

INSTITUTE OF CURRENT WORLD AFFAIRS

The Palni Hills Conservation Council (PHCC): A campaign to save the hillsides

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Kodaikanal, Tamilnadu, South India

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Dear Peter,

I have moved from the Himalayas to the Western Ghats. The Western Ghats are a series of mountain ranges that extend from Maharashtra, and run parallel to the Arabian Sea to the very tip of India ending in Kanyakumari in the state of Tamilnadu. The Western Ghats gently bend from the north to the south east. The Tamilnadu ranges of the Western Ghats include the Blue Mountains, the Anamalais, Cardamom Ranges, Pothiyal and the Mahendragiri Mountains. The Western Ghats' northern-most ranges are the headwaters for two of India's most important east-west flowing rivers, the Godavari and the Krishna. The southern-most ranges are the watersheds for two of Tamilnadu's largest rivers. Here the Vaigai River and a tributary of the Kaveri River begin. The Kaveri is known as the South Indian Ganges - full of security and sanctity. It is praised in Tamil literature, harnessed by Tamil agriculture and enshrined in Tamil hearts.

The Anamalais (malai means hill or mountain in Tamil) run along the Kerala - Tamilnadu state border. The Anamudi peak (8841 feet) is the highest peak in Tamilnadu. The eastern slopes of the Anamalais are in Tamilnadu and fall within a rainshadow that receives less than 40 inches of annual rainfall. The range has an eastward extension known as the Palni Hills. I have moved to a small community in these hills known as Kodaikanal.

The Palni Hills are 87 kilometers long, 24 kilometers wide and encompass an area of approximately 2400 km². It is in the Palnis that the Vaigai River originates, the endemic and endangered grizzled giant squirrel lives and the rare Kuringi flower's purple petals bloom once every 12 years. The forest types in the Palnis are referred to as sholas; a generic term for montane forest. At present, the majority of the forest cover is "protected" as reserved forest. Reserved forest is managed by the Forest Department. I would argue that reserved forest is not really protected in any long-term sense of the word. It is - true to its word - reserved - until a better opportunity for development presents itself, such as planting wattle, pine and eucalyptus plantations. The natural forest is cut down, ploughed under and replaced with invasive, exotic species.

As I mentioned in my last newsletter (CMC-9), the Kodaikanal community is on the brink of making an important decision regarding their future as a community and the future imprints that

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they will allow to be carved out of this landscape. Can they conserve their surrounding forests and open spaces from overdevelopment, inconsiderate tourists and industrial forestry? Can they maintain tourist services, accommodations and offer more, or enough attractions to keep the tourists coming so as individuals and as a township they do not become bankrupt? Can they do both through a process of open communication and compromise?

In 1985, citizens concerned about the pathway to development that the township was rolling down formed a group called the Palni Hills Conservation Council (PHCC). It is a secular, non-political, non-profit organization for public welfare and scientific research. Over the past 10 years, PHCC has hired several permanent staff and has received funds from both international agencies and the national government for establishing tree nurseries in rural areas, promoting beekeeping, constructing community education centers and hiring teachers, and granting stipends to Indian students working on master's theses or dissertations on ecological topics in the Palnis. The organization still continues to establish nurseries in the hills and foothills but, has undertaken a mammoth project - designating a large part of the Palni Hills as a national park. Throughout years of their own work and enticing wildlife ecologists and botanists to the hills, PHCC had enough information on animal corridors, fragile ecological communities, local flora and hydrological cycles to submit a draft park proposal to the Tamilnadu state government at the end of 1994. The government supported the idea, hastily approved the boundaries that extend to the Kerala state border, and parted with the suggestion that more information and a detailed management plan would be necessary before the proposal could go any further up the legislative ladder.

Among the missing information is a tourism development plan, urban planning and regulations, a long-term, ecological research component, the impacts of trekking and uses of the current trekking routes, and any current information on the social and economic conditions of the tribal and other rural communities that live within this proposed park boundary. Next week, I will begin an ethnobiological study in two tribal settlements.

Before I begin a tangible project for PHCC, vice-president Navroz Mody suggested that I better familiarize myself with the organization through a series of visits to their tree nurseries and community forestry projects established in the foothills.

