INSTITUTE OF CURRENT WORLD AFFAIRS
THE CRANE-ROGERS FOUNDATION
4 WEST WHEELOCK STREET
HANOVER, NH 03755
U.S.A.

PETER BIRD MARTIN
EXECUTIVE DIRECTOR

TELEPHONE: (603) 643-5548
TELEFAX: (603) 643-9599
E-MAIL: icwa@telecomp.com

CMC-4

August 1994

To: Institute Newsletter Readers

From: Peter Martin

To save possible confusion as you read the attached newsletter from Cynthia Caron, let me provide a bit of background:

One of Cynthia's Master's-degree classmates at the Yale Graduate School of Forestry and Environment was a Bhutanese environmentalist whose assignment, after Yale, was to carry out an assessment of the scope and impact of the establishment of major forest and environmental protection areas in Bhutan. Impressed by Cynthia's work at Yale, he invited her to participate in the project. This is why Cynthia is in Bhutan at all -- the country being virtually "closed" to all but a few special foreigners.

Cynthia arrived in Bhutan on May 16, 1994, and began intensive study of the local language, Dzonghkha, in preparation for long treks into the Jigme Dorji National Park, which occupies much of the northwest of Bhutan. On the treks, her assigned duties included, as she put it in her six-month report to the Trustees, "speaking with residents about their problems and solutions to them. The issues will include fuelwood sources, pasture for grazing cattle and yaks, collection of medicinal plants and plants for incense production, crop predation by wild animals like the boar, and livestock losses to tigers and snow leopards."

The attached newsletter is a report on her first trek, and there are certain to be more. She phoned day before yesterday with delight in her voice; she has been asked to stay through December.

INSTITUTE OF CURRENT WORLD AFFAIRS

Encounters in the western regions of Jigme Dorji National Park

July 29, 1994
Thimphu, Bhutan

Mr. Peter B. Martin
Institute of Current World Affairs
4 West Wheelock Street
Hanover, New Hampshire 03755 USA

Dear Peter,

On the morning of Monday, May 30th, the air is cool and the sky, a dull dishwater grey. Even with the threat of rain, it is perfect day for hiking. I prefer to walk through a flat and exposed terrain in a fresh shower than under the unrelenting rays of the sun. Still, I hope any potential rain would hold off at least until late afternoon or early evening. We should be settled at our first campsite by then.

Promptly at 8:00 a.m., Tshewang from the Nature Conservation Section (NCS) of the Forestry Services Division arrives at the Druk Sherig Guest House and helps me load my knapsack and camping equipment into the back of the pick-up truck. Sonam, one of the high school students who is helping to conduct surveys for the next three weeks, is perched on the edge of the back seat. A dull beat emanates from the earphones of his walkman. Another vehicle carrying the other half of the trip members and supplies has gone on ahead. Later today, we will meet in Paro.

I roll down the passenger window and rest my elbow on the metal frame. I feel completely awake. I think even my eyes are opened wider than usual. I am shifting in my seat, with anticipation, at what seems to be regular five-minute intervals. While I stare out the window, I am holding a conversation with myself, chatting at top-speed about my expectations for this trip and asking myself questions about everything ranging from possible wildlife sightings to the weather to my own physical stamina. I am thrilled. At last I am going into "the field". I am so enthusiastic, I could not even eat breakfast this morning. It is a good thing too. I have traveled down this road before. I know its curves; its rolling curved grades make me feel car-sick.

There is one primary vehicular road to Paro. As we travel along this zig-zagging route that follows dangerously close to the edge of river cut valleys, we pass two pastel-colored, pot-bellied statues at the border of Thimphu valley. Most valleys are protected at all entrances, north, south, east and west by a local deity. At the entrance of Thimphu valley, two of Thimphu's protective deities sit back to back. The one facing north, towards Thimphu, keeps health and prosperity in the valley. The one facing south, towards Phuentsholing, keeps bad luck and evil spirits from entering the valley. But, with their placement, many people joke that they

---

Cynthia Caron is a John M. Musser Memorial Fellow of the Institute studying forest conservation in South Asia.

---

are really in a fight.

The landscape between Thimphu and Paro is characterized by steep, rocky and arid slopes. The beginning of Paro valley is easily distinguished. It is an impressive display of human toil. Terraced and flat paddy fields, symmetrical and square, are laid out as far as the eye can see. The paddy fields, surrounded by bunds, knee high mud walls that double as narrow walkways between the fields, will soon be flooded and transplanted with rice seedlings.

Paro is located in a wide, flat valley bottom with a slow-moving river flowing through it. The Paro chhu is one of the few rivers in Bhutan that is used for irrigating agriculture. Most of Bhutan's largest rivers form and flow through deep, narrow ravines creating near vertical rock faces that leave them inaccessible for most small-scale agricultural production efforts. As we approach Paro, we find paddy fields in different stages of preparation. Some fields have been flooded already. Others still waiting for green manure (leaf litter and small branches) and animal manure to be tilled underneath the muddy topsoil. Most farmers and sharecroppers are driving teams of oxen. One lucky individual has gotten a loan from someone and drives a Kubota tractor.

We reach Paro ahead of our colleagues and linger by the roadside for awhile. The other group includes two interns, Ugyen and Jamba, and Jigme who is a NCS staff member and this trip's logistical coordinator. They have stopped at the District Forest Office to a pay a courtesy call to the DFO (District Forest Officer). Tshewang and I leave Sonam and the driver behind with the vehicle and head down the road to the forestry field office. Here we meet Tashi, a newly trained forest guard, with his few belongings strapped to his back in a cotton khaki government-issue knapsack. He will accompany us on our trip to collect firewood and water, to cook our meals and to stay behind with our belongings while we are away from camp conducting our fieldwork. He may be a good omen by virtue of his name alone. Tashi is an auspicious name as in "tashi delek" meaning "good luck" or "good fortune".

