INTRODUCTION

Studies of non-timber forest products (NTFPs) in the community forestry literature have often focused on ethnobotany of traditionally used or consumed NTFPs, their importance to local livelihoods (de Beer 1989-Falconer 1990), and their use as keystone species for conservation (Freese 1997). In fact, a great deal of what is published is devoted to proving that so-called "minor" forest products are not so "minor" after all (de Beer 1989; Falconer 1990, Zuo 1995: 92). The need to convince policy makers of the significance of NTFPs has tended to obscure some of the more optimistic assumptions that underlie this literature. Specifically, enthusiasm for the role that NTFPs can play in economic development is predicated upon the assumption that forests are degraded because local people are impoverished, and that the development of market opportunities for these forest products will both halt deforestation and increase local income - with the implication that the interests of harvesters, middlemen, local, regional, national, and foreign governments and industries are congruent.

This so-called 'rainforest crunch' thesis, which proposes the exploitation of marketable NTFPs as a solution for both poverty and deforestation, has been challenged. Dove (1993), for example, states that NTFPs have been willfully ignored for political economic reasons rather than an innocent lack of information on the part of policymakers. Drawing on analyses of the effects of exports of rubber, coffee, tobacco and coconuts from Southeast Asia, Dove suggests the existence of a pattern of NTFP development in tropical forests (in the context of a non-democratic political-economic tradition): "Forest people develop a resource for a market, and if and when this market attains sufficient importance, central economic and political interests assume control of it, based on self-interest rhetorically disguised as the common good" (Dove 1993a:20).

While powerful, this critique does not address situations in which this pattern does not hold, and does not
provide a more nuanced understanding of the ways in which access to NTFPs is shaped, local conditions mediate the reach of the market, or how community-forest relationships and management may change. Furthermore, like much historical work on NTFPs, it is based primarily only on products of tropical forests.

In this paper I try to move beyond addressing only the question of whether NTFP development can be a cure for both rural poverty and deforestation or whether, as Dove argues, it is merely a red herring in a green market (Dove 1993b; J. Fox 1995). Instead, the paper will be an empirical examination of the complex social relations constituting matsutake mushroom harvesting and trade in temperate forests of southwest China. Unlike most studies of forest land tenure and property rights in China, which usually focus on trees as sources of timber, this paper will take as a premise that the study of NTFPs is not only important but can also serve as a window through which to understand other aspects of cultural and political life. Thus, this paper will investigate questions of access to and control over resources vis-à-vis matsutakes in their political economic, legal, and social contexts.

Furthermore, the paper will use a more interdisciplinary approach than has sometimes been used in past research on NTFPs. For example, Perez suggests that in the past, most NTFP studies have been conducted from one of the following perspectives: commodity/income markets; people's perceptions/traditional knowledge/household needs; and biological properties/sustainable management focus, corresponding broadly to the disciplines of economics, social science, and biology/ecology/forestry (Arnold 1996). Part of the task now is to see how these different elements interact by focusing on one species. The unique properties of the matsutake mushroom and its market also suggest an important exception to several approaches to NTFPs that have been developed thus far. For example the "extractionist" view of NTFPs suggests that production will move from smallholder activities to agricultural crops (Arnold 1996:5); however the fact that matsutakes cannot be cultivated changes the dynamics of the market evolution.

The paper is based on one month of field research in the summer of 1997 in Diqing Tibetan Autonomous Prefecture, Yunnan Province, where the past ten years has witnessed an explosion in matsutake mushroom harvesting and export to Japan. The opportunity to engage with this matsutake market has significantly increased local income, and conflict have emerged over rights of access to these lucrative resources.

Thus I explore ways in which the commodification of and market for matsutakes has led to the formulation of and disputes over new forest management systems. These conflicts are significant in that they are part of an ongoing process of renegotiating the meaning of collective forest property in post-reform China.

I use a great deal of empirical detail to explore conflicts and access to NTFPs in this paper. It is structured as follows. First, I briefly describe the study region, and explain the distinctive nature of the matsutake trade, the conditions which led to its emergence, and the current market structure. This section uses a partial commodity chain analysis, a method which traces the series of relations that a commodity passes through, from production, through exchange, transportation, distribution, and final consumption (Gereffi 1994, Ribot 1998). Next, I will provide a general background of forest tenure in China in recent years, and then describe community responses to the matsutake trade vis-à-vis forest management rules. Finally I will discuss access to resources in the context of several disputes that have emerged between mushroom harvesting villages.

BACKGROUND: DIQING TIBETAN AUTONOMOUS PREFECTURE

Diqing Prefecture is located in the northwest part of Yunnan province, with Myanmar to the southwest, Tibet Autonomous Region (TAR) to the northwest and Ganzi Prefecture in Sichuan to the northeast (see map). Elevations within the prefecture range from 1500 to over 6100 meters, encompassing a total area of almost 23,870 square kilometers. The prefecture lies on the southeastern edge of the Qinghai-Tibetan plateau and at the northern edge of the Hengdian mountain range. The large range of elevations and climatic variability give Diqing considerable biodiversity - some 40% of Yunnan province's 15000 plant species are believed to be found here (Ogilvie 1996:291). For example, over fifty-two species of rhododendron are found, as are a number of important medicinals including caterpillar fungus (Cordyceps sinensis), bei mu (Fritallaris) and xue lian (Saussurea involucrula) (Li 1995). Common crops include barley, wheat, corn, beans, and potatoes.

Forests account for about one third of the area of Diqing prefecture, with zones from mountain tops to valley floor as follows: tundra - alpine meadow - conifer forest - mixed forest - temperate broad-leaved forest - and zone (Ogilvie 1996). The area is especially rich in conifer forests, and the most important commercial timber species in the area are various firs (Abies delavayi), spruce (Picea likiangensis, etc), and pine (Pinus
growth spruce, fir, and larch; as well as pine (Ogilvie 1996).

The region is sometimes referred to as the "three river" area because the Salween, Mekong, and upper reaches of the Yangtze (known as the Jingsha river) run very close together. (The Salween lies just to the west of the prefectural boundary.) A 1990 Deqin county government report estimated the existence of 2.4 GW of hydroelectric potential, of which less than 1% was tapped (Deqin 1990). However, the prefecture as a whole is currently a net exporter of hydroelectric power, and hydroelectricity is expected to provide more income in the future (Ogilvie 1996:293).

Administratively, the prefecture is divided into three counties: Zhongdian, Deqin, and Weixi, with populations of approximately 130,000, 57,000 and 133,000, respectively. Tibetans make up one-third of the population in the whole prefecture, and 40%, 79% and 4% of the populations of Zhongdian, Deqin and Weixi, respectively (Wang 1995). This paper is based on research in Zhongdian and Deqin. Although it is a Tibetan Autonomous Prefecture, the area is culturally distinct from Central Tibet. Along with western Sichuan and the eastern TAR, Diqing is considered to be part of Kham (eastern Tibet), with its distinctive Khampa dialects, dress, and way of life. Whereas Ganzi prefecture in western Sichuan has experienced heavy Han Chinese influence, Deqin has also been influenced by the large number of other 'ethnic minority' groups (such as the Naxi, Lisu, Pumi, etc) living in this part of Yunnan. Deqin county was officially part of Tibet until 1724 when Qing troops were sent to quell internal unrest in Tibet and Deqin was partitioned into Weixi county (and later Lijiang county) in Yunnan province (Huang 1948). However, a dual system of government with both representatives from the central Chinese state and a Tibetan native chieftain (tu si) was in place until 1951 when the area became its own county (Deqin 1990- Herman 1997).