Sixty-one kilometers southeast of Kodaikanal, PHCC has a branch office where the staff are responsible for coordinating the foothill's projects. The largest PHCC project in the Palni foothills is the 45 km² Kadavakurichi Interface Forestry Project (Figure 1). Kadavakurichi means Tiger or Panther Hill and local legends claim that 50 years ago tigers and other large cats inhabited the area. The project began as a campaign to save the imposing Kadavakurichi hillock and its surrounding area which is described as "wastelands that girdle a dying hill". The Kadavakurichi hillock commands a 10 km² area and is also designated as a reserved forest. A hike up to the hillock's 'peak' begins at 260 meters above sea level and ends with a spectacular view of the Palni foothills to the west and the plains to the north, south and east from 708 meters. There are 26 villages surrounding Kadavakurichi with a population approaching 20,000. Based on drainage patterns from the hillock, officials from the forestry department and PHCC have segmented the area into five micro-watersheds. The Kadavakurichi Interface Forestry Project's objectives: to introduce soil and water conservation techniques, to restore the native vegetation, and to reduce the local

residents' dependency on the forest's resources will be implemented with assistance from villagers in each of these five regions.

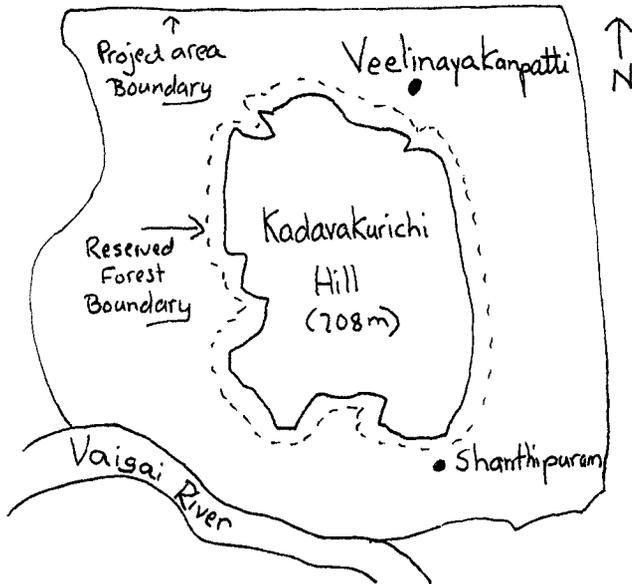


Figure 1: The Kadavakurichi Interface Forestry Project Area.

My first visit is to the village of Shanthipuram. I am accompanied by two PHCC employees, Alex and Hari. We board a bus traveling east. Provided I find a seat, I enjoy bus rides. I even find them relaxing. There are two sights in India that I never tire from seeing: endless fields of ripening rice paddy of a majestic green that I have yet to find replicated anywhere else, and the symmetry of lungis (cloth wraps worn by Indian men) and saris woven with brilliant geometrical shapes along river banks. With the combination of the unobstructed, intense heat and the absorptive capacity of the dark gray rock, I often wonder why steam is not rising from these recently washed clothes.

I am fortunate. This is the only scenery this bus ride provides with the added attractions of the blue, green and orange-painted horns on white bullocks and women partially hidden from clouds of dust and debris that fly in front of their faces as they winnow out the husks from dried, pounded rice paddy. After one hour the bus stops in the middle of a dry, brown wasteland. We are the only three who disembark.

The plain extends as far as the eye can see. We follow a dusty path well-trodden by goats, cows and bicycles. Vegetation is sparse. The trees have small feathery leaflets and planar crowns to catch the sunlight. One must carefully step around the thorny creepers that blend in with the yellowish sand. I pull the long end of my sari that drapes over my left shoulder around my head to protect the back of my neck from the scorching sun. Shanthipuram is 10 kilometers off the main road. A large banyan tree marks the half-way point and under its many hanging shoots, which are really aerial roots, we rest for a few minutes. The large tree trunks and a small shrine set off to one side and enclosed by a stack of round stones tempt me to ask Hari,

"Is this a sacred grove?"

"Yes. You are knowing about sacred groves?" he answers with surprise.

