

INSTITUTE OF CURRENT WORLD AFFAIRS

DGD-10
Notes of Comparison

P.O. Box 1615
Kathmandu, Nepal
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Mr. Peter B. Martin
Executive Director
Institute of Current World Affairs
4 West Wheelock Street
Hanover, New Hampshire 03755

Dear Peter,

After three rather exhausting months conducting field surveys in the far reaches of Nepal last fall (DGD-9), I decided that I needed a change of scenery and some relief from the daily chores. Consequently I scheduled a trip to Southeast Asia during the months of January and February, 1980. From Kathmandu I planned to fly to Bangkok, Thailand and proceed south to Malaysia and then west to Sri Lanka before returning to Nepal. (See Figure 1.) Although my actual trip lasted an all-too-brief four weeks, it enabled me to compare development problems in Nepal with those of other Asian countries and to renew my perspective on the Nepalese situation.

I found it quite exciting to be boarding the plane in January on the first leg of my Southeast Asian tour. Apart from an overnight stay in Lucknow in northern India early last year, I had not been outside of Nepal for over fifteen months. With the limited variety and everpresent shortages of basic consumer goods in local markets, I, as my Nepalese friends, had begun to daydream about the many items available in the markets of faroff Bangkok, Singapore and Hong Kong. The glories of Hong Kong have been spread throughout Nepal by Gurkha soldiers (DGD-2) returning from service with the British army, laden with exotic gifts, many of which never have been seen, much less sold, in the shops in Kathmandu.

The distance between Nepal and her neighbors in Southeast Asia is much greater than the 3½ hours flying time that separate Kathmandu and Bangkok. On arrival in Thailand the difference becomes immediately obvious in the relative sophistication of the transportation facilities one finds. The crowded freeways and numerous high-rise buildings of Bangkok are in direct contrast to the quiet streets left behind in rustic Kathmandu. The disparity in the level of economic development of these two Third-World countries was highlighted in a discussion of technological research with Dr. Jacques Valls of the Asian Institute of Technology (AIT) located just outside of Bangkok. In a brief description of the Institute's many projects, Dr. Valls stressed AIT's emphasis on the development of intermediate technology suitable to Asian conditions. The appropriateness of a given technology, I pointed out, is highly dependent on the local

Deanna Donovan is an Institute Forest and Man Fellow investigating the relationship between society and forest resources. Her current focus of study is the fuelwood crisis in Nepal.



Figure 1. Map of Asia illustrating the route of my recent tour.

situation. For example, the AIT ferrocement bins designed to reduce grain storage losses to insect and animal pests, although appropriate in the Thai context, very likely would not be equally feasible in most of rural Nepal, where both iron and cement are regularly in short supply. Transport costs for cement, now imported from as far away as the Philippines, Korea and Japan, have pushed cement prices up well beyond the means of the average farmer. Moreover, either the building materials or the finished product, all very heavy items, would require transport by porter or muletrain into the virtually roadless mountain areas where two-fifths of the rural population of Nepal live.

In Nepal it is recognized that technological research must begin at a more elementary level. In Kathmandu at Tribhuvan University's Research Centre for Applied Science and Technology, experiments with domestic clay stoves and indigenous water wheels are engineered to increase efficiency through slight modifications in traditional designs. Researchers also are experimenting with more complex technologies, such as biogas plants (for the production of methane gas from human and animal excreta), but due to the difficulties of proper service and maintenance, much of this more advanced technology seems to be destined to ever-inefficient operation and eventual abandonment. Given present and foreseeable economic and social

conditions in Nepal, I expect that marginal changes in the present technology will have a better chance of increasing productivity and improving living standards for the majority of rural inhabitants.

Leaving central Thailand, I traveled south by bus to Phuket whence I flew to Penang and Kuala Lumpur, the capital of Malaysia. Along the busy north-south highway the farms seemed fairly prosperous. Although water buffalo continue to be used extensively in farming operations in Thailand, occasionally I saw a two-wheeled tractor or mechanized paddy thresher at work. In most instances the farm buildings appeared settled in a grove of trees providing fruit and fuel as well as precious shade from the scorching tropical sun. What I found most curious about these small farms in southern Thailand and western Malaysia was the seeming scarcity of livestock. In Nepal, especially in the richer Terai, it is common to see farm yards teeming with chickens, dogs, goats, a buffalo, a pair of working bullocks, in some instances pigeons or ducks and an occasional pig. Very seldom did I see a Thai farm with such a menagerie; in Malaysia the phenomenon appeared even less common.

