

For two reasons, forestry in China is particularly interesting to other countries around the world. First, the Chinese indigenous tree flora is among the richest in the world. Among the 700 genera found in China, 5,000 woody species are known; many are already of horticultural and economic importance; others undoubtedly could be used to enrich gene pools as communication with other nations opens up. Second, since Richardson's¹ 1966 account of forestry in China, the Cultural Revolution has made many changes, but little information has been transmitted from behind the bamboo curtain.

Charged with curiosity and armed with the precedent of President Nixon's visit, we applied to the Ottawa Embassy in March 1972 for a visa to the People's Republic of China. The permission finally came in October. Although the time was not the most suitable for field trips, we were eager to go.

We traveled 3,000 miles inside China by rail, bus, and air. We made stops at Canton, Shanghai, Peking, Nanking, and Hangchow for a total of 24 days. Fortunately, at each of these cities we were able to visit different organizations dealing with various aspects of forestry in China today.

Afforestation

The most impressive accomplishment is the "greening-drive" of Chairman Mao's policy. According to staff members of the Ministry of Agriculture and Forestry in Peking, between 1949 and 1972, 25 million hectares of land had been aurally seeded or planted with seedlings. Before 1959, according to two sources cited by Richardson,² forests were estimated to cover from 5 to 10 percent of the land. As a result of the mass planting, the latest accurate statistic is that 11 percent of the land is forested. In addition, trees border rice paddies and vegetable gardens; surround houses, schools, and factories; and line railroads, highways, streets, paths, streams, rivers, and lakes.

Many types of organizations are engaged in the afforestation program. Besides the State Department of Agriculture and Forestry, numerous communes, municipalities, and districts maintain their own nurseries and plant and protect their forests. Other units, such as the two botanical gardens we visited in Hangchow and Canton, also were active in the program, in addition to their normal activities with taxonomically important species. Woody plants of economic potential and medicinal value were growing neatly in their gardens. Specialists in the Botanical Garden maintain close cooperation with municipalities and forestry schools. For example, they test adaptable tree species for roadside planting, timber production, cold or dry sites, gum production, and other special problems.

The prevailing concept governing the afforestation program is close planting. Close spacing is said to provide an extensive root system for soil and water conservation, which in turn aids seedling establishment

¹ S. D. Richardson. 1966. *Forestry in Communist China*. The Johns-Hopkins Press, Baltimore, Md. p. 237.

² S. D. Richardson, 1965. Production and consumption of forest products in China (Mainland). *Unasyuva* 19(1):24-31.

A Glimpse of Forestry in China

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Fig. 1. Fully reforested White Cloud Mountain near Canton where 2,700 hectares were planted densely with *Pinus massoniana* by a cooperative effort of teachers, students, office and factory workers, farmers, and soldiers in 8 years. Because of the forest, the mean summer temperature in Canton was said to be 2 degrees lower than in the past, and the yearly monsoon flood damage reduced in recent years.

and rapid initial growth to insure a good cover on bare lands. Intensive, large-scale labor was required in such mass afforestation programs, and evidence of success is everywhere (Figs. 1 and 2). Selection of trees for good form and volume will be the next step for forest improvement, we were told.

Tree Improvement

Two full-afternoon discussion sessions with the forestry staff from the central government in Peking and three field trips to forests and botanical gardens at various places gave us some authentic information about the work that is being done in forest genetics and tree improvement. They can be summarized as follows:

- A national meeting for several hundred workers in forest genetics and tree improvement was held in Fukien province in August 1972, to review programs around the world and discuss future plans.
- A small trial of a Douglas-fir provenance study was established with seeds imported from Canada.
- Fairly large-scale experiments and outplantings of such introductions as slash pine (*Pinus elliotii*), various species of eucalyptus (*E. citriodora*, *E. globulus*), and Canadian poplar (*Populus canadensis*) already have indicated some valuable seed sources for reforestation.
- Seed orchards and seed-production areas for important indigenous species, such as *Pinus massoniana* and *Cunninghamia lanceolata*, have been established, and progeny tests from a 50-hectare seed orchard of *C. lanceolata* are in progress.
- Hybrids have been produced from various combinations of native and imported germ-plasm for soil conservation, windbreak, weather improvement, roadside beautification, and wood production, especially in

the genus *Populus* (among species used: *P. hopeiensis*, *P. tomentosa*, *P. tremula* var. *davidiana*, and *P. cathayana*).

- New techniques and methods in asexual propagation of poplars have been developed.

- Selection and breeding of walnut (*Juglans* spp.) and chestnut (*Castanea* spp.) for early nut production have been successful in northern China and Sinkiang Province.

A willingness to exchange seed, specialists, and research information on techniques was expressed by the genetic workers. The realization of such exchange, however, awaits the establishment of normal diplomatic relations between the United States and China.

Education

Lastly, something should be said about the effect of the Cultural Revolution (1965-1969) on the educational system. During the revolution, normal operations in colleges and universities were suspended. Professors were sent to machine shops, forests, hospitals, stores, power plants, factories, and farms to gain first-hand experience in production and service. Then, according to the information sources we had contact with, courses were reorganized and regrouped, redundancies removed, irrelevancies deleted, and textbooks revised. Now the college training period is reduced to three years, even for medical degrees. Teaching methods that evolved, and combining learning and practical experience in college courses, we were told, improved efficiency in college teaching.

Fundamental change in the procedure for selecting students for admission into various colleges and universities also has occurred. Stress is now on the prospective student's attitude toward physical labor, interest in learning and serving others, mental capacity, and enthusiasm for political work. The candidate often is selected and recommended by various production units, such as a farming commune, a factory, or an army unit. All educational and living expenses are paid by the state for qualified students. If the student has been a skilled laborer earning a high salary, a comparable paycheck will be given during schooling.

We discussed with administrators from two universities the possibility that students selected by these methods might have different backgrounds for comprehending the various courses taught at the college level. The administrators frankly admitted that they are fully aware of this problem, but will give five to eight months' individual tutoring to help in preparing for academic advancement.

Some universities have resumed academic activities on campus only recently. We spent an afternoon at the College of Forestry in Nanking, where only three of seven departments were to begin classes for first-year students in spring 1973. In Shanghai, we also visited Tung-chi University, well-known for its engineering and architectural colleges, which has only freshman and sophomore classes; in fact, all second-year students had been sent to harvest nearby farm crops for two weeks at the time of our visit. This was done, we heard, so that students could be better prepared to "serve the people" and to "raise the standard of living for everyone." □