Sacred groves are patches of trees and shrubs either within a large forested area, along rivers, or as found here in the middle of a flat, open plain. Sacred groves are dedicated to, home to or protected by a local deity that is almost always female. To remove any vegetation, even dead wood or leaf litter, is considered offensive to the deity. Religious taboos such as these are responsible for preserving large tracts of forest. According to Gadgil and Vartak (1994), sacred groves, "probably constitute the only representation of forest in near-virgin condition in many parts of present-day

India." All sacred groves are managed differently. In some areas taboos are quite strong, the goddess wrathful and offenders mysteriously fall ill and die or must appease the goddess with an animal sacrifice. In some sacred groves, the goddess sanctions the removal of dead wood and construction timber during times of emergency. In other instances, soil erosion and environmental degradation are so severe that water and energy sources are only found within sacred groves. Since independence in 1947, the traditions and taboos have weakened. Gadgil and Vartak (1994) report that collection of leaf litter and fallen wood is a common practice everywhere and that the removal of live wood from and sole-dependence on sacred groves is becoming more common.

This later statement probably explains the well-swept appearance under these branches.

"At one time, maybe 10 or 15 years back, people were cutting the branches (ie. roots) for firewood," Alex informed me.

"What happened?"

"Nothing. She is not a very powerful goddess", he replied. On that note, sufficiently rested, we headed off to Shanthipuram.

In the village of Shanthipuram the headman told me, "The trees disappeared, the rain disappeared." But, after the planting of 30 acres of trees with the assistance of PHCC, "I have seen the water level rise in the well with my own eyes."

Shanthipuram has only existed for 24 years. The village falls on the southern side of Kadavakurichi Forest Reserve. The villagers of Shanthipuram are all Pallars. Pallars are one of the communities classified by the government as a scheduled caste. Scheduled caste communities are familiarly known as "untouchables". This group of people are the ones whom Gandhi renamed *Harijans* meaning Children of God. Today the Indian national and state governments provide special assistance to members of the scheduled castes. Relocation and land grants are among these services. Shanthipuram is the result of a relocation scheme.

In 1970, the government offered seven families of a Harijan community 24 acres of land in abandon and degraded pasture land. In their previous location one kilometer away, none of the families owned land. The opportunity to own land and begin to work for oneself was worth the risk and effort to convert this barren land into something productive.

Today, the settlement has expanded to 14 households. There are still no sanitation facilities, people use the fields. The families share one hand pump for drinking water. In their previous location, the Harijan community did not have their own hand pump. Due to their status as untouchables they could not use the hand pumps installed throughout the remainder of the village. In fact, they could not even enter the narrow dusty lanes throughout the village, except to beg for water from other families. Their mere presence defiles whatever they touch. Touching the hand pump would pollute the water and the other villagers would refuse to use it. Nor did they have proper housing. Today with government assistance, each family has a two-room, whitewashed house with a front porch. Many families shade the porch with a woven mat and have a hammock hanging inside.

A farmer's union group from Madurai, 56 kilometers to the southeast worked in the village from 1980-1988. Extension workers helped to deepen their five irrigation wells and secure loans for electricity, livestock and agricultural supplies. Only three of the wells are currently in use. Two have been disconnected because the villagers have not been able to pay the electricity bill.

There is no money to pay the bill. Due to continuous water scarcity, commercial crops are no longer farmed. Of the original 24 acres, six are farmed for only six months. Twenty-years ago, cotton and silkworm were grown as commercial crops. There is no longer enough water for these. Back in those days, the monsoon rains lasted for four months. Now two months of sporadic rainfall arrives during the monsoon season. There used to be a wide stream flowing through the pasture land where the villagers would catch fish. The stream dried up about 18 years ago. Today, families grow some rice, pulses and sorghum intercropping vegetables like eggplant, beans and lady's finger for home consumption.

In 1986, PHCC started a nursery nearby. They assisted the villagers in reclaiming some of the nearby degraded land by supplying seedlings and paying a daily planting wage. Thirty acres were planted with 49,000 seedlings. The area is enclosed by a living fence of three-foot-high cacti. The fence protected the young seedlings from browsing by cattle and goats. The trees are now all over nine feet in height. The villagers rely on the trees for fodder and for some of their fuelwood. The remainder of the fuelwood requirements are met by crop residue. In a few years the fruits trees they planted will bear produce for sale.