Within an hour, our team assembles in one of the many tea shops lining the Paro road. We take our time sipping cups of tea. Upon leaving the shop, I pull open the screen door, letting in a stream of sunshine. It is only 10:30 a.m.. We plan to arrive at Guinchawa, an army base camp just outside the park's southwestern boundary and our first stop, by sunset.

The Paro road dead ends, 15 kms after the town's center, at the ruins of the Drugyel dzong. Where the road ends, the trail head for the Jumolhari trek through Jigme Dorji National Park and the most direct overland route to Tibet begins. Here we will meet the man whose horses we are renting to carry our provisions and equipment. He will take us to Jangothang, the Jumolhari base camp. By noon time the horses still have not arrived. In fact no one in the area can give us an explanation as to where they are.

Renting horses in Bhutan for government-sponsored trips is not conducted under a private contract.[1] The economic concepts of supply and demand are completely irrelevant. For government-sponsored trips, individuals are required to porter under a social contract. For such trips, only the Gup, the head of the block or gewog, can arrange horses for transport. Someone from the government agency must inform the Gup of every gewog that a government trip will

pass through of the approximate number of days and number of horses needed. The Gup, then appoints someone with horses, to the portering task. Assignments are made on a rotating basis. This obligation usually amounts to two portering trips per year.

This is an especially difficult time to find a porter as it is the beginning of rice cultivation. Yet, even during other seasons, the Jigme Dorji residents I have spoken with have absolutely no interest whatsoever in portering. The financial benefits do not meet costs of time spent away from the household. In our particular case, the Gup notified our horseman (as porters are often called) on the morning of the 30th that he would accompany us to Jangothang that afternoon. Immediately after the Gup left, the man assigned to this duty freed his horses into the forest. Rounding up horses is no easy task. By the roadside, we consult with the Gup about this unfortunate situation. He heads off in one of the vehicles to find someone else to accompany us.

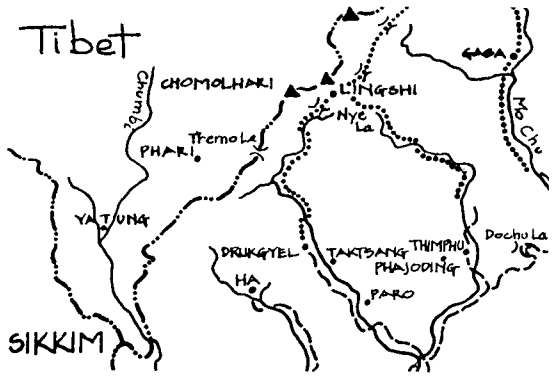

Figure I: Map showing the location of Phari, Tibet and Tremola Pass - threats of invasion [3].

This delay leaves us time to explore the ruins of Drugyel dzong. The dzong was destroyed by a fire started by an overturned butter-lamp in 1951. Drugyel dzong means "fortress of the victorious Drukpas". Shabdrung Ngawang Namgyel built the dzong in 1647 to commemorate the 1644 victory over the Tibetans [1, 2]. On a small, rocky hill, the dzong commands a solid view to the north. Historically, Tibetans attempted to invade Bhutan from the northwest over the Tremola Pass from the Phari dzong in the Chumbi valley (See Figure 1) [3, 4]. Before construction of the road to the Indian border at Phuentsholing, this was the easiest way to enter western Bhutan. On a clear day, the snowy peak of Mount Jumolhari on the Tibetan border is visible from the fortress.

The fortress now shows signs of fatigue. Its crumbling remains are dry and dusty. Wirey vines grow through and widen its cracks. The courtyard has walls over 15 feet high and is slowly becoming overgrown with a small stand of saplings, grasses and weeds. This inner compound is surrounded by another higher wall that allowed soldiers to gather water from a nearby cistern without threat from shooting arrows. The dzong has five watch towers, three at the entrance on the southwest side and two overlooking the north. After a thorough investigation of the small administrative rooms in the central tower, Sonam adds his name and the date, in thick black paint, to a wooden post over a doorway. Atop the cracking ramparts (which my guide book warns are not very safe) is a spectacular view of Paro's paddy fields to the south, and dark, forbidding conifer forests to the north. It is then that I see seven horses coming down the road. I hope that these are not just any horses, but the ones we are to rent.

These are our horses. Luckily someone has just returned from portering a group from Jumolhari and is heading back that same way today. He lives in Jangothang where he is a Mang Ap, a village

elder. The group he escorted back from Jumolhari had made the trek there for a religious ceremony. A monk has just finished a long mediation (three years, three months and three days) in the Jumolhari region. He invited a famous lama (religious leader) to coincide with his "coming out". Individuals from the Paro and Thimphu areas are returning from travels to Jumolhari where they gave offerings and received blessing from this lama.

Perhaps Tashi is bringing us good fortune. By 1:00 p.m., we have horses and a porter. Now the arduous process of negotiating a price begins. Actually a price does not need to be negotiated because portering prices are more or less standardized. Negotiating a price, the amount of baggage each horse will carry (in kilograms), the number of days we need the horses and the places we plan on visiting is a ritual that cannot be skipped. There is a lot of shouting, pointing to horses, lifting of boxes packed with our supplies, smiling, sharing of betel nut, spitting and shouting again. After 45 minutes of these entertaining antics, Jamba begins packing our supplies in burlap gunny sacks. After the horseman lifts each bag, he either nods, approving of the weight, and the bag is stitched for loading onto a horse, or he shakes his head in disapproval in which case items are taken out and replaced with lighter ones.

Jigme looks a bit disgusted. "He's only taking 60 kgs per horse (30 kgs per side)," he says. "When I was a kid, horses would take 80 kgs a piece. The horses haven't gotten smaller."

We pay Nu. 60 (US$1.95) per horse per day. This is less than the tourist rate (Nu. 75) but double the government rate. At less than a dollar a day (Nu. 30) it is no wonder that people do not like to carry supplies for government-sponsored trips. As a joint NCS-WWF research team, we are willing to pay a little bit more.