Two thirds of the area of the entire prefecture consists of reserved areas assigned to the Diqing Forestry Bureau; of this 50% is actual forest area, 15% is scrub, and the rest is unvegetated (Ogilvie 1996: 292). Approximately 80% of prefectoral income came from logging as late as 1993. However, one source claimed that for Zhongdian county, this proportion had dropped to 40% by 1997. Timber revenue has declined from a combination of factors: the fact that much high value timber has already been logged over; some recent recognition of the need to conserve or more sustainably use forest resources within the forestry bureaucracy; and alternative income from taxes on new small businesses and from the matsutake trade, which now accounts for 30% of county revenue (He Ke Qin, director of the Zhongdian matsutake market management office, pers. comm.). This revenue is levied through three taxes - the "agriculture and special forest product tax", the "commerce and trade management fee" and a "resource fee." These taxes, which are collected by the county government and the commerce and trade bureau, are collected at special roadblocks set up during the matsutake season. Although matsutakes are found only in forests, their collection and sale are not under the administrative jurisdiction of the forestry bureau, which does not play a role in the regulation of forest products other than timber and fuelwood. The forestry bureaucracy receives no taxes from NTFP sales. Current regulations and institutions for forest use and management were designed with timber rather than NTFPs in mind.

The opening of two matsutake processing plants - two state-owned and two private - was planned for the end of August, 1997. These plants, each of which has the capability to preserve, can, and quick freeze matsutakes, are expected to increase the share of government revenue from the matsutake industry, with the expectation that profit from matsutakes could soon exceed that from timber (He Ke Qin, pers. comm.). Although the number of quotas allocated for cutting timbers has decreased substantially in the past few years, logging trucks do continue to bring wood out of Zhongdian, often as roundwood. Some of it is sold to Japan through export companies such as the Yunnan Provincial Cereals, Oils & Foodstuffs Import Export Corporation.

The timber industry has similarly provided more than 80% of revenue generated by the local government in Deqin (S. Shi, pers. comm.), an isolated county which relies on subsidies from the central government to pay cadre salaries. The prefecture as a whole is currently able to generate only 40% of required income while the remaining 60% is subsidized by higher levels (Ogilvie 1996: 293); the situation is worse for Deqin county. The fir-larch forests in Deqin county, including those in Baimaxueshan nature preserve, are home to the endangered Yunnan snub-nosed monkey (Rhinopithecus bieti, also called the golden haired monkey). The only non-human primate occurring in high elevation coniferous, montane forests, the snub-nosed mountain has been classified as a first class protected animal in China since 1977 (Long April 1994). However, conservation action was very limited until three years ago, when Deqin county officials decided to log 38 square miles of the monkey's habitat (Dunn Winter 1997: 12). A local forestry official and wildlife photographer enlisted the help of the Beijing-based NGO Friends of Nature, which began a letter-writing campaign with university students to petition the State Council to ban logging. Since then China's nascent environmental movement has picked the saving of this monkey as a symbol of the importance of nature conservation.
This summer, residents in the county claimed that logging within the monkey-habitat areas had been completely halted. However, no workable alternative for income generation has been found for the county government which faces a USD1 million budget deficit (Dunn, Winter 1997: 14), and the county awaits a large subsidy from the central government. Several environmental activists and organizations in Beijing are hopeful that the matsutake trade can act as a primary alternative for county revenues (S. Shi, pers. comm.).

Mineral extraction is also a source of income for the region, although its importance does not compare with timber. Deqin county opened a large asbestos mine in the 1970s which went out of business in the 1990s. The county now hopes that a new copper mine and a lead-zinc mine can revive the economy. Current mining and quarrying activities also include manganese and marble. Other minerals known to be in the ground include copper, tin, iron, silver, gold, and beryllium although much has not been exploited (Deqin 1990; Ogilvie 1996).

THE MATSUTAKE MUSHROOM TRADE

Emergence of the Matsutake Trade

Matsutakes (Tricholoma matsutake) have been a prized edible mushroom in Japan since ancient times, but the past few decades have seen a dramatic increase in both price and demand (Redhead 1997). Like several other mushrooms (e.g. boletes) which form symbiotic mycorrhizal relationships with the roots of certain trees, matsutakes have thus far never been successfully cultivated. However, insect infestations in Japanese pine forests decreased native crops; these factors together are driving the Japanese search for new locations, which now include China, Korea, and Russia, as well as Canada and the US (Pacific Northwest), Mexico, and Morocco (Pilz 1997: 68). Since 1980, Japanese domestic production has dropped from 60% to 20% of total consumption. South and North Korea are the leading exporters to Japan, followed by China and Canada (de Geus 1997: 56-57).

Japanese companies started searching for matsutakes in China in the early 1980's, finding them in both the southwest and the northeast. In Yunnan province in the southwest, they worked with several import-export companies including the Yunnan Provincial Cereals, Oils & Foodstuffs Import Export Corporation, and the Yunnan Provincial Local Products Company to locate areas with suitable ecological habitats (usually around 3000 meters altitude, but up to 4000 meters in Deqin) (Zang Mu, pers. comm.) and search local markets. Matsutakes were first found in Yunnan in Cuxiong and Muli. Large-scale exports of fresh matsutakes from the region first began around 1986 (trade of preserved matsutakes began earlier, around 1984). The intervening decade has seen a veritable explosion in the trade, with hundreds of tons of matsutakes transported from remote mountains of Yunnan and Sichuan provinces to Japan each year. The trade is especially important in Diqing Tibetan Autonomous Prefecture and Ganzi Tibetan Autonomous Prefecture in Yunnan and Sichuan, respectively.

Local income in these regions has increased significantly from the opportunity to harvest and sell matsutakes (also known as songrong in Chinese or peisha in Tibetan). These wild mushrooms are collected by Tibetan villagers during the season, which begins in July and runs into October (although it peaks between late July and early September). It is estimated that up to 80% of the population in Zhongdian county is involved in the business in one way or another during the season. Harvesters are paid 200-400 yuan/kg (25-50 USD; approximately 8.1 yuan/USD) for top grade matsutakes, a tremendous amount considering the average per capita income of slightly less than 100 USD/year (727 yuan/year, in Zhongdian, 1994; State Statistical Bureau report). In some of the most productive villages of Zhongdian, it is not uncommon for families to make 6300-7500 USD (50,000-60,000 yuan) during the harvesting season. For the rest of the year, most villagers farm, although some also earn income from herding sheep and cattle, transporting timber and minerals, and selling other wild products such as caterpillar fungus, morels, and deer musk.