This is a very clean village. The compound is well swept. There is no paper or plastic waste blowing around. Only the few leaves that have fallen during our talk under a sprawling tamarind tree litter the area. Cows and goats are tethered underneath two shelters taking refuge from the scorching sun. Livestock are grazed in the early morning and late afternoon in the 50 or 60 acres of pasture land that surrounds the village.

Despite personal recognition of their improved living standards, there is still an air of discontentment. They look to the east and see their wealthy neighbor. He owns 152 acres of land and grows more than 4000 mango trees. He does not have a water problem. He has laid underground pipes to the Vaigai to irrigate his crop. "If the government really wanted to help us, they would have install piping to the Vaigai instead of digging wells," someone commented. "That is what we want next, proper irrigation," an on-looker piped in.

I think about the condition of the Vaigai further downstream in Madurai. It is now the dry season. There the Vaigai is reduced to a small stream with several discontinuous puddles. "But if everyone used the Vaigai to irrigate their crops, what would happen to the water?" I asked.

"The Vaigai will never run out of water," the headman responded.

Nurseries established by PHCC contribute more to their host communities than trees and agricultural advice. Many local people, women in particular are hired by PHCC for nursery-related tasks. At each of PHCC's dozen nurseries, women work six or seven days a week. They are responsible for planting seeds in raised seed-beds, sifting rocks and woody debris from planting soil, filling polythene bags with soil, transplanting seedlings from seed-beds into bags, and watering

and weeding seedlings. One PHCC objective is to promote the planting of native tree species. To this end, the organization coordinates a seed bank collecting and storing seeds from local forests. Women are responsible for removing seeds from enclosed pods and processing and treating seeds for planting or storage. Seed treatments include submerging them into boiling hot water to stimulate germination or drying them in the sun for storage. For an eight-hour-work day women earn between 14 and 18 rupees (\$0.45 and \$0.58). Fewer men are nursery employees. Men guard the nursery and planting sites during the night. Male wages range between 20 and 27 rupees per day (\$0.65 and \$0.88). When funds run low, the men are the first employees to be let go.

The seed-beds at the Shanthipuram nursery are irrigated with wastewater from a nearby village. A British organization funded the construction of channels and pipe installation which benefits both the nursery and the village. The nursery does not need to draw extra groundwater from its well and the absence of stagnating, disease-breeding pools of water contribute to village public health. At this same nursery, villagers come and purchase Guinea grass, a livestock fodder, at a rate of Rs. 3.5 for 5 kgs.

The environmental and social conditions in the village of Veelinayakanpatti on the northern side of Kadavakurichi are rather different. Immediately I am reminded that environmental or ecological change and / or problems are often socially-contingent.

Over 1000 people live in Veelinayakanpatti. Many of the men are daily wage laborers in nearby towns or in Madurai. Groundwater and fuelwood shortages are the two most important environmental problems here. Fifty years ago water prospectors had only to dig 10 to 25 meters to find this valuable resource. Now a well dug to depths beyond 200 meters strikes nothing but sand and rocks. Kadavakurichi and the surrounding flatlands were cleared for agriculture and grazing pasture. The hillside is eroding. Former fields are being blown away.

None of Veelinayakanpatti's families are food self-sufficient. A few families have irrigated land on which they cultivate one paddy crop a year. Families have shifted to dryland, drought-resistant crops like millet and sorghum. These grains are pounded into flour for making roti, an unleavened bread that is eaten with a watery, spicy soup, which if lucky has a few lentils and tomato pieces floating in it, called sambar. Rice is not part of the daily diet.

Flowers are the village's major cash crop. It is a profitable crop in a society where fresh flowers have a regular role in daily religious ceremony and personal grooming. Indian women in Tamilnadu do not feel dressed unless they have a sprig of jasmine flower pinned in their plaited hair. Flowers are one of the offerings for the gods including a departed husband or father-in-law. A fresh wreath of flowers is draped around a framed photograph of a deceased husband. The dry, red, rocky soil that cannot support ripening paddy blossoms with marigold, jasmine, clover, rose and daisy. The nearest flower market is in Nilakottai, two kilometers away. Flowers provide a steady, risk-free income. One kilogram of dried clover sells for Rs.3 (\$0.09). During the wedding season, flower prices double or triple. Brides wear elaborate floral headpieces and the wedding platform and backdrop are covered in flowers like a parade float.