Our supplies include three tents, five sleeping bags, 100 kgs of rice, over 50 kgs of vegetables: onions, potatoes, radishes, cabbage, tomatoes, and, of course, red hot chili peppers. I cannot fathom a guess at the weight of the tins, their various shapes and sizes, containing fruit cocktail, evaporated milk, cheese, sausage, ham, mushrooms, chicken and sardines; and the packages of biscuits, loose tea leaves (both green and brown), sliced white bread, 14 boxes of powered milk (I thought this was going a bit overboard as we would be out for 17 days), a jar of jam, two pounds of butter and a bag each of salt and sugar. And Jigme, bless his soul, bought coffee. Our menu is more decadent than I had expected. By 2:30 p.m., our business arrangements are settled. We head off, leaving the final loading of the horses to Tashi, the porter and the porter's son (See Figure II).

The trailhead is being widened for a road. The route is a muddy orange decorated with the treads from the recent passing of a bulldozer. Road construction began a few days ago. It is financially supported, in part, by the local people. Along the bank of the Paro chhu, we find two women and a man digging up a potato crop. The potatoes are small and certainly are not ready for harvest.

"The road will pass right through our fields in the next few days," a man explains this premature uprooting to us.

This family is sacrificing their fields for a road. They made this choice without receiving any government compensation in the form of land or money. They had not even thought of asking for

compensation nor did they expect to receive any. We suggest they investigate the possibility. They might be given a small parcel of land or the money to purchase one to replace their soon to be bulldozed kitchen garden.

We are still outside what today is considered Jigme Dorji National Park. While the park's southern boundary has yet to be demarcated, we will enter Jigme Dorji early tomorrow morning or the following day. Originally, Jigme Dorji was an area encompassing the entire northern section of Bhutan. The proposed park extended horizontally across the country along the Tibetan border. In

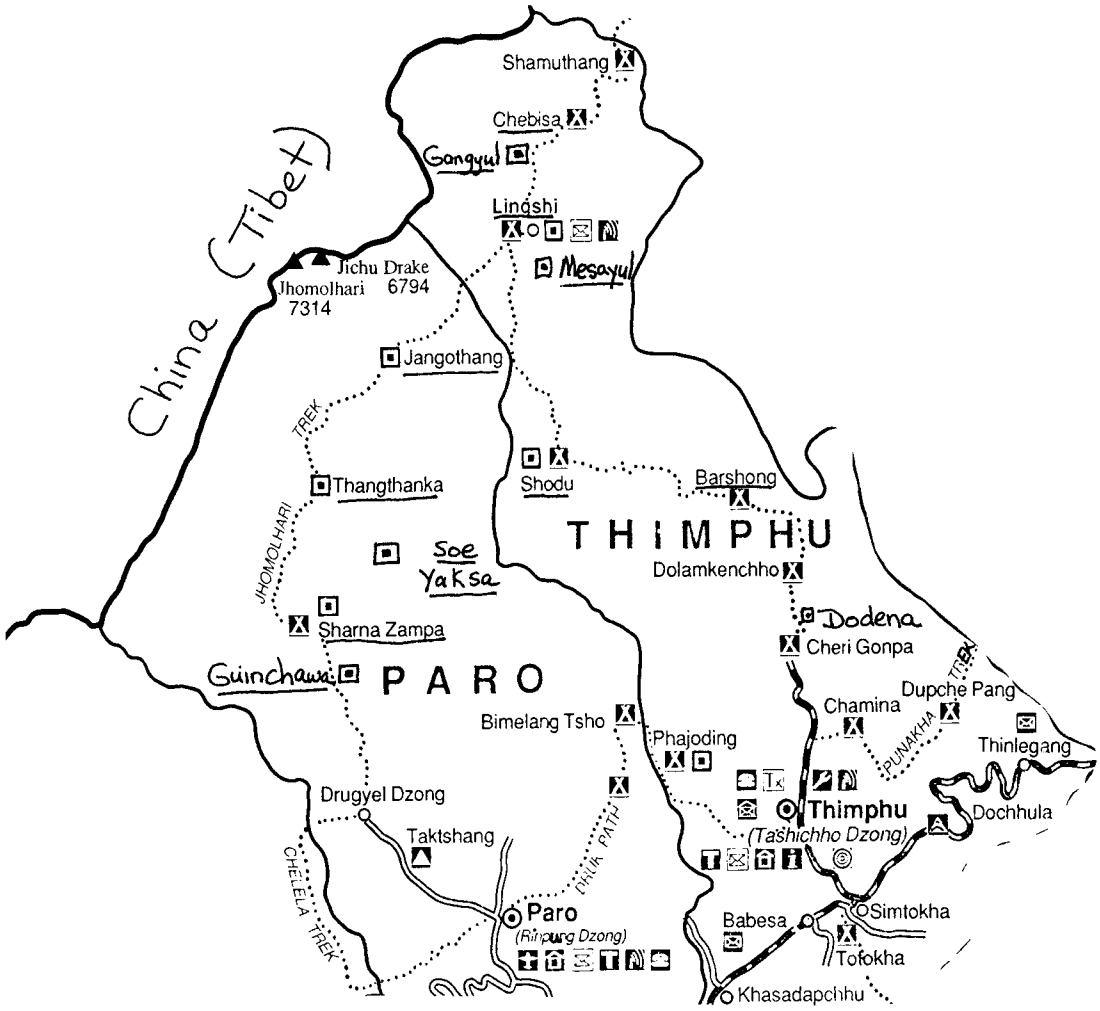

Figure II: Trekking route through Jigme Dorji National Park. Beginning from Drugyel dzong, passing through Lingshi twice and finishing at Cheri Gonpa, Dodena. Underlined village names indicate survey areas. Shodu is not a permanent settlement, but a temporary camp for migratory yak herders. From: Services of various departments under Ministry of Communication & Tourism. RGoB,1988.

terms of biological diversity, the area was relatively uniform, composed primarily of alpine meadows, snow capped peaks and juniper-dominated forests. In terms of human settlements, the region had less than half the residents it does now.[2] Redesigning the park (for map see CMC-3) in the northwestern corner of the country preserves a greater number of ecologically-diverse habitats, and increases the potential number of floral and fauna species falling under its protection.

