening to her, half amused at a woman teaching them about fish culture and encouraging them to build ponds. But we wanted to be sure that any project we suggested was not just ours but would be desired and

owned by the people themselves. Often Peace Corps volunteer projects terminate when the volunteer leaves if the locals have not taken ownership of the project.

After a few weeks of travelling through the valley giving talks on aquaculture, a family showed us their desire to become aquaculturists by bring together a dozen or so people to deepen a rice paddy for use as a fishpond. We knew it would truly be their project: digging a 50-foot by 50-foot pond with shovels and grubbing hoes showed their ownership. When finished, the pond was filled with irrigation water to a depth of three feet and stocked with tilapia. The tilapia fry came from a government hatchery that had been built and managed with funds from the U.S. but was deteriorating fast due to the inability of the Philippine government to continue financing it.

Integrating fish with farming

With the adoption of tilapia culture in the valley, the first segment of a whole new agronomic system was in place. Our larger goal was to persuade the farmers to abandon the Green Revolution and return to organic farming. In northern Luzon, the farmers of the thousand-year old hill terraces never accepted the Green Revolution and to this day have hidden hog pens in the terraces of their paddies. The hog manure is a key to fertility in these amazingly well-tended and productive landscapes.

We knew that pigs could be useful in the Maite valley also, but we were hesitant to launch a pig dispersal program. Since it was extremely hard for the families even to feed themselves, we worried that they wouldn't have enough to feed the pigs. But when 15 women crowded into the room and pleaded with us to help them, we concluded that this project would be theirs, and we would help them.

In a pig dispersal program, a number of bred sows are "seeded" into the farming community. As each sow farrows, a portion of the piglets are distributed to other farmers. We were able to obtain funds for cement for pig pens, and to buy the pigs, though only commercial breeds were available. Each receiving family had to build a pen to the satisfaction of the group of women administering the program. One offspring of each litter would later have to be given to another family wanting to raise pigs.

So our next endeavor was to request grant money to help build a hog pen next to the fish pond. In the system we envisioned, the manure of the hogs would stimulate algae growth that would in turn increase plankton life to feed the fish. With hog manure driving the pond fertility, there would be no need to feed the fish, but since tilapia multiply so rapidly, small fry and females needed to be seined out and fed to the hogs so the remaining fish would grow to eating size. To complete the loop, the grown fish would be harvested by draining the high-nutrient water of the pond into the adjoining rice paddy in order to eliminate the need for commercial fertilizer to grow the rice. Waste rice and straw would be sent to the hog pens as feed and bedding. The system required some supplemental feeding of the hogs, using bananas and other locally grown food, but it mainly functioned on its own while improving the soil health of both pond and rice paddy.

The bigger picture

Converting rice paddies to organic production was only a part of trying to raise the living conditions of the people of Maite. Because they were in competition with world markets, they had to use equipment to work the soil and harvest the crop. Because they didn't have the resources, they had to rely on wealthy people living outside of the valley for contracting these services. They needed their own equipment.

Men crowded around a table discussing possible avenues of getting out of a hand-to-mouth existence. Many owed money to the equipment owners plus interest exceeding 300%. Only one of the group had a high school education. I suggested an

agricultural equipment rental cooperative since it would involve no inventory or complicated bookkeeping, and few cash transactions. They all agreed that it was a great idea but wondered where they would get the financing to buy the equipment. I told them that I would request a grant for the equipment if they would reinstate their cooperative, get training, solicit materials for an equipment barn, and build the barn. They agreed.

But all wasn't well. A surprise visit from my Peace Corps supervisor was a bomb shell-she stated in no uncertain terms, "Don't go through with your project!" I replied that we had no project but were helping the people with theirs. She informed me that someone would be killed and drug charges would be drummed up against me to get rid of me if the project went through. This moment was the lowest time of my life-here I was, trying to help the poorest people I had encountered, and I was told not to help them! I recalled a wealthy man sitting by me in the bus a few days earlier, bragging about talking to my supervisor. I went back to the cooperative and said, "I don't want anyone killed, is there any truth in this statement?" To my amazement they said yes! I told them we wouldn't go through with the project unless they corrected the "problem."