The particular conjuncture of events that made the matsutake trade possible a decade ago included not only the Japanese search for overseas markets but also the beginning of the reform and opening up era in China in 1984. These policy changes created the conditions which allowed Japanese matsutake businesses to penetrate the region. While most villagers interviewed this summer said that matsutakes were now the largest source of cash income for many households in the region, they generally also cited Deng Xiaoping’s reforms as the largest single factor that changed their lives. Changes in the larger political and institutional sphere thus take the shape of the matsutake market and increased local income in Deqin.

Local Uses

Prior to Japanese market penetration, matsutakes were not highly valued as an edible mushroom in Deqin;
they were collected almost exclusively for family consumption. In this sense, matsutakes were collected in the area only recently underwent commodification, a process in which a thing is brought “into a relationship of equivalency in exchange with numerous other items defined as commodities” (Helgason September 1997). Matsutakes were called “dirt termite mushrooms” or “old eagle mushrooms” and could be found in large quantities. However, villagers only went out to collect them a few times each year, rather than every day as is now the case. The matsutakes were usually dried and saved for winter, when they are fried with peppers.

Studies of other parts of Yunnan (particularly Cuxiong) report that matsutakes are soaked in alcohol and the tonic is applied to the skin for pain and certain allergies (Cao Guangxia, Southwest Forestry College, pers. comm.). I did not observe this practice in Diqing, although some villagers did report soaking the matsutakes in alcohol and then drinking it. This “matsutake wine” was also being sold in the town of Zhongdian.

While most villages were very knowledgeable about the local matsutake business, and aware that Japan was the end point of consumption, very few knew what happened in between. Neither were people aware of the most part about the nature of consumption. For example, many matsutake businessmen and collectors believe that the Japanese use matsutakes to create drugs that help prevent or cure cancer. One popular story is that after the atomic bomb was dropped in Hiroshima, the matsutake was the only ‘plant’ that survived. Therefore, according to this common story, the Japanese now use matsutakes to make cancer and radiation preventing drugs. Villagers interviewed were certain that the matsutakes must be used for medicine, because they could not conceive of anyone paying such a high price merely for food.

**Market Characteristics and Structure**

Fresh matsutakes are valued primarily for their fragrant odor, because they are highly perishable, they are shipped from remote forest to Japanese market as quickly as possible - in as few as 40-50 hours in the Chinese case. In addition to fresh matsutakes, there is also a market for preserved and canned matsutakes. These are worth considerably less by weight and are not differentiated according to quality. Because they are not perishable, they are not as subject to rapid price fluctuations and are a less risky business. The capital of Sichuan, Chengdu, is a much larger center of trade for preserved matsutakes, whereas fresh matsutakes predominate in Yunnan. Matsutakes are also preserved before selling from Mangkang and even Lingzhi, in the Tibetan Autonomous Region, where poor roads and long transportation time make fresh matsutake trade impossible. This paper focuses on Yunnan and hence will refer to the trade in fresh matsutakes unless otherwise noted.

The market in Yunnan can be described as a pyramid, with a large number of harvesters at the bottom, and only 9 Chinese companies which are permitted to export matsutakes to Japan. Between each harvester and Japan is also a complex chain of buyers and sellers. As a result, matsutakes can change hands 6 or 7 times before reaching Japanese buyers.

One powerful tool for understanding commodity chains is access mapping. This involves identifying the actors who extract produce, process, exchange, transport, distribute and consume the commodity; evaluating income and profit at each level evaluating the distribution of income and profit within each group; and tracing the mechanisms by which access to benefits is maintained and controlled within each group (Ribot 1998: 313). More research will be necessary to completely evaluate relative income and profits at each level. Furthermore, this paper focuses on the “production” end of the matsutake chain, leaving the Japanese consumption end (from the wholesale auctions in Japan to transporters, distributors, and final consumers) as a black box for the present time. Nevertheless, the next section does use the above framework of access mapping to describe the matsutake trade.

At the first level, then, are the harvesters. Currently, as much as 70% of a family’s cash income may come from matsutakes for families in Deqin. As mentioned above, most villagers are farmers during the rest of the year. Other sources of income include cattle and sheep herding, mineral and timber transport, collection of other medicinals, and in some places, selling fuelwood and butter. There seems to be a slightly greater number of women and children who collect matsutakes than men, although it is by no means exclusively a female task. People who live in villages whose collective forests naturally produce significantly more matsutakes than others have been able to earn significantly more income from the trade. At present, there do not appear to be any efforts on the part of villagers in the region to manipulate the forest ecology to increase matsutake production - nor do ecological studies exist to suggest that this might be very easily done.

Within the community of members of a single village, there are generally no de jure restrictions on access to the matsutake forest. When analyzing access, Ribot reminds us that it includes both the de jure and de facto; and that the de facto (extra-legal) mechanisms may include social identity, social relations, coercion and trickery, material wealth, and physical circumstance (Ribot 1998:310). In this case, some villages require that villagers who work in government offices pay an extra fee for harvesting (see section on forest management
Next along the chain are the first level of middlemen to whom the village collectors sell. These people are generally Tibetan (though there are also Naxi and Han people), and more often than not, men. A few of these first level middlemen are people from the village who have rented, borrowed, or bought vehicles to transport the matsutakes from their village to Zhongdian. Other middlemen are based in Zhongdian— they also rent, borrow, or buy vehicles with which to drive to villages every morning, buy matsutakes, and then bring them back to the Zhongdian market in the evening. Many of these town-based Tibetan middlemen are teachers or monks on summer vacation, or members of other work units (including the Department of Forestry) during the rest of the year. Many have family members in villages who collect matsutakes, and thus there are strong social ties between these middlemen and the collectors.

Even at this first level, there is a lot of buying and selling back and forth on the spot market among the middlemen. For example, there may be 30 matsutake buyers at the market, but only 15 vehicles travelling back to Zhongdian. The middlemen without vehicles buy from collectors and resell to other middlemen, within an hour or two, hopefully at a higher price. This practice is known as ‘dumping’ and discouraged in the US and Canadian matsutake markets (David Arora, pers. com.), but is not looked down upon in the Chinese case. It is taken for granted that these middlemen will need to earn some money. Often, they do so by manipulating the prices offered for different grades.

At this level, very little startup capital (perhaps 250-300 USD) is needed to get into the matsutake business. Middlemen often pool resources together with friends or relatives to borrow or rent a vehicle. Village entrepreneurs buy matsutakes from their own village, using these social connections to ensure a product. In Zhongdian, over 150 songrong businessmen then buy the mushrooms and sell them back and forth to each other. These buyers again often buy from specific villages where their families are from or where they have other connections. For example, several teachers on summer vacation would always buy from their students, and send trucks to their students' villages to buy matsutakes.