The park's new geographical locale necessitates new boundary demarcation. The boundary survey team which includes one person from WWF and two persons from the Forest Department, is recommending shifting the park's southern boundary to include Guinchawa [5]. This would add one small village and another army camp to the park's human settlements.

The natural contours of the landscape, ridges and confluences in particular, will define Jigme Dorji. During boundary demarcation, the survey team walks along the accessible portions of the old proposed boundary recording forest types, flora and evidence of fauna, prominent landmarks and land use patterns on either side of the boundary. They supplement their observations with interviews with local villagers and village elders about inaccessible areas and land use management to identify potential land use conflicts [5]. The suggestion to include areas south of the old proposed boundary to include Guinchawa are based on the team's observation of thick forest cover in the area and its potential for wildlife habitat.

Regardless of whether or not the boundary is extended to include Guinchawa, there are several problems and conflicts in the area with respect to natural resource management, that demand a resolution.

On the outskirts

A twenty minute walk northwest of Guinchawa's army camp is the village of Sharna. One might hesitate to call it a village. It is only one family occupying two farms. This is typical of settlement patterns in Jigme Dorji that are either clustered together or scattered along a trail. In many instances, one house makes up its own village. Thus there is hardly anything unusual about a two household village. Sharna's population of 27 is related through two now elderly sisters, Bidha and Tshering.

Tshering's home originally housed two families but the second family, feeling that there was nothing left for them in Sharna after their children had married and moved away, have shifted to Paro to be closer to them. Tshering bought their land, a little over five acres, and their portion of the house. With the two and one-half acres she inherited at her mother's death, she has approximately eight acres of land. Her family of 14 fits comfortably in what used to be a two family house. Over one doorway hang the horns of a domestic goat. Over another door hang the horns of a serow (*Capricornis sumatraensis*), a goat-like ungulate. Her grandson found the dead serow while tending to cattle and brought the skull and horns back.

Tshering's and Bidha's daughters will inherit this land. To date it is still registered in their late grandmother's name. Bidha has gone to Paro twice, attempting to change the land registration record and acquire the land legally. Both times she was unable to get the correct government

officers to process the paperwork. At the moment she sounds quite indifferent about attempting this bureaucratic process again any time soon.

Tshering grows both vegetables and grains in her kitchen garden. Most seasons, including this one, she plants cabbage, potato, spinach, peas, pumpkin, beans and maize. Yields are not large enough to feed the family for the year but everything helps. She could market some of the produce at the army camp's small shop. Instead she keeps it for home consumption, storing produce in wooden boxes and gunny sacks. She does not store cereal crops.

"These people are really Bhutanese," Jigme says. "They eat at least 300 kgs of rice a month but she says it is usually closer to 400 kgs."

Tshering either buys or trades for rice in Paro. If the wheat crop is good, she will trade most of it, keeping only a small portion to grind into flour. The terms of trade are fixed. For every two dreys of wheat, she receives one drey of rice. The drey is local unit of measurement. It is a canister that corresponds in weight to one and one-half kgs of rice. Any exchange, though, using the drey is based on volume, not on weight. So while one drey always equals one and one-half kgs of rice, trading two dreys of anything else, wheat, barely or incense, for instance, does not correspond to a trade of three kgs of that particular good.

Bidha's family has 2.6 acres of dryland that includes a small kitchen garden for vegetables and a field for planting cereals like wheat and barley. In the kitchen garden, she plants potato, cabbage, spinach, beans and onions every summer. She does not have the space to grow any other vegetables nor does she wish to. The vegetables she plants last the family for two months. She buys extra fruits, vegetables and rice in the lower valley, Paro. When she does not trade wheat for rice, she sells the grain to the soldier's wives.

Neither of the sisters collect foods such as tubers, leaves or mushrooms from the forest. Tshering does not seem interested even though she knows that mushrooms grow in abundance after the summer rains. Occasionally, Bidha collects mushrooms but usually the soldiers pick them before she has time to gather them.

Farming is carried out with simple wooden tools. Fertilizers consist of cow dung and mulch. They find themselves in a battle with nature when it comes to growing food. Newly planted crops are eaten by sambar deer. Because the potato field is often dug up with the dangerous tusks of the wild boar, they do not plant a large potato crop, which is unfortunate because potatoes store well. To prevent crop predation by wildlife, someone in the family must stay awake throughout the night, lighting fires and shouting at the animals. It has been several years since they were visited by an agricultural extension officer. Extension officers are responsible for distributing seeds and giving technical advice and assistance to farmers in rural areas.

For the past few years the wheat and barley crops have been destroyed by a small beetle and an insect with a foul smell. This is a problem for several reasons. Both families lose the income from selling wheat and the goods they normally trade for with wheat. The cattle won't eat the stalk so even the residue is wasted. Their husbands went to Paro three years ago to borrow a spray pump

and to purchase insecticide from the agricultural center, but the spraying was only successful that one year.

They often have problems with their water supply. The source's origin is far away upon the ridge and is channeled through a series of pipes and canals. The water supply is seasonally disrupted, especially during heavy rains when the piping is washed away or becomes blocked with soil, small stones and woody debris. They have brought this problem to the attention of officials in Paro, the district headquarters and to the Gup at gewog meetings. They made a request for a cement tank and tap stand.

"But we are only two households," said Tshering. "so no one wants to come this far out. We must be less important than other larger communities."