In southern Thailand extensive plantings of rubber trees, coconut palms, banana palms and pineapple plants **are common**. On the island of Penang off the west coast of the Malay peninsula, local farmers still cultivate the spices -- cloves, peppercorns, nutmeg and mace -- that brought the region its original notoriety. In Malaysia rubber and oil palm plantations dominate the rural scene. These regions thus focused on highly-valued, internationally-traded commodities have relatively efficient marketing systems whereby local farmers can sell their cash crops and buy the goods their families need. In Nepal, on the otherhand, transport and market facilities are very poorly developed. The few essential items imported into mountain areas are carried in most cases by porter, muletrain, or even goat herds through the high passes. Most Nepali farmers grow a variety of crops intended almost solely for their own families' consumption. Small quantities of grain are bartered for the services of the village priest, tailor, blacksmith or other local craftsman. By and large, however, in the hills of Nepal the farm family is of necessity self-sufficient.

The highland jungles of Malaysia provide a sharp contrast to their counterparts in Nepal. Whereas in Nepal the forests are very often open park-like stands of trees kept clear of undergrowth by grazing animals and frequent fires, the forests of Malaysia present exactly what the word "jungle" has always brought to mind: a tall tangle of trees, shrubs and vines so thick that a large knife is needed to carve a pathway through the verdant mesh. Lacking this very essential blade, I was forced to retreat to the well-tended road.

The condition of the mountain roads as well as the forests is noteworthy in Malaysia. Very often, poorly designed and in adequately maintained roads are prime causes of soil erosion in mountain

areas. Indeed, some of the worst displays of man-caused erosion in Nepal are the consequence of road construction activities. The roads I traveled in the Malaysian highlands were most impressive; properly banked and drained, they exhibit very little erosion. I was told that the top quality of the roads in rural Thailand and Malaysia stems from government efforts to control Communist insurgents in these areas. No doubt, expansion of rubber plantations and tin mining operations in the mountain region also has prompted the development of high-grade roads to serve these lucrative industries. Unfortunately, the recently completed multi-lane highway on the outskirts of Kuala Lumpur does not demonstrate similar careful planning. Attempts to re-establish vegetation on the fresh road cuts appear non-existent, or half-hearted at best. Deep gulleys in the road banks are testimony to the neglect.

Sri Lanka was the last stop on my recent tour. Not yet as westernized as its neighbors, this island nation appears similar to Nepal in terms of its economic conditions and development problems. In fact, on my excursion into the central region of the island, I saw several small, wood-fueled brick and lime kilns almost identical to those I visited last fall in the hills of Nepal. According to one source, approximately one-third of the tea industry is also dependent on firewood for drying the tea crop. Recently the government of Sri Lanka reduced subsidies on petroleum fuels. Government officials told me that as a result, additional tea and tobacco processors are considering reverting to the use of wood fuel. Moreover, the domestic steel corporation has expressed interest in the possibility of using locally produced charcoal in their production.

The Sri Lanka State Timber Corporation appears eager to promote the use of charcoal. Extensive forest clearing for agricultural settlement in northeastern Sri Lanka will provide the government with large quantities of low-grade timber that the State Timber Corporation plans to convert to charcoal for sale to industrial and domestic consumers. Currently the majority of Sri Lankan families use firewood for cooking purposes. In the fast-growing cities and towns, the demand for fuelwood is having adverse effects on nearby forest resources. With the introduction of charcoal as a cooking fuel, the government hopes to reduce the pressure on local forests by supplying charcoal from more distant forests. Having roughly twice the calorific value of an equivalent weight of wood, charcoal is more economical over the longer haul. Nevertheless, charcoal production in itself consumes wood energy, approximately one-third that of the raw material. Ultimately, unless the government adjusts forest management plans to include sufficient replanting, charcoal use will decimate the forests as fast, if not faster, than normal firewood consumption.

While in Colombo, the capital of Sri Lanka, I spoke with two individuals, Mr. D. DeSilva and Mr. N.B. Jayasiri, who have been involved in the development of the charcoal-burning clay stove that the government plans to introduce together with charcoal in the local markets. As raw wood rather than charcoal is used generally for domestic cooking, government officials felt it necessary to undertake an advertising campaign to extoll the virtues of the new fuel. According to one bulletin board at the State Timber Corporation, the advantages of using charcoal are numerous. Charcoal is cheaper than kerosene and easier to handle and more efficient than firewood. The use of charcoal reduces smoke and soot in the kitchen, thereby rendering the kitchen a cleaner and healthier place to work. In addition, the poster points out that charcoal, unlike kerosene, is a renewable resource and therefore promotes forest economy. Finally, it proclaims that the use of charcoal "contributes to the emancipation of women."

At first glance Sri Lanka's new stove appears to be merely a modified flower pot. Indeed, at a height of approximately thirty centimeters, it has about the same proportions and inverted conical shape, but it has undergone several alterations to improve its efficiency as a cooking device. The diagram above provides a rough sketch of the new stove. Placed on the market on March 15, the clay stove is priced at 15 Rupees, or about one dollar (U.S.), its cost of production. Charcoal, also to be sold in the local market, is offered in plastic bags weighing three kilograms and costing 5 Rupees, roughly 10 cents (U.S.) per kilogram. According to researchers, laboratory tests have shown that 350 grams of charcoal will burn approximately 1 to 1½ hours, reportedly sufficient time in which to prepare the traditional Sri Lankan meal of boiled rice and curry.