However, there is also great deal of market activity that goes on at a much more impersonal level. Villages relatively close to the town of Zhongdian usually hired their own trucks to take them to town each day rather than wait for trucks to come to their villages. Every afternoon starting around 2 - 3pm many women from the surrounding villages would suddenly crowd into the market. Most of them did not sell to one particular buyer each day, but rather checked all around the market for prices before making a decision about who to sell to.

Prior to 1996, buyers and sellers were free to do business anywhere in town. However, in 1996 the township government and its Matsutake Leading Group and Office built a central market area with more than 150 wooden stalls for the middlemen to rent; all business transactions must now take place within this area. Most regulation of matsutakes that does occur in the prefecture happens here in the town market rather than in the village forests. On average, the small-scale middlemen in Zhongdian made less money on matsutakes than villagers who live in the most productive areas. For example, many of the small-scale operations in the market stalls were run together by a group of two to six or more friends and relatives. Profits, once split six ways might average less than 1000 USD/person. Furthermore, on days when prices drop significantly, many of the businessmen do not bother driving out to the closer villages to buy mushrooms, because they fear that villagers will be suspicious of the low prices and hire trucks to come to Zhongdian themselves. Indeed when the prices do drop the small scale businessmen are at a relative disadvantage (if they spend the money to drive to the villages and no one sells to them). On the other hand, people from villages very far from Zhongdian, who cannot afford to hire trucks to drive there, are stuck with lower prices and less easily available market information.

The mushrooms from these 150 eventually end up in the hands of 20-30 larger scale businessmen, who pack them with ice and drive them to Kunming each night. Of these larger scale businesses, several were branches of state-owned companies while a few others were private businesses. The larger scale businesses generally had their own cold storage rooms inside the market area to keep the matsutakes fresh until they were ready for shipping. The county marketing cooperative -- the sole agent of external trade during the collective era -- is also represented as one of the larger businesses in the matsutake market. These large businesses make
considerably more money than either the small businessmen or the harvesters.

Interestingly, the transport of matsutakes from Zhongdian to Kunming is partially arranged by the county government, illustrating the close ties between state and enterprise in some cases. Often, county governments between Zhongdian and Kunming have set up their own local roadside tax collection stands as fees for passing through their counties. Businessmen complain of this "government banditry" but generally have no choice but to pay at the stands. On the other hand, a good deal of negotiation also occurs at tax stands over just how many kilograms of matsutakes any one truck may be transporting.

It is useful here to stress two other distinctive features of the matsutake trade: high price volatility, and elaborate grading. Matsutakes are subject to dramatic price fluctuations, as the market responds to rapid shifts in supply and demand at both the regional and global levels. For example, in Zhongdian this year, the price for top grade matsutakes dropped from 350 yuan/kg to 220 yuan/kg within a few hours. Although the prices for top grades often hover around 200-400 yuan/kg, they are as high as 1000 yuan/kg during the first few days of the season when supply is still very low. Because they lose value with time, businessmen cannot afford to hold onto the matsutakes until the price is right. Thus, the matsutake trade can be a risky proposition for small-scale Tibetan middlemen with access to only limited amounts of capital.

These middlemen adopt a variety of strategies for dealing with market volatility. Some sign contracts with Chinese businessmen from Lufeng or Kunming which give them a fixed wage per kilogram of songrong bought. This might range from 2 yuan/kg to 20 yuan/kg depending on the extent of services rendered, for example arranging local trucks to collect matsutakes from nearby villages and paying -- and more importantly, negotiating taxes. Other small-scale (usually Tibetan) middlemen have 50-50 deals with Chinese bosses, in which each party contributes half of the capital, and the middleman agrees to sell to that particular boss every day. When prices drop suddenly, or when demand is unusually low, the boss is likely to give this small-scale middleman a special deal on the price, which he (or she; there are fewer women) would not receive if he did not sell regularly to the same person. This is again a strategy to minimize risk. Still others simply sell to whoever is giving the highest price each day, thus increasing the possibility of making a larger profit, but also bearing more risk.

While there are multiple possibilities for contracts between large and small-scale middlemen, there is currently no 'contract harvesting' of any kind. Nor does this seem likely to develop given the physical characteristics (lack of both ability to cultivate and predict harvest levels) of the matsutake. These peculiar biological characteristics have limited the types and degree of peasant differentiation that can occur, reminding us of new scholarship on the agrarian question and its attempts "to chart the ways in which the biological character of agriculture shapes the trajectories of capitalist development"(Peet and Watts 1996: 12).

In fact, the ecological characteristics of the matsutake are one of several important determinants of its ethic of access. Here, the phrase *ethnic of access* is used to mean "a moment in a temporal zone of a larger property process" (Peluso 1996: 515). Used in this way, the concept is similar to Scott's idea of a subsistence ethic among peasants, but is influenced by a number of characteristics at any point in time: physical characteristics, especially longevity and divisibility; whether the resource is commercialized or used only for subsistence; and whether it has social meaning outside of its economic value. The ethic of access is also influenced by changes in social relations which affect political-economic institutions such as the market, or which changes a resource's relative scarcity or competition with other products (Peluso 1996: 539). Changes in the regional political ecology in Diqing, particularly the reform era, allowed for the commodification of matsutakes and a transformation of its meaning and value- however, this process has been subject to the peculiar characteristics of uncertainty and risk that characterize the matsutake.

Before returning to the commodity chain, it is worth noting the characterization of matsutake patches as non-equilibrium resource system. (McLain and Jones June 5-8, 1996). Peoples throughout the world living in such systems have often adopted transhumance strategies including a combination of physical mobility, diversity of economic strategies, reciprocity in access to resources and flexible tenure situations to cope with high variability. While the political-economic situation in China limits mobility, many matsutake harvesters in North America do in fact migrate for most of the year following the harvest. In both cases the unpredictable nature of the harvest has implications for the way in which tenure and access are arranged and the way *49community* is conceptualized (McLain and Jones June 5-8, 1996: 2-3).

During peak times of the 1996 season, as much as 22 tons of matsutakes per night left Zhongdian on its way to Japan (He Ke Qin, pers. comm.). Most of the matsutakes leaving Zhongdian are already accounted for - that is, one of the nine large companies in Kunming (the capital of Yunnan) that have government permits to export to Japan have already made a deal with a smaller company with representatives in Zhongdian (especially businessmen from Lufeng). Thus the matsutakes are trucked directly from Zhongdian to cool storage near the Kunming airport - a 13-20 hour drive away. From here they fly to Shanghai, and then to Japan. Some of the
matsutakes however are transported by smaller-scale businessmen to Kunming where another (smaller) market serves as the final place where the matsutakes end up in the hands of the export companies.

Permits are required by the Chinese government for matsutake export. In the early 1980's at the beginning of the matsutake trade, only two export companies were handling matsutakes. This number slowly grew to a peak of 14 in 1996, but several of these companies had their permits cancelled so that there were only 9 in 1997. Of these, most are "agent" import-export companies. That is, they charge other companies a fee to carry matsutakes under their name. Only three of these companies actually handle the domestic end as well as the import-exports (Li Tong, pers. comm.). The nine companies work together with China Airlines to determine approximate product volume one or two weeks ahead of time during the season.

