

THE PROBLEMS OF CHINA'S OIL INDUSTRY AND ITS PROSPECTS FOR THE FUTURE

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In the near future, the People's Republic of China faces an economic crisis just as severe as that of the industrialized West. One reason for these economic troubles is a debilitating energy shortage. In turn, a major share of the blame of the PRC's energy crisis belongs to a domestic petroleum industry that has been plagued by political difficulties, technical foul-ups, a shortage of trained personnel and a very wide credibility gap.

Though the Chinese have had a nodding acquaintance with oil since the First Century B.C., it was not until the Communist takeover in 1949 that any serious attention was paid to China's potential as an oil producer.¹ The new regime, with the help of Soviet petroleum geologists, conducted the first, large-scale geological surveys of the Chinese mainland. These initial efforts culminated in 1959 with the announcement of the discovery of the Daqing oilfield, located in Heilongjiang province in Northeast China. However, the Daqing oil field suffered from two major disadvantages. First, Daqing was much too close to the Sino-Soviet frontier; second, Daqing lacked proximity to Chinese ports and industrial centers. This problem of distance placed severe strains on China's rickety transportation network.² These problems of security and transportation were somewhat alleviated by the discovery in the early 1960s of the Shengli and Takang oil fields, located on the shores on the Bohai Gulf. As a result of these discoveries, in December 1963, the Second National People's Congress was able to announce that "our country has now become basically self-sufficient in oil."³ Prior to the mid-1960s, the PRC had been a net importer of oil.⁴ Since that period, other major oil fields have come into production as well. These include the Huahe, Fuyu, and Renqiu oil fields, all of which are onshore fields.

Since the start of production at Daqing in 1959, China's crude oil production has undergone tremendous growth. In the years between 1959 and 1975, the PRC averaged a 20% increase in crude oil production.⁵ During 1965, China's oil production totaled ten million metric tons.⁶ In 1973, the late Premier Zhou Enlai informed Japan's Foreign Minister that China's 1972 crude oil production had attained a level of 50 million metric tons.⁷ For the first three months of 1981, the Chinese reported production figures of 24.9 million metric tons, or an annual production rate of 100 million metric tons, a production level ten times that of 1965.⁸

Despite the progress of the 1965-1975 period, by the mid-1970s, things began to

STATEMENT OF PURPOSE

The study of international affairs as an academic discipline no longer belongs exclusively to the specialists in that field; rather, its scope has been extended to include the work of other related disciplines in recognition of the fact that international problems are not exclusively political in nature. It is the purpose of this journal to speak on matters involving international problems with many academic voices. More important, it is the purpose of this journal to permit undergraduate students to try their wings in describing, analyzing, and possibly suggesting solutions to the problems that have vexed nations in their contacts with each other.

The underlying premise of this journal is that undergraduate students *can* contribute effectively to a reasoned, moderate, academic analysis of international problems and that such contributions will have a more profound effect on the study of international affairs as well as on the student contributors to this journal than the passionate, partisan, and emotionally charged outbursts which have in the past permeated American campuses.

Consequently, the *Journal* invites contributors to take an active interest in this publication. It encourages students as well as members of the Towson State faculty, and the students and faculty from other campuses to contribute articles, reviews, and other pertinent materials.

¹Choon-Ho Park and Jerome Alan Cohen, "The Politics of China's Oil Weapon," *Foreign Policy*, No. 20 (Fall 1975), p. 28

²Park and Cohen, "The Politics of China's Oil Weapon," p. 30

³*Ibid.*, p. 28

⁴Kim Woodard, *The International Energy Relations of China* (Stanford, California: Stanford University Press, 1980), p. 37.

⁵*Air War College Associate Programs, Vol. I: Chinese Political, Economic, and Social Systems* (Alabama: Maxwell AFB, 1976), p. 39

⁶Park and Cohen, "The Politics of China's Oil Weapon," p. 32

⁷Park and Cohen, *Foreign Policy*.

⁸FBIS-CHI-81-064-K14.

senior executives in Japan's power industry opposed future dependence on Chinese oil due to its high wax content.²¹

The situation described above is a far cry from the heady predictions concerning China's oil potential in the mid-1970s. In 1975, Selig S. Harrison, in an article in *Foreign Policy*, claimed that the PRC would become the world leader in oil production by the year 2000, surpassing the present production leaders, the United States, the U.S.S.R., and Saudi Arabia.²² The Chinese themselves were not adverse to encouraging such speculation. In 1975, then Chairman Hua Guofeng pronounced that, "China can build 10 Daqings."²³ Statements such as, "the whole of China is floating on oil," made their appearance in the Chinese press.²⁴ The Japanese were hoping to import one million barrels a day, or 50 million metric tons annually by 1985.²⁵ Despite these hopes on the part of the Japanese, the Chinese announced that throughout all of 1980 they would only export eight million metric tons of petroleum to Japan.²⁶ As things stand now, there is little likelihood that Japanese expectations will be met. In fact, it is likely that the PRC will be a net importer of oil by 1985. China's oil industry has obviously not been able to keep up with the PRC's appetite for energy.