New
Sri Lankan
Stove

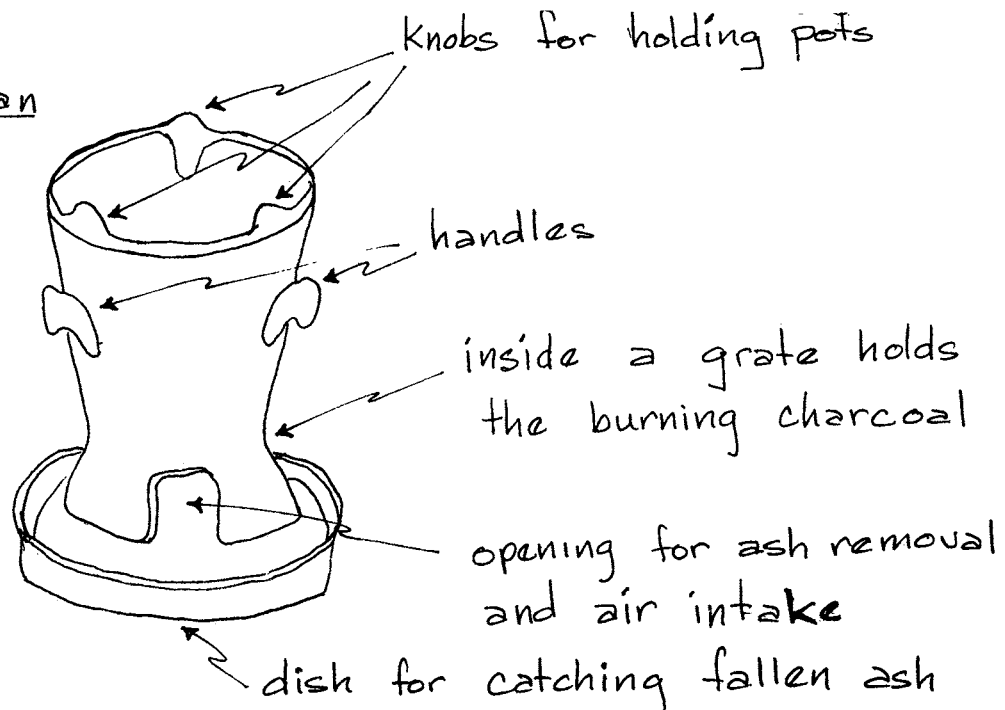


Figure 2.

The stove's developers claim an increase in efficiency of 70 percent to 100 percent over traditional cooking methods. In preliminary field trials, consumers complained that the charcoal produced no flame, apparently for local villagers an important indicator of the fuel's effectiveness. Users also argued that actually two such stoves are needed to duplicate the services of the traditional open fire. It also may be demonstrated that with these new stoves it is impossible to regulate the cooking temperature and difficult to extinguish the fire on completion of cooking in order to conserve fuel. The progress of this program will be very interesting to watch. Not only will its success or failure have important implications for forest management in Sri Lanka, but it could also be very instructive for energy researchers in neighboring countries, as well. Both government officials and foreign aid missions in Kathmandu have shown active interest in developing and promoting the adoption of more efficient wood-burning stoves in Nepal.

When I returned to Kathmandu, the city seemed very much a quiet small town, especially after the traffic-snarled streets of Bangkok. In reality, the streets of Kathmandu have been emptier than usual lately. Political disturbances in northeastern India have disrupted oil refinery production and petroleum products distribution. As a result very little gasoline or diesel fuel is available in Nepal. It is not uncommon to find people spending 5 or 6 hours a day in a gas line waiting for a 10 liter ration that costs the equivalent of U.S.\$2.64 per gallon. Black market prices reportedly are running almost twice this rate. Understandably, many private vehicles have disappeared from the roads, and the distribution of almost all goods and services has been adversely affected.

Shortages of various commodities and interruptions in basic services have become commonplace in Kathmandu during the past year. One learns to cope, but certainly one of the biggest challenges for a foreigner living and working in Nepal is learning to abandon assumptions and curb expectations. Although I recognize that it is perhaps brash to presume to take for granted such local luxuries as piped water, sewerage, electricity, and public transportation, I feel that it is necessary to develop dependable systems of such facilities if the nation is to progress beyond the level of a collection of subsistence, barter economies. It is hard not to see the enormous amount of work that needs to be done to improve basic living standards in Nepal. The difficulties of accomplishing these many tasks, however, reach far beyond the decision as to which technology to adapt. Institutional obstacles are often the most discouraging. My recent travels permitted me not only a respite from the daily grind of life in Nepal, but also the opportunity to review the problems and achievements of neighboring countries, thus encouraging me to focus afresh on the potential of the Nepalese situation.

Sincerely,



Deanna G. Donovan
Forest and Man Fellow