In the late 1980's, The National Wastelands Development Board (NWDB) funded social forestry programs throughout India. These tree planting schemes on hillocks, grazing grounds and around

sacred bathing tanks aimed to meet local needs for fuel, fodder, small construction timber and short-term employment, while preventing soil erosion and retaining groundwater. The Palni Hills Conservation Council implemented a NWDB-project in Veelinayakanpatti from 1987-1991. A local farmer rented one acre of his land at a rate of Rs 400 (\$13.00) a month for the establishment of a nursery bed. Seedlings were planted on private and communal land. Plots were enclosed with three-tiered fencing of thorny tree species and guarded at night. Community members planted trees on Kadavakurichi's north-facing slopes. Council funds were channeled into the community with the hiring of a teacher to conduct literacy and ecology classes for children and adults, and to hire a young woman who assists women with small-scale income generating projects. Women make incense and pickled mango and tomato that is marketed in roadside stalls near important religious sites. Members of PHCC worked with village leaders to write a funding proposal to build a community center and several water storage tanks. Wasteland development has turned into community development.

Tree planting is only one aspect of PHCC's approach to saving the Palni Hill's watershed. Education, income-generating projects and personal hygiene are other priority areas. One woman I spoke with said that the most notable change in Veelinayakanpatti since PHCC is that children attend school more regularly and look cleaner. She said she now "looks smart". This is a popular expression for tying a sari neatly and properly combing and fixing one's hair. To us it may seem odd that an Indian woman learned only recently how to tie a sari or properly dress a child for school. But, in rural areas like this one where sanitation and solid waste disposal do not exist, illiterate women wait in long lines for their turn to pump water from one of three wells, and Harijans are forbidden to enter alleys in other parts of the village, a neat appearance creates personal awareness in an area where a void once existed. No doubt she feels sophisticated. It is evident that she feels good about the accomplishment.

This woman, whom I spoke with at length during my visit to Veelinayakanpatti was Kamanatha, a 23 year-old woman wearing a green, floral-print polyester sari. She has one child and her husband works as a daily laborer. In addition to improving her own appearance, she has joined the local women's group supervised by the evening education teacher. The women (excluding Harijan women) meet once a month to discuss health, nutrition, and education. The women come from different castes within the village, but are starting to forget that they live in separate neighborhoods, and work towards goals for the entire village community (again, excluding the Harijans). Once a month, the women sweep the streets of the village. Sweeping was not done before. The importance of cleanliness is beginning to seep into their consciousness and jolt them out of their traditional roles. Sweeping, cleaning and slaughtering are all degrading tasks delegated to untouchables (Harijans). But, how can these jobs be performed if untouchables are not allowed into the areas that need to be cleaned? Cleanliness at the village level is not a new problem. Gandhi devoted much time to promoting simplicity, self-sufficiency and sacrifice. In his autobiography, *The Story of my Experiments with Truth*, he wrote of the situation in rural Bihar (northern Indian):

"Sanitation was a difficult affair. The people were not prepared to do anything themselves. Even the field labourers were not ready to do their own scavenging...the volunteers concentrated their energies on making a village ideally clean. They swept the roads and the courtyards, cleaned out the wells, filled in the pools nearby, and lovingly persuaded the villagers to raise volunteers amongst themselves. In some villages they shamed people into taking up the work, and in others the people were

enthusiastic...sweet experiences were not unmixed with bitter ones of people's apathy I remember some villagers frankly expressing their dislike for this work " (p. 352)

The women of Veelinayakanpatti will soon be encountering another sanitation issue; one that is more sensitive than street sweeping. The evening education teacher, Shanthi would like to see a latrine constructed at the community center for the school children. This latrine would be a common toilet for the children to use, to instruct them on sanitation and persuade them from using the fields, path sides and the gutters of stagnating wastewater. Children from the Harijan community also attend the evening school. If the community center can acquire a small piece of land adjacent to the center to build a common latrine, will children use it and for how long? How will they (the community center's users) find anyone to clean it? Even Shanthi does not want to be responsible for cleaning the latrine. It is outside her duty.