In alpine regions, the yak is the foundation of the subsistence economy. In lower elevations like Sharna, cattle fulfill this role. There is no private or communal pasture land in Sharna. Tshering and Bidha allow their cattle to graze unattended throughout the year on government land. The government awarded them grazing rights to pasture their livestock on state-owned lands near the village and in the meadows of neighboring Soe gewog. These registered pasture lands in Soe Thongbu are a six hour walk north of the village at an altitude of approximately 3,700 meters. The Soe pastures are used for two or three months during the summer after planting agricultural crops, mainly to keep the cattle from eating newly planted crops.

During the remainder of the year, the cattle graze for the entire day in pasture near the village. They are never taken inside (the ground floor of the house) and stall fed, a common practice in higher elevations where the winters are colder. The pastures where the animals are let out to graze in the village depends upon the availability of fodder and the quality of the grass. Both these criteria vary seasonally. Low quantity and poor grass quality is a problem in the summer months. This is another advantage for having rights to pasture lands in higher altitudes. By July, the grass supply in Sharna pastures are nearly exhausted. Aside from poor grass production at the beginning of summer, Bidha and Tshering are satisfied with the quality of their pastures.

Bidha's family has four bulls, five cows, six calves, two horses, two pigs and three chickens. There are a variety of wide ranging problems associated with animal husbandry. The poultry need a large quantity of fresh and clean water. Cattle suffer from foot and mouth disease and swine fever, a shivering disease. In the past she has lost cattle to wolves in Soe Thongbu. Unlike cattle which graze throughout the year, horses are brought inside a small corral at night and fed. In the winter and early spring, there is a shortage of fodder. She dries bundles of cut-grass under the roof of the house and has begun to cultivate fodder grasses to increase her supply. The men in the household collect additional fodder materials such as tender leaves, perennial flowers and grasses from the forest. Sometimes they spend half a day in this activity. Another 10% of the fodder requirement comes in the form of crop residue, particularly wheat stalk, when the absence of pests makes it palatable.

Income generating activities include sale of dairy products, renting livestock, tourism and wage labor. Both women trade and sell cattle products such as cheese (datsi), butter and curd in Paro

and at the army camp. They usually receive Nu. 8 per patty of cheese and a drey of rice for four sangs (one sang = 1/3 kg) of butter.

Situated above Paro valley, Sharna falls outside the rice belt. Tshering rents out her oxen for Nu.100 per pair per day in Paro. It is an advantageous package deal as her son also goes along to drive the team for Nu. 50 per day. Bidha and her children do not rent out oxen. Instead they go to Paro and work in other peoples' fields for a small daily wage which they use to buy rice.

In addition to 18 heads of livestock, one pig and five hens, Tshering has six horses and one pony. On this particular day, they are grazing under the shade of apricot trees in a stone-wall corral. Last year she earned Nu. 10,000 from renting out her horses through a tourism contract. The horses are used to transport provisions for trekkers along the Jumolhari route.

Finally, woola, a labor-based household tax, generates a small amount of income for every family in the district. It is manual labor that at least one member of every household in the dzongkhag must give to district activities such as maintenance of bridges, roads and the dzong. Each volunteer receives a small stipend of Nu. 15 per day. As a social organization, woola maintains a cooperative spirit within the district and is an opportunity to reestablish and foster new ties between district members.

****

"There have been many changes here in the natural environment in the past 20 years," Bidha says. "There is much more forest cover than there used to be especially over there on those hills. She points to a slope forested with blue pine. "There were no trees over there 20 years ago. The government policy against tree felling and fewer people and livestock living in the area are probably the reasons."

There are also negative changes. Weeds are encroaching on the pasture lands and firewood collection is becoming more difficult. Oak is preferred over blue pine as it burns longer and with less smoke. The walking distance to find ample amounts of fuelwood has increased to one hour. The younger children are mostly responsible for collection although she and her husband will go on occasion. Each household uses between one and one-half to two bundles (or backloads) of fuelwood a day. Competition for fuelwood with the army base increases the difficulty in firewood collection. Children take advantage of the soldiers efforts and collect whatever debris they leave behind.

The sisters have no disputes between them concerning the use of agricultural and pasture lands. Their relationship with the soldiers, though, is much different. In broadleaf and mixed conifer forests like those surrounding Sharna, most households have rights to a parcel of land called "sokshing". Sokshing is a plot commonly within a blue pine (*Pinus wallichiana*) or oak (*Quercus* sp.) dominated forest. Individuals are allowed to collect the leaf litter in these areas to use as cattle bedding in stables and green manure in fields. While sokshing may be private or communal property, it is usually government land to which local people are given usufruct rights. In Sharna, sokshing is government-registered land.

The controversy over sokshing in Sharna arises over the felling of trees growing on Bidha's and Tshering's sokshing by soldiers in Guinchawa for firewood. It is difficult to collect leaf litter when there are no trees. This felling by soldiers is a blatant disregard for the local people and for government policy. The soldiers do not have legal or traditional rights to this land. Furthermore it is illegal to cut living trees for firewood or for any other purpose. Trees cannot be cut without a permit from the local forest officer. Even with a permit, trees cannot be cut indiscriminately. The forest officer marks the trees that may be cut according to principles of selective thinning. These principles are based scientifically on regeneration rates and floristic composition of the forest and the management objectives advocated by the forest department.

In the absence of electricity, small oil lamps, fueled by kerosene, provide light for cooking and doing homework. Kerosene is either purchased for Nu. 3 per liter at the army camp or Nu. 5 per liter when acquired in Paro. Neither of the sisters has ever heard of alternative energy sources like hydro, solar or wind power. With the large open spaces surrounding their homes, solar power could heat water tanks which would reduce the amount of fuelwood needed to boil water for tea and rice. Solar panels fixed to the slanted roof-tops could generate enough power to illuminate the main room of the house with one light bulb.

Bidha and Tshering take the good with the bad with respect to the army camp. With the building of the barracks 30 years ago came much needed infrastructure: a school and a small hospital. These serve communities in Soe gewog as well. Four children from Sharna attend the school in Guinchawa. Before the army hospital, the attitudes towards sickness and health were fatalistic. When a family member was sick, he or she would just sit and wait to become better. Both women claim they do not know anything about medicinal plants. If sickness and disease persisted for a long time the family conducted a puja (religious ceremony) to appease the local deities and ward off the evil spirits.

