The political turmoil of the 1970s formed the backdrop to the first visits of International Rice Research Institute staff to China. Agricultural economist Randy Barker, one of the team of scientists who ventured to the world’s largest rice producer, recounts the experience.

The first person-to-person contact between the International Rice Research Institute (IRRI) and China occurred in 1973. On that occasion, IRRI Director General Nyle Brady joined a delegation of plant scientists for a 1-month tour during which he provided China with seeds of IRRI-developed rice varieties. In March and April 1976, a team of eight Chinese agricultural scientists visited IRRI twice. With the success of these visits, the Chinese government invited an IRRI team to China in July 1976. However, Chinese Chairman Mao Zedong’s illness—which resulted in his death on 9 September—forced the trip’s postponement until October.

The seven of us who made the journey (see map, page 26) represented a good mix of nationalities and disciplines: Nyle Brady (director general, United States), Mano D. Pathak (entomologist, India), Shouichi Yoshida (plant pathologist, China), Shu Huang Ou (plant physiologist, Japan), Gurdev Khush (plant breeder, India), Surajit K. De Datta (agronomist, India), and I (economist, United States).

Beijing, 7-12 October

We took the train from Hong Kong to Guangzhou (Canton) on 7 October, changing trains at the Chinese border before flying to Beijing. Unbeknownst to us at the time, the infamous Gang of Four had been arrested in a coup d’état on 6 October. The Gang of Four was a leftist political faction composed of four Chinese Communist party officials, including Mao’s wife, Jiang Qing. The other members were Zhang Chunqiao, Yao Wenyuan, and Wang Hongwen. They were charged with a series of treasonous “counter-revolutionary” crimes. What we witnessed, however, in the meetings, the entertainment, the confessions on the wall, even the drab gray-blue look-alike clothes that people wore, was still a part of the soon-to-end Cultural Revolution (1966-76).

The route that we followed in China was the same as that assigned to professionals and tourists alike—Beijing, Nanjing, Shanghai, and Guangzhou. Our visit was a combination of professional activities, meetings, and sightseeing. We visited research institutions and communes, were briefed by staff at the National Academy of Agriculture and Forestry Sciences, and held discussions with agricultural scientists.

One of the most surprising visits was to the Institute of Microbiology, where they collected species of fungi. We were ushered into a room with drawers full of species that had been collected over time. Our interpreter pulled open a drawer randomly to show us what was inside. The fungus in the drawer had been collected and classified by S.H. Ou from 1934 to 1936 while he was working at the Institute of Agricultural Sciences in Jiangsu Province. You can imagine Ou’s excitement. Other drawers were opened up and two or three also contained species that Ou had collected.

From Beijing, we took the night train to Nanjing. Except for us, the only other passengers on the trains were soldiers. At the time, movement in China was strictly controlled. Most people were assigned to communes and given ration cards for food. Grain was rationed—about 15 kg per month for city folk and double that for a person doing hard work in the commune. There was almost no opportunity for civilians to travel. At 6 a.m., we were woken by loudspeakers blaring words of wisdom from Mao Zedong. Later in the morning, we passed through Anhui Province, historically one of the poorest areas in China and the setting for Pearl Buck’s book The Good Earth.

Nanjing, 13-15 October

In Nanjing, we visited the Soil Institute of the Chinese Academy of Sciences, which had been protected from the Cultural Revolution. Staff members there were particularly proud of their library, which contained some foreign publications. This raises an interesting point: it seems that before and during the Cultural Revolution, China was the same as that assigned to communes and given ration cards for food. Grain was rationed—about 15 kg per month for city folk and double that for a person doing hard work in the commune. There was almost no opportunity for civilians to travel. At 6 a.m., we were woken by loudspeakers blaring words of wisdom from Mao Zedong. Later in the morning, we passed through Anhui Province, historically one of the poorest areas in China and the setting for Pearl Buck’s book The Good Earth.

The IRRI TEAM with some of their Chinese hosts at Tai Lake, Wuxi, on 17 October 1976. Front row: S.H. Ou (far left), S.H. Ou (third from left), then-IRRI Director General Nyle Brady (center), Randy Barker (fourth from right), and Mano Pathak (third from right). Back row: Gurdev Khush (left) and plant physiologist Shouichi Yoshida (right).
Cultural Revolution, agricultural research in general was protected. For example, semidwarf rice varieties (which resisted lodging, or falling over, just like the first Green Revolution semi-dwarf variety IR8, bred by IRRI) were first bred in China (including Taiwan) in the late 1950s and early 1960s using different parents. We now know that the Chinese and IRRI semidwarfs all have the same dwarfing gene. The Chinese also developed and released hybrid rice in the 1970s, using IRRI varieties IR24 and IR26 as fertility restorer parents. Hybrid rice varieties would soon cover around half of the country’s rice area.