**Grading and Harvest Sustainability**

Matsutakes are separated into many grades, based on size, firmness, and overall quality. Very small matsutakes are of course worth less than larger ones both on a per unit weight basis and because of overall weight difference. However, large immature mushrooms ("buttons") can fetch more than 10 times more than the price of mature ones ("flowers") which have already released their spores. As a result, most matsutakes that appear on the market are those which have not yet had a chance to mature and release their spores. The practice of taking immature mushrooms has lead to questions about harvest sustainability. This is of particular concern given the important role that matsutakes play in increasing the ability of oak and pine trees to capture water and nutrients.

Unfortunately, there is still very little known about the biology and ecology of matsutakes, and the comparative importance of spores and spreading of the mycelium underground to matsutake growth is also not well understood. The fact that matsutakes cannot be cultivated makes them especially difficult to study as does the lack of long-term productivity data.

Harvesters can locate larger matsutakes by sight, or by feeling through the duff, but very small matsutakes can be found only by brushing or raking away the litter layer. In the past few years, the government has issued regulations prohibiting the export of matsutakes under 5 cm in length. Those under 3 cm long cannot be sold on the Zhongdian county market. Nevertheless, many village harvesters continue to pick those under 3 cm - due to lack of information, as well as the fear that any unpicked matsutake will simply be collected by someone else. Removal or disturbance of the litter layer by raking is also believed by some ecologists to be harmful to the forest environment. On the other hand, some matsutake harvesters in the US claim that raking reduces the productivity of a patch for the rest of that season, but does not affect productivity in subsequent years (David Arora, pers. comm.). The extent to which damage would occur depends on whether raking reaches the mycelium. However, even the depth of the matsutake mycelium is difficult to study and not well understood.

Nevertheless, some Tibetan harvesters do complain about declining patch sizes over the past 10 years. Another difficulty in determining the effects of harvesting is the extreme variability in productivity with climate and precipitation (both timing and quantity). For example, local harvesters make a strong connection between precipitation and matsutake production (this summer’s exceptionally poor harvest was blamed on the lack of rain and snow in the first half of the year), but the relative effect of precipitation and harvesting techniques on production is unknown. There is also a strong cyclical element to matsutake production through time; as well as a possible dependence on a number of microclimatic and locational factors including soil pH, temperature, moisture and composition; relative humidity; sunlight, slope, aspect, and vegetation. The matsutake's patchy nature and complicated dependence on a wide number of factors make the possibility of setting up plots for ecological studies a daunting project. This is especially true in China, where the matsutake is such an important part of local cash income.

In addition to questions of harvest sustainability, other ecological concerns that have been expressed about matsutake harvesting include harm to the mycorrhizae organism itself by having too many fruiting bodies taken away, harm to the forest community, destruction of the forest floor by raking, soil compaction, and gene pool depletion (Max Creasy, a. J. Chapela, pers. comm.) (Richards, Creasy) However, several important questions need to be answered before these questions can be addressed:

1. Is sporocarp (fruiting body) production really decreasing? As mentioned above, a lack of long-term and reliable data, together with the unpredictable nature of the harvest make this question extremely difficult to answer.

2. If so, to what extent does the fruiting body production reflect the health of the mycorrhizae itself? This is important because fruiting body production is not always correlated with organism health. In some species, fruiting body production are a response to stress.
3. If the number of fruiting bodies is really decreasing, to what extent does this reflect harvesting? In Europe, for instance, a decrease in productivity that was assumed to be due to harvesting was later shown to be most strongly correlated with air pollution (Arnolds 1991).

The harvesting of very small matsutakes has implications not only for the forest ecosystems but also for the competitiveness of the Chinese market. Because South Korea has much stricter rules against picking very small matsutakes, its matsutakes tend to be much larger when they reach the market. Furthermore, they are more carefully packed and transported, and thus fetch a significantly higher price for their better quality.

Several large-scale Chinese and Tibetan businessmen lamented the fact that China's village collective forests are not patrolled by the army as South Korea's matsutake forests are.

This desire by town residents and urban businesspeople for stricter control on harvesting by villagers is part of the official myth that villagers are "low quality" and cannot manage their forest resources very well. This attitude arises in part from the elitist and patriarchal Chinese state's traditional role as parent (father) and the Chinese people as the "children" who needed guidance. However, there are also specific historical origins of this myth in the forestry sector. Challenges to traditional social hierarchies in the late Qing undermined mechanisms of community forestry control (Menzies 1994: 86-87) and were replaced by ideals of "scientific" management. Urban bias contributes to the construction of rural villagers as those lacking in "quality." Finally, it is not only the state and elite opinion that sees villagers as incapable of doing what is best; now market forces and the demands for greater profits by town businessmen contribute to their sentiment that forests are better controlled by the military than left to local residents.

FOREST TENURE AND MANAGEMENT

The forestry sector in China depends on a distinction between state forests, collective forests, and increasingly "private" or household forest (Ross 1988). State forests can be subordinate to central, provincial, prefectural and county levels whereas collective forests are managed by townships (xiang), administrative villages (xing zhen cun) or natural villages (zi ran cun) (Tapp 1996). Villages have both usufructuary and ownership rights over collective forests whereas the various levels of government own state forests. Nevertheless, logging in collectively owned forests is still subject to state quotas and control (Swope 1995), and state forestry policy emphasizes villagers' responsibilities to protect and manage forests while disregarding their rights to forest use and benefit (Menzies 1991: 3).

In the 1960s and 1970s most of the forests in southwest China (Hengduan mountains) were state forest farms (ling chang) under central or provincial control, While this is still true for many of the forest areas in western Sichuan province, control over many of the state forest farms in Zhongdian has recently been devolved to the prefecture and county (He Pi Kun, pers. comm.). In some areas, the county has turned over some of its forests to villages to manage on its behalf, in return for vaguely defined rights to fuelwood and NTFPS.

Matsutakes in this area are collected in the pine-oak village collective forests, which are relatively lower in elevation (3200 meters and below) (Zang 1984: 15). Matsutakes can also be found in lower parts of some state-owned forests. Because collective forests are much closer to the villages, more matsutake harvesting tends to happen there. However, conflicts over matsutake collection have also arisen in some state forests, particularly in places where a state forest acts as a buffer between two or more village collective forests on its borders.

Two forestry policies implemented in 1981-83 (liangshan daohu, and linye sanding) were supposed to have allocated and leased collective forests to individual households as 'responsibility hill land' and 'contract hill land', in order to clarify tenure and encourage forest conservation. Land that was poorly forested or unbrested and relatively close to the village was to have been leased as freehold MI land (ziliu shan). The purpose of this land was to allow farmers to plant trees to meet subsistence needs; thus it could be put to any purpose other than clearing (Zuo 1997). Contracted hill land (zeren shan) on the other hand was forested and further from the village. Its primary purpose was to provide incentives for protecting the forest and reforestation. Whereas freehold land was leased on an unlimited time basis, the length of contracts for contracted land are negotiated between the village and the household (Zuo 1997).