The old weather-beaten monastery behind these two houses has been abandoned for 20 years. There are holes in the roof and in the floor boards, but the religious statues are still inside. Offerings are made here annually. Tshering's husband tells us that once some people came to take the statues away to another monastery. As the statues were being transported across the fields of golden wheat, a turbulent storm suddenly arose. It became impossible for the people to continue. He believes this was a sign from more powerful forces that the statues were to remain inside the monastery to protect the village. They have not been touched since.

****

The trail leading to Jumolhari and Lingshi runs parallel to and is less than 15 km away from the Tibetan border (provided one has the skills of an experienced mountaineer). Because trade with Tibet is illegal, the area is considered "sensitive". For this reason there are small army posts along the trail, although this does not deter trade with Tibet. All of the tea cups and thermoses, fur caps with ear flaps and most of the footwear in the region is manufactured in China. Well established routes historically used for trade coincide with those used for invasions.

"Do people here still trade in Tibet?" I ask Bidha via Tshewang.

Sure she knows people who trade products on the Chinese border. (The problem with asking questions about illegal activities is that you never know if the respondent or a family member is included in the "they" or "those people". Sometimes, though, it is good enough just to know what is going on and investigate the details later.)

"They live up over there," she says, quickly pointing in what appears to be any random direction.

****

Behind the army barracks half-way towards Sharna, on the backs of the Paro chhu, are small one-story, two-room houses for married soldiers and their families. Thrown together which what looks like scraps of timber, the houses are dark and smoky. It looks more like a shanty town than a compound of official quarters. Pigs are squealing. Chickens are scrambling about to avoid the stick and stones that children throw that them in regular afternoon torture exercises. We speak with wives of three wireless operators.

Pema has four children, three of whom go to school. The youngest stays home during the day. She has made a small kitchen garden by clearing away the shrubby growth along the river bank. The vegetables she grows supplement what she buys from the army store.

Dechen also has four children, three of whom attend school. She rears pigs in back of the house. There is not much space for them to roam about and browse. Mostly they remain in the pen feeding on maize flour that she grinds for them. The dung she uses to fertilize the vegetable and cereal crops in her kitchen garden. She also uses the maize she grows to produce a fermented beverage much like a beer that she sells to her neighbors.

Kuenga has two school aged children. The three younger ones will not be ready for school for at least three more years. Like the other two women, she has cleared herself a kitchen garden and plants potato, maize, cabbage, pumpkin and spinach. Unfortunately, she says, the elevation is too high to cultivate chilis. Unlike the other women who purchase clothes for their families, Kuenga weaves her own.

All of these women, married to junior officers who earn between Nu. 700 - 800 per month, identified the same problems. The monthly rice ratio is not enough to feed their families. They do not have enough space to grow more vegetables. It is very difficult to have any family savings after purchasing household and school supplies, clothing, and food. They frequently purchase goods from traders and entrepreneurs passing through their camp on their way back from China.

These women do not really think much about local resource use. Drinking water is not a problem as their houses are along the river. They receive 2.5 liters of kerosene per month to light oil lamps. Their husbands collect firewood as well as mushrooms from the forest. Much to the dismay of their neighbors in Sharna, no one asks permission to cut firewood for cooking.

Residents of high altitude regions, with red wind-chafed checks, dress warmly in layers. (WWF photo)

Lingshi's long wish list

Included under Thimphu district administration, Lingshi is most densely populated gewog in western Jigme Dorji. It is an old community, mentioned in the ancient Bhutanese texts, written in Chhokey, as early as the 13th century. At that time, Sangay Yonray was instructed by the Tibetan scholar, Drogon Tsangpa Gyaray, to head south to the land of Mon (Bhutan) to teach the Drukpa tradition. Yonray changed his name to Lama Phajo and enter Bhutan via Laya and Lingshi. Upon entering Lingshi, he encountered a female yak that had given birth to a calf with the head of a snake and the tail of a donkey. He was accepted immediately by the community as their teacher when he expelled the evil spirit inhabiting the calf, turning it into a real calf that began to suck milk from its mother [2].

Due to the large size of the Lingshi gewog, we cannot personally visit as many families as we would like. Even though we visit many of the villages in the gewog - Chebesa, Gangyul, Shayul, Mesayul and Chagphug (the area of Lingshi surrounding the dzong) - we hold a community meeting to reach out to a larger number of people. On the morning of June 11, it is cloudy and misty. I wonder if this would affect the turn-out as some people would have to walk over three hours to get to Chagphug. At 10:00 a.m., the time we scheduled with the village elders, no one is in sight. Those who had already arrived were warming themselves around the wood burning stove

in the wireless station. Normally, I would hold a community meeting outside, with all of the participants sitting in multiple concentric circles. Today the ground is too wet. Fog is sweeping in from over the ridge and the early-morning mist has turned to a light shower. Instead, we hold our meeting in the new school house. The construction has been finished for almost a year, but the community has been unable to hire a teacher. We are among the first people to use the one-room structure.

The community meeting represents the villages of Gangyul, Chebesa and Chagphug. Throughout the meeting, people float in and out. At any one time there are approximately 50 people present, about one-third of them women. A village elder told us 60 households from the three villages are represented.

Before we start our meeting I want to divided into two groups. Ugyen and I will take a group of women to one end of the building and the rest of the team will hold a session with the men at the other end. After 45 minutes, we would convene to discuss the different perceptions of community problems. Since my Dzongkha skills are rather limited and mostly food-centered (Yes, I want some, No thank you, I have had enough, and I don't want any) another team member has to arrange it. But those with the linguistic capabilities do not think two groups are necessary. According to one team member, I do not know that "women are very outspoken in this area."