Due to the water shortage, farmers who can no longer cultivate agricultural crops have switched to tree crops. PHCC provides fruit, fencing and multipurpose tree species. Timber trees are always planted with two quick-growing pioneer species. The pioneer species shade the more valuable timber species and provide earlier benefits from fodder and fuelwood than the long-maturing timber tree does. The largest road block to greening is browsing by goats and cattle.

The objectives of Kadavakurichi's greening are to create a buffer along the foothills to protect and to prevent further damage to the vegetation on higher slopes, to reforest land to arrest the process of soil erosion, to meet the fuel / fodder needs of the villagers by reforesting marginal and degraded lands and to reduce overgrazing by goats and cattle. These last two objectives interest me the most. I joined Shanthi on an afternoon stroll through the village. We talked in a mixture of English and Tamil. She suggested that if I wanted to sit down and talk with anyone, I should not hesitate to do so. A group of women stood in line at the community pump balancing eversilver (similar to stainless steel) and plastic vessels called kudam on their hips. The women wrap their elbows around the kudam's short neck and rest the kudam's flat bottom on a jutted-out hip. Another group of women sat on a nearby porch. Shanthi and I joined them on the stoop.

We chatted about families, children, husbands, and occupations for some time before I asked what I thought to be a very routine question about fuelwood benefits from the PHCC forestry project, "Where do you get your fuelwood?" I inquired.

"Whenever we need fuelwood we hire one of the Moopars to get it," the women replied. The Moopar community is one of the many castes that live in Veelinayakanpatti. They supply firewood to many members of this and surrounding communities. Preliminary surveys conducted by PHCC in 1992 found that the Moopar caste is the community most dependent on Kadavakurichi. In addition to collecting fuelwood, they are the most diligent hunters in the area pursuing rabbits, wild pigeons, foxes, rats and other small game. Approximately 25% of the villagers living near Kadavakurichi are members of the Moopar caste.

Many foreigners are familiar with the term, caste system. While the designation of the term "caste" did not occur until the 16th century with the coming of the Portuguese (the word caste is derived from the Portuguese *castas* meaning, tribes, families or clans), the rigid social order of Hindu society has existed for more than 2000 years. One is born into a caste, lives with the duties,

privileges and burdens associated with this relegation, accepts this status as fate, and hopes to be re-born into a higher more-privileged caste in the next life.

In the text, *The wonder that was India*, an entire chapter is devoted to this social order. Originally, there were four classes or communities: brahman, ksatriya, vaisya, and sudra. The duty of the brahman was to study, to teach, to sacrifice and to give and receive gifts. The brahman was revered for his great spiritual power and was to educate those below him regardless if he received compensation or not. The duty of the ksatriya, later the rajput, was to protect the people by fighting during wars, and in other times maintaining peace. The vaisya was to breed cattle, till the earth, lend money, and pursue trade. As time passed, the vaisya left his agricultural roots behind and became the first Indian businessman with a full knowledge of jewels, cloth, spices and perfumes. The sudra's duty was to serve the other three classes. As part of his service, he wore their old ragged clothes and ate the remnants of their meals. The sudra had few rights and little value was placed on his life. In fact, the penance for killing a sudra was equal to that for killing a dog. But while treated as a second class citizen, at least the sudra was considered to be on the fringe of the social hierarchy, as one of the four original communities. Below the sudra was the untouchable. The untouchable was so far outside the social order that he was not even considered within his own fifth class. The untouchable lived outside settlement boundaries in his / her own special quarters (the same planning exists in rural villages today), should be dressed in the clothes of corpses to be cremated and should eat food from broken tableware. The untouchable was made so by his conduct, the work he performed polluted him and the people he came in contact with. This pollution-notion may have its roots in the sentiment of non-violence, thus the hunter, the fisherman, the alcohol brewer, and the leather worker were untouchable. Yet, this cannot explain why the basket weaver and the chariot carver, who was at one time the most respected craftsman, fell to the status of untouchable.