However, this policy was not uniformly implemented in Diqing; some villages have only one single piece of collective forest used by all residents, whereas others have demarcated and implemented household responsibility land. Even in villages which have allocated land to each family, however, the 'boundaries' between household plots are not in effect for matsutake (and other NTFP) collection; within the village, all
residents may harvest from any part of the collective forest. In a sense, then, the matsutake trade has more clearly separated tree tenure from NTFP tenure.

Similar effects of commodity booms on changes in tenure systems have been explored in some literature on community forestry. For example, in her study of agroforestry and apple trees in Upland Java, Suryanata (1994: 104-5) demonstrates that commercialization and integration with the market economy reinforced a separation between tree and land tenure, leading to tenure differentiation (the advent of land leasing, tree leasing, land sharecropping, tree sharecropping, pawning, etc.) and struggles over resource control. The outcome was increased control by tree lessees over the landscape, graduate dispossession of some farmers from their lands, and eventually, monocropping where agroforestry had previously been practiced. While monocropping is not possible with matsutakes because they only grow wild, one form of tenure differentiation has occurred. Another example is Vondal's (1987) study of duck farming and the resultant increase in fish demand in the swamplands of Borneo. In this case, the commodity boom lead not to a privatization of the common swamplands, but rather to a retreatment of an 'open access' system where the “first come first serve” rule allows the wealthier and more powerful village members to quickly stake the largest fishing areas. Furthermore, in her studies of tree tenures, Fortmann [Fortmann 1988 #13] also finds that "when the value of trees is increased, there is a tendency for both land and tree tenure to shift from communal to private holdings."

In the case of matsutakes, however, the commodity boom has lead to tenure diversification but not to privatization thus far. Furthermore, prior to the penetration of the Japanese market, there were basically no restrictions on NTFP harvesting in these forests. Over the past five years, however, a number of villages have developed rules and management systems under the rubric of xiang gui ming yue, as described in the above discussion on access. The murky legal status of the xiang gui ming yue creates problems when counties or other higher levels of government disapprove of village rules.

The villages which have developed these management systems are those which have very highly productive matsutake forests. The management and regulations perform two functions: they regulate the timing of matsutake collection within the village; and they establish the importance of territorial control over village forest land by restricting access to matsutakes and thus distinguishing between 'insiders' and "outsiders". Timing of matsutake collection within the village is regulated first by the setting of a date when the forest is officially open for matsutake picking. Then at any time during the season when the proportion of small matsutakes coming out of the forest is judged to be too high, the village -- or in some cases the village head or the village committee -- decides to close the forest to pickers for a few days. Villagers are also sometimes restricted from harvesting matsutakes when barley needs to be threshed. In some cases, villagers are required to patrol the forests during these closed times.

The rationale for this type of regulation is usually explained by villagers in economic terms: allowing the matsutakes to grow undisturbed for just 4-5 days can make the difference between harvesting mushrooms worth less than a dollar each to those worth ten times that price. However, there may also be ecological advantages because the additional time for the matsutakes to grow mean that fewer tiny matsutakes are raked out of the ground. Thus there may be less disturbance of the mycelium. Furthermore, one administrative village passed a regulation in 1997 which both prohibited families from building new houses less than fifteen years apart (in response to a trend of household building and rebuilding every couple of years) along with a prohibition against cutting oak trees for fuelwood in prime matsutake-collection areas. Thus a kind of conservation impulse seems to be emerging to some extent alongside matsutake management.

In terms of territoriality, many of the same villages are now charging entrance fees for outsiders who come harvest in their collective forest, or even in "their" collectively-managed state-owned forests. This changes the access regime vis-à-vis NTFPs from de-facto open access to common property, such that belonging to a village determines membership in the forest user group. Often, outsiders are forced to pick only in designated (less productive) parts of the forest. In one such village with a particularly zealous village head - who hoped to use profits from matsutake collection to build an irrigation channel - outsiders were to pay the 50 USD seasonal entrance fee up front, or else find a village guarantor to be allowed to stay. The village head was known to line up all of the non-village residents early in the mornings to ensure that there were no extra people. Furthermore, when the forest was closed, villagers were required to patrol the boundaries to ensure that no one from either inside or outside of the village tried to cheat. The village head also had went from house to house in the evenings before the forest was scheduled to reopen to ensure that everyone was home, rather than picking matsutakes ahead of time. This village was one of the only ones in which the three cm rule implemented by the county was being enforced -- by the same village head. Despite all of these elaborate rules, there were about 130 outsiders residing in the village during the 1997 season, in a natural village whose population was only 240.

Fees for outsiders are both a way of restricting access through social identity and relations and a form of rent on that access. Often, such rents accrue to village chiefs and male heads of households who not only keep the
profit but also have the power to decide whether or not to give access to outsiders (Ribot 1998). More research is needed to determine how these decisions are made and profits distributed in Diqing. Both appear to vary by village. For example, in some natural villages the decision to begin restricting access are made by the village head, in others it is by the village committee, and in still others the idea might be discussed or even brought up by the village members as a whole. In the above example, profits were to be used to build a new irrigation channel. In a different village which was involved in a number of legal battles over forest rights, one informant claimed that profits from fees were given to subsidize travel expenses for village residents to go to court.

Another effect of the transition away from open access has been the development of rules about who "counts" as a villager. For instance in another village, former villagers who now reside and work in the nearby town are allowed to come back to the village to harvest, but must pay a fee. Villagers who earn government salaries are not restricted in the forest area from which they harvest (as outsiders are), but must also pay a (smaller) fee. This again is an example of differentiated access based on social identity.

CONFLICTS OVER FOREST ACCESS AND BOUNDARIES

The development of rules to spatially, socially, and temporally restrict access to matsutakes has precipitated a large number of disputes between villages. These conflicts are both struggles over the actual physical location of inter-village boundaries; and struggles over access rights. Although these can be thought of as two different processes, there are usually elements of both in any single conflict.

Conflicts over access rights reflect a struggle over the (non)meaning of inter-village boundaries vis-
√_a-vis rights to harvest matsutakes. For example, XD and YZ are neighboring administrative villages in Deqin county which often have disputes over matsutakes. Villagers from YZ claim that they should be allowed to pick matsutakes in XD, which has more trees and more matsutakes. XD, however, restricts access to the forest to its own residents. Because YZ is closer to the main road out of the valley, it has threatened the villagers of XD by taking down a bridge which connects XD to the main road. As a result, matsutake buyers could not reach XD, preventing villagers from benefiting from the trade. This type of dispute between paired villages (either natural or administrative) -- in which one forest is much more productive than the second, but where the second village has some other advantage or threat over the first -- is quite common in the area.