A couple of weeks later the people of the cooperative reconvened and decided that the "problem" had now been solved. They asked if I would proceed with the grant proposal. I agreed. They refused to tell me how they cured the problem but I figured that the "mountain people" in our valley, who were having shootouts with the army on a regular basis, had some influence that changed the mind of the wealthy man. Helping the disadvantaged is not an easy task, especially since the government and the powers-that-be create their difficult condition in the first place. Sixty percent of the arable land has been taken for export crops, which go to the industrialized nations, forcing the populace into the mountains. Cheap California rice is imported at harvest time. This allows the rich people to buy local rice at rock-bottom prices; after the imports have been terminated, they resell the local crop at high prices .

Perseverance furthers

A grant from USAID was approved for the purchase of the farm equipment. The members of the cooperative learned how to ask for what they needed: they got cement from a politician, material from the highway department and from Subic Naval Base, training in cooperative management from the National Irrigation Authority, training in equipment maintenance from the equipment vendor. Members rallied around and built a barn.

The late Senator Paul Coverdell, then director of the Peace Corps, was scheduled to visit the Philippines, so I arranged for the country director, Jim Lehman, to bring Paul out to the ribbon-cutting of the project. The villagers were elated-it was like the President visiting a third-grade class in Kansas. The villagers cooked delicious foods, made U.S. and Philippine flags from paper, and dressed in their nicest clothes. I was standing with Paul when three jeeps appeared, climbing up the rutted road. He asked me, "Who is this coming," as his eyes got bigger and bigger." I told him, "I think and hope that it is the major who will come to this valley only under army protection." The jeeps came to an abrupt halt and out jumped troopers with machine guns. Then the major stepped out and things cooled down a bit. We had the ceremony and as soon as the doors of the barn were opened by a man hiding inside, tables of delicacies were exposed. I accompanied Paul and Jim in a speedy departure back to Manila.

The "triangle" where we lived was off-limits to anyone connected with the U.S. military because the NPA had a stronghold at the upper end of our valley. I often wondered who is braver, the community worker living and working in the villages or the soldier standing behind tremendous firepower? Politics plays a major role in depressing people, but we were able to facilitate programs among the villagers partly

because we were located between two warring powers. The local NPA liked us and knew us and helped us much the same as did the government and the army. When the school building blew down, an army crew helped demolish the wreck one week, and the next week the mountain people, whose children attend the school, helped rebuild it.

Since we worked with people willing to help themselves, we continued our facilitation to develop the valley along the lines of permaculture, creating resources and putting them in the hands of the people, so they could become more self-reliant. Besides helping to set up the equipment rental cooperative, we began a reforestation and land reform program, introduced much-needed bamboo for building material, launched a project for chicken raising, revived a tree nursery, piped water from a spring to a new cement water tank, installed more sanitary facilities, and obtained treatment for malaria in the village. We taught the new leaders how to negotiate and communicate with government officials, showing them they could not expect more help from the government if they did not live up to their part of the bargain.

We demonstrated how to build houses and stoves with mud brick which would be more resistant to the typhoons. We also showed how to make double-dug gardens, built low-cost, rat-free grain storage, use corner bracing to make buildings more sturdy, and of course how to raise hogs integrated with aquaculture. It seems a lot, but we were only facilitators for a great group of villagers that found they could initiate and facilitate new projects on their own. They soon had to go it alone. In two years the valley was transformed: From being a backwater ignored by the government, it had become a model community.

Stepping into history

In late 1990, as the Cold War ended and tremors ran throughout the Soviet and American Empires, all Peace Corps Volunteers in the Philippines were picked up without warning to be taken to Manila for a meeting. Pressure was building against the U.S. occupation, and intelligence had reported that volunteers would be killed or kidnapped to make the U.S. remove its military bases. No one could go back to their villages to have closure or to get their things. One volunteer didn't make it to Manila—he was kidnapped. He gained his freedom about six weeks later after all the other volunteers had been shipped off to Hawaii and home. Later the Peace Corps rounded up belongings and sent them to the volunteers, and paid for counseling since there had been no closure.

A few months after our return to the States, Nature weighed into the balance: Mount Pinatubo erupted and deposited two feet of ash in the Maite valley, filling the ponds. We feared for our friends and worried that our efforts might have been in vain, but a year later we learned that the pond near our house had been re-dug and the system was back in operation. Also a sloping agriculture land project had been requested and accomplished. The reforestation project had been wiped out by people burning the area so grass could grow, but a pig dispersal program was still working, with a newly-born piglet being given to another family. The chapel too had been renovated—a major signal that the community was pulling out of its depression. Δ

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