There is no chance of increasing one's individual status in one's own lifetime, in fact it was easier to fall. The social order was and still is fluid. Castes sub-divided into sub-castes with the emergence of new professions and demanded services, and with the arrival of immigrants and invaders. Some sub-castes existed for a few generations and disappeared as mysteriously as they appeared, some sub-castes rose and fell among the ranks, while others exist today. Yet within this dynamic environment, the four original classes always remained.

The caste system was reinforced by the rules of endogamy (only intragroup marriages are legitimate), commensality (food was only to be received and eaten in the presence of members of the same or from a higher group), and craft-exclusiveness (each individual is to take up and remain in the trade of his own group). These norms still exist. If I politely refuse a snack from a woman on the bus or from the family I happen to be sharing a train compartment with, I am questioned, "What?" "Is my hand dirty?" This can be translated as, "Am I not fit to accept food from?" I often establish the relations and offer my snack foods first, and for the duration of the trip food freely passes from hand-to-hand. These rules are also being by shed by members of the forward castes (the brahmins); many of whom consider themselves to be more educated and enlightened than the general public. In an age where the majority of marriages are still arranged, the families of prospective brides and grooms will advertise in the Sunday newspaper for a future spouse: caste no bar, but U.S. green card holder an advantage.

The caste system, as a Hindu and an Indian institution, has yet to be abolished. Mahatma Gandhi struggled to break down this social order as well as the barrier between the Hindu and the Muslim. Muslims have their own caste groups. The many Christian groups of South India carry prejudices with them which have turned their sects into groups with caste-like qualities. Within these sects, high-caste converts consider themselves above low-caste converts.

Today the government classifies the sub-castes into five broad classes: forward castes, backward castes, most backward castes, scheduled castes and scheduled tribes. The brahman community is a forward caste member. The untouchable communities fall within the scheduled castes. Within each caste are different communities (according to Norman Lewis, there are over 520 sub-divisions), each with their own name and traditional occupation. Tribals are the lowest group in the hierarchy. Of all the groups in Hindu society, they should be pitied the most as they have 'no caste' at all. According to Basham, "loss of caste was the greatest catastrophe, short of death and the major chronic diseases," (p.151).

After a long conversation with Shanthi and Kamanatha, a member of the Nayaka community (a backward caste), I discovered that there are unwritten rules governing the extraction of fuelwood from the Kadavakurichi Reserve Forest and from the reforested wastelands surrounding Veelinayakanpatti. Men, women and children from any caste are permitted to collect fallen branches and thorny shrubs as fuel from the forest and lands surrounding the village. These lands are considered common property. Lopping branches and cutting down small trees on these common lands they are not allowed to do. Only members of the Moopar caste are allowed to cut down or cut parts off living trees on common property. Every week Kamanatha hires a Moopar to collect firewood for her and pays him Rs. 35 for one headload. She estimates using 5 kgs of wood for cooking per day.

It does not bother Kamanatha at all that she pays for fuelwood from trees that she helped to plant. What bothers her the most is that now the Moopars are the richest community in the village - a reign that used to belong to the Nayakas (Traditionally, the Nayakas are known as a kingly caste for in ancient Tamilnadu, the Nayakas ruled the Kingdom of Madura, now Madurai, from 1529 until 1739). When I asked her if the Moopars have become richer from fuelwood sales, she claimed not to know the reason for their wealth. They now occupy the highest-ranking position in the community. That is what matters.

Shanthi and Kamanatha explained to me that while they cannot cut trees on common property, they can cut down trees and lop branches from trees growing on private property.

"So, for instance, suppose that PHCC encourages all of you to plant fuelwood trees on your own land," I said. "You could then cut them yourself for firewood?"

"Yes, on our own property we are cutting (ie. able to cut) trees," Shanthi replied.

"This would help you to save money, give you a supply of firewood and protect Kadavakurichi all at the same time," I stated.

"Yes, it would."

"But then, what would the Moopars do for money if they had fewer people to sell fuelwood to?"

"Yes, I see, this is a problem. What would they do?"