A similar situation occurs on the border between Yunnan province and the TAR, some 80 kilometers from the county seat of Deqin. Residents of a village in Yunnan wished to pick matsutakes in a neighboring village in the TAR, when the TAR village refused to give Yunnan residents these rights, they blocked the road, forcing all vehicles to take a two-day detour. In these cases, the actual physical location of boundaries between villages (or provinces) is not contested; rather, disputes occur over whether these boundaries are meaningful in the context of the matsutake trade. This type of dispute was played out quite dramatically in 1996 when the head of a natural village killed another village head over the decision about whether or not people from a different township should be allowed into their shared forests to collect matsutakes.

The complexities of these disputes is well illustrated through the case of two neighboring villages in Deqin county, FS and RK.

Access Rights: FS vs. RK

FS's collective forest produces matsutakes in great abundance while RK's produces very few. Thus villagers from RK wish to collect matsutakes, free of charge, from FS, but FS insists that they must pay the same 300-400 yuan (35-50 USD) entrance fee as anyone else. Starting around 1993, RK villagers cut off FS's water supply during each matsutake season, arguing that the mutual interdependence of the two villages should entitle them to gather in RK's forests for free. They argue that villagers from FS have long been coming to RK land to pick morels, gather fodder, and graze animals, thus basing their claims on appeals to fairness and reciprocity. The village head of FS, on the other hand, claimed that villagers from RK have been coming to FS land to gather oak leaves for incense and fertilizer, and wood for tool-making for many years, and that they have already benefited tremendously from FS resources. FS continues to refuse RK, villagers' demand for waiving their fee to harvest matsutakes in the FS collective forest, and RK continues to cut off FS's water supply each year. In 1996, the water supply was cut off for more than 45 days, forcing FS villagers to drive to the county seat to buy water. Finally the county government stepped in to fix the water pipes. The village head of RK acknowledged that the water belonged to FS, but argued that the land over which FS's water flowed was the property of RK. Without rights to collect matsutakes in FS for free, he maintains that RK will not give FS the fights to transport water over its land.
Whether the claims of RK or FS or both are accurate, it is clear that there are many social, economic, and resource ties between the two villages. Three years ago the township government decided that this "close and serious relationship" (lihai guanxi) was sufficient reason to prohibit FS from charging RK villagers the high entrance fee. In effect, the township government overturned the authority of the village-based code of conduct (xiang guiming yue) so by the villagers of FS. However, the villagers of FS refused to abide by the rule and decided instead to bring the township government to court (with the village of FS as the plaintiff, the township government as the defendant, and RK as the third party).

They argued that the forest is collectively owned by FS alone, that collective ownership should imply the right to deny access to people other than residents of the village, and thus that the township regulation was unfair. The court case also revolved around a triangular piece of land at the boundary between the two villages, rights to which were reallocated by a 1983 forest working group during the liangshan daohu policy implementation period. At that time, ownership rights of this piece of forest land were given to RK but use rights were to be shared by both sides. The village head from FS argued that the 1983 agreement explicitly stated that RK was not to charge a fee for grazing, but did not address matsutakes (which were not exported from this area yet). FS used this as further evidence that the current township regulation of matsutakes was unfair. On the other hand, claimed that the use rights over that land belonged to RK exclusively. There was also some disagreement between RK and FS over whether the boundaries drawn in 1983 were fair.

The court upheld the 1983 borders and agreed with RK that use rights over the triangular piece of land did belong to RK. However, the court struck down the township government's regulation which prohibited FS from collecting a matsutake fee from RK. However, this verdict did very little to change the situation: RK continued to cut off FS's water supply, and each year villagers from both sides prepare to battle over the matsutake territory while the county seat sends in the local Public Security Bureau officials to prevent fighting.

In 1997, the township announced a broader rule that set 20 yuan ($2.50) as a ceiling on matsutake-collection fees. At the same time the county announced that 50 yuan was the maximum a village could charge people from nearby villages with which they had "close and serious relationships." Nevertheless, FS was again planning to charge RK villagers the 400 yuan (50USD) entrance fee, and to take the county to court over the definition of their ownership rights. Currently this dispute remains unresolved.

This case illustrates the way in which conflict over the meanings of collective ownership and boundaries is intertwined with conflict over the physical location of boundaries. In fact, local boundaries have rarely been precisely delineated, fixed and stable, yet storytelling about historically based territories are an important means by which claims are established. Tradition is invented, not only by colonial governments in Africa trying to codify land tenure (Berry 1993), but also by villagers for the legitimization of their own claims to access rights. As discussed above, efforts to establish such claims are made not only through not only in the legal realm, but can also be discursive (Fortmann 1995), represented through maps (Orlove 1991), and articulated through cultural idioms (Moore 1994), not to mention exerted through threats and violence, coercion and trickery (Ribot 1998).

In China, these questions are further complicated by the major changes in boundary definitions that have occurred in the past fifty years: land reform, collectivization, and then decollectivization. Policies in 1962 and 1983 were meant to more clearly define and redefine borders between villages, as well as between state and village forest. Work teams were supposed to take into account both historical claims and equity considerations; but these policies were implemented differently in different locations, or sometimes not at all. In the case of RK and FS, each village claims that its traditional forest area was significantly larger than the other's was, and that the work teams of 1962 and 1983 made their forest land progressively smaller while that of the neighboring village was enlarged. According to the narrative of one FS villager, in 1962 some of FS land was drawn into the borders of RK. Everyone knew at the time that this was not historically accurate, but no one objected because of the collective wish to be a model communist village. The current dispute is not only over "collective ownership" as the right to exclude neighboring villages, but also over different interpretations of a 1983 court decision about use rights and ownership rights over a particular piece of forest land. Thus, like decollectivization in Transylvania, the boundary conflicts here have become "a war of competing social memories (and memory, as is well known, is exceedingly elastic." (Verdery 1996: 146).

In fact, there are many parallels between competing claims to matsutake producing forests in Diqing and problems of land restitution in Transylvania (Verdery 1996), including the absence of preexisting physical markers on borders, and a common invocation of the past as justification for current claims, despite years of Communist orientations of looking towards the future, and destroying the past. The appeal to ancestry and the past in China would not have been predicted a decade or two ago, when memories of destroying the "four olds" were still fresh.

It is not surprising that different claimants will tell different versions of the same event, or even different stories
altogether (Fortmann 1995: 1056). However, what remains to be studied and understood is the particular kinds of justifications which are mobilized in which specific contexts, as well as the mechanisms which turn stories into active renegotiations of property.