I think, *We'll see about that.*

Actually the entire trip I am having difficultly getting anyone to take gender seriously as a variable in resource management. I am not claiming that women are necessarily exploited. I am interested in the decision-making process regarding natural resource use. This involves identifying who makes the decisions and how the decisions are made. But I am told that men and women are equal and that there is no gender problem in Bhutan. It is just something that Western people coming into the country make up.

Women in Bhutan own land and livestock. In fact, land is normally inherited by women, but that land is often registered in her husband's name. Thus, a woman inheriting land has no "legal" rights to that land, if it is registered in her husband's name. In order to obtain a bank loan, the applicant must have land registered in his or her name. So, in many cases, while the woman inherited the land, she has no access to financial credit.

"So, what would happen if a woman did not have land registered in her name and she wanted to get a loan?" I ask.

"She would have to ask her husband to get it for her," is the matter-of-fact answer I receive.

"What if he didn't want her to have it?"

I am told that this would never happen. May be it would never happen, but I have no evidence to support either view. Depending on the target group (the household, women or children) or the issue (fuelwood, sanitation or vegetable gardening) addressed in designing a community

development program in Jigme Dorji, or anywhere for that matter, participants often need to take out a small loan to get a conservation-oriented project off-the-ground. Thus, access to credit can directly affects how household members manage resources in the future. From my understanding of the procedure, women do not have equal access to credit.

I call the above scenario a gender problem. Perhaps that is because I am from the West.

The next thing I realize is that if I do not take a seat immediately the meeting will start without me. I find myself in front of a group of people with curiosity sparkling in their eyes. Tshewang is introducing us and the objectives of today's meeting: to find out what the major problems in the community are and to discuss possible solution for them. A lively discussion starts. The men sitting closest to us in the front of the room are concerned about the staffing of the local forest department office. There is a forest range office in Lingshi that is staffed only part-time. It is important that a permanent forest officer be stationed there year round for two reasons, poaching and permits.

Poaching of musk deer using snares is a persistent problem in the Lingshi area. The residents, though, claim that people from outside of their community are responsible for setting these traps. When the forest officer is at his station and discovers traps deep in the forest, he accuses the local people of setting them. This lack of trust strains the relationship between the community and the Forestry Department. The people believe that permanently posting a forest officer in Lingshi would begin to establish the trust missing between the two parties. Residents want the forest officer to accompany them into the forest as proof that they are not responsible for setting traps.

They also hope that this forest officer would be armed. In their opinion, guns are the only means of stopping poachers. The residents themselves seem hesitant to participate in community policing. First, they do not have the proper weapons to arm themselves. Second, they fear retaliation from the poachers. They claim that while they do not know who the poachers are, the poachers know who they are. It is not unknown for someone to "lose" their most valuable yak in retaliation for cooperating with anti-poaching units.

Those voicing concern have every reason to worry about a mistaken identity as a deer poacher. In the past year forestry officials have discovered over 450 traps in the forest. In May and June, forest range officers from Thimphu and Bumthang (east of Thimphu) arrested 10 musk deer poachers. One of the offenders admitted to trekking from Paro to Lingshi to Dodena poaching animals along the way (Refer to Figure 2). He was arrested in Dodena. The Dodena area has been under heavy surveillance since traps were discover there recently. In addition to four musk pods, forest rangers confiscated wild bird feathers. The musk pods are valued at Nu. 80,000 ($2,600.00) [7]. Just as the people of Lingshi said, poachers are from the outside. In this most recent case, they were from Bumthang.

Another reason for requesting a permanent forest officer is for obtaining permits to harvest construction timber. It is not only in national parks, but in Bhutan, in general, that trees cannot be cut at will. Anyone needing construction timber must obtain a permit from the local forest officer. The forest officer marks the trees the individual may harvest. Due to unforeseen circumstances or

more pressing household responsibilities, the permit often expires before the individual has the opportunity to harvest the trees. The sporadic residency of the forest officer exacerbates this problem as his tenure does not always coincide with the seasons when individuals have enough time to harvest timber. Residents suggest that another solution to this problem is to extend the number of days a permit is valid.

"What is the possibility of learning how to use a pit saw?" asks a older man seated in the front.

Housing shingles and planks are made using a chip axe. Men expressed the belief that an excessive amount of wood is wasted during processing, causing them to request more trees than they would need otherwise. A pit saw is more accurate. With an improvement in the processing technology, it would be easier and take less time to cut shingles and save more of the raw material. They have often thought about using a pit saw, but they do not know how to select, operate or maintain one. Someone else joked about getting chain saws instead.

"How are the conditions of your pasture lands?" I ask through Tshewang.

In the past few years, stunted juniper shrubs have encroached on private and communal pasture land reducing the total amount of land available for grazing. It is interesting that people perceive these shrubs as "encroaching". At elevations above 3700 meters, juniper shrubs normally colonize degraded or open areas with exposed mineral soil in what is known as the stand initiation stage in the process of natural regeneration. Yet, if your livelihood is based on livestock and pasture land, it is quite understandable that anything threatening the productivity of these two resources would be seen as an "encroachment". Even if it is a natural process. In the past, herders were allowed to clear pasture land with fire. Fire both destroys "encroaching" shrubs and enhances grass production. National forest policy has changed.. Burning of pasture land for any reason, even to enhance annual grass production, is prohibited.

"They want permission to burn back these shrubs," Tshewang translates for me. Jigme guides the conversation while he and I discuss an appropriate response. This topic of pasture management is yet another good reason for recommending a permanent posting for a forest officer.

The community would be willing to work with the forest department to manage their pasture lands. It is possible that a forest ranger could supervise limited rotational controlled burns. Village elders who have been observing this regeneration process for decades say that invading junipers are not a terrible problem until four years after burning.

In the final stages of park management planning, the entire area falling within the national park boundary will be zoned into use categories, each with their own specific management and/or conservation goals. Since yaks are the basis of the economy in the northern regions of Jigme Dorji, and I know that there will be both specific grazing zones and intensive use zones within the park, controlled burns may be an appropriate tool for managing grazing areas. While I cannot guarantee that burning will be an option for the people of Lingshi, I let them know that I will take this problem and their solution into consideration when I make planning recommendations.