What would the Moopars do? Fuelwood would still flow from Kadavakurichi's footpaths in vectors farther and farther away from its source.

In 1991, the NWDB-funded, PHCC-implemented project that was responsible for greening areas around Kadavakurichi ended. Paul Appasamy, a lecturer at the Madras Institute for Development Studies states that the collection of fuelwood from Kadavakurichi intensified after the project as people resumed collecting firewood from the hill's slopes. While landless laborers and others looking for daily work planted trees on Kadavakurichi's slopes and on nearby wastelands, people refrained from collecting fuelwood from the Kadavakurichi forest. This change in behavior was one of the project's intentions - fulfilling peoples' energy needs and reducing pressure on the reserve forest. Only after the project was the real value of fuelwood realized. More than 50% of the fuelwood that local villagers gathered was not for home consumption, but for sale in nearby urban markets. Thus, when the project ended, people returned to Kadavakurichi to collect fuelwood for the marketplace. Appasamy states that unless people depending on firewood sales as a primary income-generating activity are given alternative means to earn a living, they will continue to be forest dependent and gradually suffer from a consistent depletion of their resource base.

Students hired by PHCC conducted a footpath survey during which all the 43 entry paths into the Kadavakurichi Reserve Forest were simultaneously monitored from dusk to dawn one day a week for seven weeks. Among the results were that an average of 66 headloaders entered the forest per day hauling back bundles that weighted between 25 - 30 kgs, and that the majority of the headloaders were men. The explanation for the later result was that the seven week survey period probably occurred during a time of the year when male labor was available (a non-cultivating season). This may or may not be true. According to the PHCC project document, the majority of these headloaders were also Moopars.

What I have yet to discern is whether or not the Moopars are traditionally a forest-based caste. The little data that exists about them suggests that this might be the case. Would it make a difference to future planning in the area if extractive forest enterprise was their traditional means of livelihood and their traditional duty within the caste system? There is another local arrangement called *warram* in the Kadavakurichi area. Daily more than 3,700 head of livestock (goats, sheep and cows) are driven up to and grazed on the hillsides. Under the *warram* contract, livestock owners hire someone to graze their cattle for them and share the proceeds from the sale of meat and dairy products. The *warram* is not a caste-based duty, but rather a means of employment for local landless laborers.

When castes have an ecologically-based orientation, then the provision of alternative income-generating activities becomes a complex task. Is the call to stop environmental degradation stronger than the service one is born provide? Individuals planning and implementing new projects to reduce pressures on natural resources might just be asking a group of people to abandon their traditional duties, the traditional service of their forefathers.

Many caste populations have an ecological niche concludes the work of Gadgil and Malhotra. Their case studies in Maharashtra, where the Western Ghats begin, found seven castes which pursue their traditional primary occupations: agriculture, buffalo-keeping, sheep-keeping, bull-performance, indigenous medicine-men, and hunter-gatherers. Among the hunting castes in the semi-arid regions of Maharashtra some caste populations hunted only large carnivores with packs of dogs, others trapped small carnivores using a smaller pack of dogs and still others hunted with a trained cow which they hid behind as they laid their snares for blackbuck, deer and birds. In a village where there were two basket weaving communities, one community wove strictly with palm while the other worked with bamboo. A large trading network between communities existed whereby needs for vegetables, protein, housewares, medical care, etc. were met. Caste populations living in the same locality or the same village earned their living by utilizing different natural resources. This partitioning reduced pressure on the resource and was in fact a mode of natural resource conservation.

What happens when this traditional system becomes disrupted by usurpation of the natural resource base by government or private industry or by the introduction of a development scheme that changes the supply of, demand for and control of local resources? Gadgil and Malhotra found inter-caste conflict, a scramble for what remains of the resource base and a mass exodus (numbering over 10,000) to the slums of Maharashtra's largest city, Bombay.

Among the objectives for the 1993-1997 Kadavakurichi Management Plan are "to help goat and cattle graziers change to keeping milch animals or finding other occupations" and to continue afforestation on common property surrounding Kadavakurichi. This later objective is to the advantage of the Moopars. May laborers under *warram* contracts and other residents of Kadavakurichi not find it necessary to migrate to Madras.

Best regards,



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