Basic research was conducted at the provincial and county level with extension of research findings carrying down to the commune, brigade, and production team level. We visited Jiangsu Academy of Agricultural Sciences (JAAS), which had a staff of 600 and 67 hectares of experimental fields. This was the same institute where S.K. De Datta and I had worked before leaving mainland China for Taiwan. I photographed Ou sitting in his old office chair (see photo on page 24). Also at JAAS, we met a “model farmer,” Mr. Chen, who was carrying out research. He was selected as a “national hero” in 1954 when he achieved a record rice yield. He used a system of nutrient management called “three yellows and three blacks,” which referred to the green and yellow coloring of the various stages of growth. In a technique similar to that employed with IRRI’s leaf colors chart for today, farmers made crop management decisions according to the colors of the plant.

Wuxi, 16-18 October

We took the train from Nanjing to Wuxi on the morning of the 16th. I had brought along a copy of John Lossing Buck’s seminal work Land Utilization in China. I read the pages where he described the area we were traveling through, the lower Yangtze River Basin. As I looked out the window, the cropping patterns seemed much as Buck had described them. Buck was the husband of Pearl Buck and together they taught at the University of Nanking from 1920 to 1933. From 1929 to 1953, Buck organized a survey of 38,256 farm households in 22 provinces, which provided the materials for the book. The three-volume book was first published by the University of Nanking in 1937. His demarcation of the agricultural regions of China remains basically the same today.

We visited two communes near Wuxi, where the main annual cropping pattern was wheat-rice. These two communes had a plan for developing the land that was to extend up to 1985. This involved an enormous amount of human labor to move soil, dig and streamline irrigation ditches and canals, and level land. The land was originally divided into about 15 fields per hectare, but, when we were there, each hectare was just a single field. The irrigation water was piped underground.

One evening, we attended a movie. It was a Chinese film. It must have been an American melodrama. At one point, a Chinese and a Vietnamese naval ship were approaching each other. It was easy to make out the villains by their sinister looks. A peasant on the Chinese ship was about to fire at the Vietnamese ship when the party secretary put a hand on his arm and said, “We don’t shoot until they shoot first.”

My most vivid memories were of two events, one peaceful and one not so peaceful. First, we took a boat trip on the famous Tai Lake (see photo on page 23), and I can remember sitting on the lake’s edge watching the sun set. Second, and even more memorable, on the day we arrived in Wuxi, S.H. Ou and Shouichi Yoshida read signs on the wall and told us that something big was about to happen. This was the beginning of the mass movement against the Gang of Four. On the morning of the 18th, on the way to the railroad station, we passed demonstrators parading in the streets carrying signs condemning the Gang of Four. Our interpreters said very little. But I was able to note something on one of our interpreters, Mr. Huang, who was obviously pleased. As he put it, “The masses know what is best.”

Shanghai, 18-21 October

After visiting a doll factory, we boarded the train for Shanghai at about 10:15 a.m., arriving two hours later. The whole city was buzzing. The Chinese scientists began their talk as follows:

“Since the liberation, under the guidance of Mao Zedong, following the path of Deng Xiaoping, the rightist revolutionary, following the principles of the Great Leap Forward, and carrying on our work in a self-reliant way, we reformed the cropping system to grow three crops of rice.”

It was quite a mouthful.

We arrived in Shanghai three days later. We visited the Syin Hwa People’s Commune about 40 km northwest of Guangzhou. S.K. De Datta and I were at a brigade research station. I said to S.K., “You see that implement over in the corner? That looks just like our fertilizer placement machine.”

We began asking questions, and learned in our discussions that deep placement had been widely practiced in southern China since the late 1960s. Shouichi Yoshida told us that a Japanese team discussed this method with the Chinese in the late 1960s. Shouichi Yoshida helped to popularize the method in Japan during World War II.

Homeward bound

On the 23th, Nyle Brady left for Hong Kong and then Washington, D.C. On the morning of the 24th, the rest of us boarded the train for Hong Kong and left as we had come. The trip marked the beginning of dramatic changes in China and of a close relationship between China and IRRI. Back at IRRI, we met the staff at the guesthouse to report on our trip and later published a report in English and Chinese (with a red cover), Rice research and production in China: an IRRI team’s view, which detailed our observations.