The ongoing case of FS vs. RK is also significant and surprising in that the competing stories have turned into active renegotiations not only in the form of threats, counter threats and violent action, but also to negotiations in the legal sphere, in a country whose legal system is weak and characterized by a general paucity of village participation. This may be seen as part of a more general trend towards “rights based resistance” in which villager use laws and policies to defend their ‘legitimate rights and interests” (Li 1996: 29). Furthermore, this type of resistance (in contrast to “recalcitrance”) often invokes a contractual logic, and links legal responsibilities with political and legal claims as well as the regime’s own legitimating myths (for example, the idea of “collective” forest) (Li 1996: 41). While this is quite speculative, the use of the courtroom as a battleground does suggest a new attitude towards both the court as a legal institution and towards the importance of NTFPs to local life. At the very least, this case seems to fall into Li and O’Brien’s observations that “policy-based resisters typically claim ‘rights’ that pertain to immediate economic interests and village governance [rather than] more general civil and political rights to association... [among] villagers who are developing a contractual understanding of their relations with local authorities” (Li 1996: 54-55)

In addition to an appeal to “the way things were”, strategies of justification in Deqin (like those in Transylvania) also include those based on ideologies of entitlement, desert, or equity. In Deqin, this is commonly expressed through an argument of mutual interdependence -- ‘that village depends on us for grazing land, which we share freely- as a result we should share freely its matsutake-producing forests.’ Further research could investigate the claims and counterclaims used by these and other villages, to better understand the grounds on which they are made, and the mechanisms by which they are turned into action.

Two other aspects of the FS vs. RK conflict are also worth exploring briefly: intra-village politics and power; and the importance of landscape features in conflict. Although this paper has focused on intra-village conflicts vis-à-vis access to resources, there are inevitably also power differentials and politics within any community or village. In this particular case, an informant from RK claimed that the villagers in FS are divided into two major factions: those who want to force RK to pay the access fee (including the village head), and those who do not. The latter are mainly the families with large numbers of cattle or yak which need to be grazed on RK land. Because the village head and other more powerful villagers are in the first category, the others are afraid to express their opinions openly. Whether or not this story is objectively “true”, there was some motivation that caused it to be told to the researcher. One must assume that such intra-village politics exist and shape outcomes.

A second interesting feature of FS is its location at the top of a hill. As a result, its forests are much larger and more productive than those of the many surrounding villages are, and in fact FS has been involved in matsutake disputes not only with RK but also with almost all of its nine downhill and nearby neighboring villages. Thus, the physical location and characteristics of the village are one important factor in access and management. As another example, forests which are "contracted out" to entrepreneurs (see below) tend to be those which are relatively bounded and thus easier to patrol. Furthermore, villagers near the township of Benzilian agreed that the reason the ‘responsibility land’ system was never implemented there was because of the landscape. Rather than large hills and few villages such as are found near Zhongdian, the landscape around Benzilian is much flatter and more populated. Thus, it would be more difficult to divide the forest land up by household.

Conflict Resolution

Very few of the inter-village disputes over access to matsutake-producing forests have been effectively resolved. Local Public Security Bureau Officials who are sent to mediate disputes say that they can exhort and plead with local people to stop fighting, but that ultimately there has not yet been any resolution- next year when the matsutakes come again, so too will the conflicts.

Why has there not been an effective resolution to these disputes? In many cases, the boundaries being contested are those that were simply never mapped not by the government after 1957. Officially, traditional and historical boundaries have been used to manage the land. These traditional boundaries were relatively uncontested during the collective era, but with the matsutake market, this is no longer the case. However, the official reliance on tradition (in the absence of later adjustment) means that local government cannot legitimately dictate where the "real" boundaries are. The war of competing social memories takes place in a historical terrain, in times long before 1957, on which the present government does not have say.

Even where records do exist, institutional barriers often prevent them from being used to settle disputes. In one instance, a boundary between two villages had been drawn in 1983 as part of the sanding lingye policy
implementation process. Now that there was a dispute between these two villages over matsutake land, however, the forest officers at the township level were uncertain where (and if) the previous records were kept, since the original forest officer had long since retired. Similarly, a forestry official at the provincial level found it no surprise that Younger officials did not know where boundaries were or how and when they had been drawn. According to this forestry official, only the older generation which had been part of the work teams and surveys would be privy to that knowledge, which is kept by individuals rather than being institutionalized.

State Forests and Property Rights

In theory, villages have ownership and use rights over collective forests, but not over state forests. Thus, villages technically cannot charge entrance fees for NTFP collection in state-owned forests. However, state forests are usually physically located beyond collective forests, or between two or more village collective forests: to walk to a state forest requires walking through a collective forest first. Thus, practical considerations prevent many villages from distinguishing between entrance fees for matsutake harvesting on state vs. collective forests.

One area that has been the site of considerable contention over the past few years is a piece of state forest that lies between the collective forests of ID and LS villages. In this case, LS village contracted out part of this state forest to an entrepreneur who then charged pickers further access fees. Officially, this was a piece of state forest for which both JD and LS villages had fire-prevention responsibilities, as well as rights to pick NTFPS. As a result, JD villagers were denied access to forests on which they had previously been able to pick matsutakes. This lead to a good deal of violent arguments, until 1997 when the county sent a work team with members from the PSB, county courts, and the county government to resolve the conflict. The temporary resolution was to expand the areas of both JD and LS collective forest and restrict access to these new forests to residents of these villages alone. Furthermore, control of the state forest between the villages was returned to the county, which sent in a permanent patrol and collected fees (for itself) from all harvesters, including those from JD and LS. According to the Land Management Bureau, however, this is only a temporary measure still waiting for a better resolution.

The contracting of 'state forest' to entrepreneurs is a phenomenon that is happening sporadically in this region. In some cases, an entrepreneur will require that any pickers who harvest on land under his control sell all of the matsutakes to him, regardless of the price. In other cases, he may simply charge a fee for access to that forestland. In either case, the contracting out of a piece of state forest by a village which has responsibilities and use rights - but not ownership rights - illustrates the fluidity of forest property rights at the present time.

CONCLUSIONS AND COMMUNITY FORESTRY

Like many papers addressing community forestry, this one has attempted to rescue a non-timber forest product from its erstwhile designation, "minor" forest product. It has also demonstrated that the economic, biological, and social affects of matsutake mushroom harvesting are inter-related, and that an examination of a single forest product can link outwards into a complicated web of political-economic and social relations that affect one another. Furthermore, the effects of wild mushroom harvesting on a community are neither simply good nor bad; rather the effects depend very much on which members of the community and also on peculiar qualities of the product such as uncertainty and risk.

The case at hand has illustrated that communities are capable and do come up with ways of managing their resources - though perhaps not in the way researchers may expect. Mycorrhizal species such as the matsutake are not easily manipulated through altering the physical environment, but other forms of management such as temporal and spatial restriction of access have emerged. These in turns have complicated social effects by emphasizing certain types of social identity as a basis for access to monetary income.

There has been surprisingly little in-depth study of the social implications of matsutake harvesting whether in the Pacific Northwest, Oaxaca, Mexico, or especially southwest China. In Diqing, the only community forestry project on the ground was one that called for tree planting and the harvesting of pine nuts. Thus a great deal of research remains to be done on matsutake harvesting in Diqing and the surrounding Tibetan regions. Some questions to be addressed include the ways in which particular claims to forest land are made and the more specific ways in which access control is exerted; the effects on the regional extractive economy and relationship with the timber industry and conservation efforts; and the links between market/commodity chain structure and both tenure differentiation and harvesting techniques.
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