No one specifically referred to a fuelwood problem in the area. During individual family interviews, respondents mentioned that they had to walk further distances to gather enough firewood for heating and cooking, but there was never a shortage in the supply. Thus while people do not perceive an energy problem, they emphasized the fact that they could use better stoves. It would not be an exaggeration to state that there is not one smoke-free home in Jigme Dorji. Smoke, especially the smoke generated from burning yak dung, causes a heated, burning sensation in the ocular area. Conjunctivitis is one of the most prominent health care problems in the region.

The most frequent stove design is the three stone model. It is a simple design, three large stones, arranged to form a tripod. A pot balances on the stone's edges over the fire. The sides are completely open. Heat energy is lost. Smoke billows out. Stoves are often located in the middle of the room where there is no ventilation. If the sides of the stones were packed in a mixture of ash, dung and clay, more heat energy would be retained for cooking. But this would reduce the amount of heat warming the home and the pleasure of sitting around the fire at night with family and friends.

There are a few wealthy families that have bukharis, metal wood burning stoves. This model has a pipe that channels smoke outdoors. It has four open-hole burners that can be uncovered and cooked over or remain covered for home heating. I sat near a few of these stoves and they do seem to retain and radiate a significant amount of heat. It is cold and damp in the High Himalaya even in May and June. Every morning when I unzipped my tent, the first thing I saw was my own breath. Community members praised the bukharis adding that they could only purchase them with a 50% subsidy from the government.

View of Jichu Drake (6,794 m) and Tsheringmgang peaks from Lingshi.

Like the forest office, the veterinary center located at Lingshi Dzongkhag has no regular staff. A diarrheal disease claims dozens of yaks every year. Suspecting that dogs are the carrier for the parasite infecting the yak population, the people have approached the problem by limiting the number of dogs per household to two. Dogs cannot be eliminated from the area as they guard agricultural crops and livestock. They have seen some difference in the health of the yak population but their approach has not been completely effective. A visit by a veterinarian once or twice a year to immunize their livestock is highly desired.

Up until now, not one woman has spoken. I am torn between a disappointed feeling of "I told you so" and a frustrated feeling that now I am going to need to hold another meeting after this one. We have already been talking for one and one-half hours. I do not wish to take up any more of anyone's time. As we near the meeting's end, Jigme tries to get the women to speak by directly asking them about their problems. Through the sounds of giggling women, comes a male voice saying, "They need looms." Well, that is a start.

As the meeting adjourns and people begin to leave, I rush over to Ugyen, telling her we must try to assemble some of the women together to talk. This is not very difficult to accomplish. About 15 of us stand around in a circle outside the schoolhouse. The rain has subsided. A few men intrigued by our assembly hang on the fringes of the group, pacing back and forth, in an attempt not to be noticed. They leave, though, after my first question. "So, if you had a gun to shoot poachers and a chain saw to cut down trees, that would make your life better?"

Hoots of laughter follow. "No, we don't need such things," one woman answers.

What is the highest priority need for the women in the area? Herbicides. Women are solely responsible for the maintenance of kitchen gardens. Even with sporadic help from their husbands and children, they spend at least one month's time weeding vegetable crops. One reason they do not directly fertilize crops with manure is that manure only makes the weeds grow in faster and thicker. Instead, they mix the ash from the stove with the soil. They recognize that this, a problem of manpower, can be solved with assistance from Agricultural Extension. If aid does not come in the form of herbicides, perhaps it could come as technical assistance with regard to cropping arrangements or crop combinations.

The handloom comment made earlier was not completely off-the-mark. Women own their own back-strap handlooms to weave yak hair sacks for transporting and storing goods, and yak hair tents. However, they do not know how to weave with cotton and therefore cannot make their own clothing. They also have a difficult time acquiring materials to knit socks. Four years ago, they asked the National Women's Association of Bhutan for assistance and technical training with respect to weaving. They are still waiting for a response.

Why were the women silent at the group meeting, even when they were personally addressed? I am curious about the reasons behind their silence.

The women were afraid to speak in front of the men even though these were their husbands, their sons and their brothers. "Men are always disruptive when we speak," said one elderly woman, with deep wrinkles around her eyes. "Therefore it is better not to say anything at all".

Best regards,

Cynthia

Woman weaving sacks of yak hair on a pangthag, back-strap loom. She weaves so tightly that when she is finished the sack is waterproof and her hands are covered with blisters.

Sources

[1] Pommaret, F. 1991. *Introduction to Bhutan.* Geneva: Editions Olizane. 272 pp.

[2] Dorji, C.T. 1994. *History of Bhutan based on Buddhism.* New Delhi: Prominent Publish. 190 pp.

[3] Swift, H. 1990. *Trekking in Nepal, West Tibet and Bhutan.* San Francisco: Sierra Club.

[4] Hasrat, B. 1980. *History of Bhutan: Land of the peaceful dragon.* Department of Education: Bhutan. 230 pp.

[5] T.B. Mongar, WWF, personal communication.

[6] Bhutan Trust Fund. 1993. Integrated Conservation and Development Project-Jigme Dorji National Wildlife Sanctuary.

[7] 10 musk deer poachers arrested. *Kuensel*. Vol. IX. No.27, 9 July 1994. p.1.

Corresponding address: Cynthia Caron
c/o Mingma N. Sherpa
WWF Bhutan Programme
P.O. Box 210
Chubachu, Thimphu, Bhutan

Endnotes

[1] Tourism agencies have private contracts with individuals for transporting provisions on treks. Individuals involved in private contracts with tourism agencies must also fulfill thier duty for government-sponsored trips when requested by the Gup.

[2] Current population figures for residents living in Jigme Dorji range between 1,900 and 3,000 individuals [6].

Received in Hanover 8/11/94.