This inability to meet demand has resulted in a genuine and crippling energy shortage. In April 1976, Vice Premier Gu Mu partly blamed rising domestic demand for that year's slash in oil exports. During 1979, then Chinese Minister of Petroleum, Kang Shien, stated that: "We are consuming too much petroleum and are not conserving our natural resources in a rational way."²⁷ Robert Ebel, Vice President of International Development for Ensearch Corporation of Dallas, Texas, gave the following for China's present energy crisis:

The sheer backwardness of the country, its technological ignorance, its outmoded and inefficient fuel consuming equipment, and a surprising lack of control over fuel allocation and consumption all contribute to a wasteful consumption no different from the West.²⁸

As was mentioned earlier, China's oil industry has failed to keep up with domestic demand. Presently, the PRC is the fourth largest consumer of energy in the world today after the United States, the Soviet Union, and Japan. Given Chinese ambitions to become a world power, the PRC is expected to be the world's third largest energy consumer by the year 2000.²⁹ Chinese oil production has simply not kept pace with the PRC's galloping demand. During the sixteen years between 1959 and 1975, Chinese petroleum production grew at an average annual rate of 20%. In the same period, China also experienced an annual 8 to 10% growth rate in industrial output.³⁰ As a result of this growth in industry, the PRC's energy consumption

expanded at an 11.6% annual rate.³¹ Unfortunately for the Chinese, energy consumption took a major jump in the mid-1970s due to a large increase in grain production. Chinese grain output shot up 15%, mostly due to a 26% boost in energy consumption by Chinese farmers.³² Most of this energy increase went to power new tractors and to provide raw materials for increased amounts of chemical fertilizer. Apparently this sudden spurt in agriculture, coupled with other factors to be discussed later, helped to push China into an energy deficit situation.

Planning errors on the part of the Chinese government also helped to aggravate the PRC's energy difficulties. One such error centered on China's energy consumption mix. Besides substantial petroleum resources, the PRC, after the United States and the Soviet Union, possesses the world's third largest coal reserves. These reserves are in the area of one trillion tons.³³ As of 1970 coal supplied three-fourths of China's energy needs. During the course of the 1970s the Chinese government, believing that oil was more readily available than it actually was, switched a number of electric power plants from coal to oil. Assuming that petroleum was the way of the future, the PRC allowed coal production to decline. At the same time, the PRC allowed onshore oil production to lag.³⁴ By the end of the decade, Chinese oil production had reached a plateau of slightly over two million barrels a day. All this was taking place in a period when Chinese energy consumption was rising 1.8% for each 1% increase in China's GNP.³⁵ This leveling-off of oil production may have taken the Chinese by surprise. They were forced into a belated effort to increase coal production in order to maintain their modest oil export (338,000 barrels a day in 1974) program.³⁶ This, in turn, forced the conversion of many oil-fired power plants back to coal. Since there were both insufficient coal and oil available, a short fall in electrical generating capacity resulted. In a 1980 speech, State Planning Minister Yao Yilin admitted the mix-up when he announced there had been "a readjustment in the proportional relation between coal mining and tunneling and oil extraction."³⁷

As was stated earlier, Chinese oil production leveled off in the late 1970s. The following is a chart of the PRC's 1980 and projected 1985 onshore production levels in thousands of barrels per day.

Oil Field	1980	1985
Daqing	1,060	1,030
Shengli	420	500
Haupei	280	400
Liaoho	100	100
Fuyu	80	80
Takang	60	110
Others	20	320
	2,020	2,540 ³⁸

²¹Ibid.

²²Ibid.

²³Vaclav Smil, "Energy in China: Achievement and Prospects," *China Quarterly*, No. 65 (January 1976), p. 56.

²⁴Robert Delfs, "The Biggest Producer—The Biggest Consumer," *Far Eastern Economic Review*, No. 41 (October 2, 1981), p. 52.

²⁵Ibid.

²⁶*International Energy Statistical Review*, Washington, D.C., Central Intelligence Agency (November 25, 1980), p. 29.

²⁷FBIS-CHI-80-180-Supp-076-P2.

²⁸"China's Petroleum Surplus May Vanish in the 1980s," *Oil & Gas Journal*, No. 40 (October 6, 1980), p. 28.

²¹Richard H. Solomon, ed., *Asian Security in the 1980s: Problems and Policies for a Time of Transition* (Santa Monica, California: Rand Corp., 1979), p. 243.

²²Selig S. Harrison, "Time Bomb in East Asia," *Foreign Policy*, No. 20 (Fall 1975), p. 3.

²³FBIS-CHI-81-103-W1.

²⁴FBIS-CHI-81-103-W1.

²⁵Solomon, *Asian Security in the 1980s: Problems and Policies for a Time of Transition*, p. 243.

²⁶FBIS-CHI-80-026-D2.

²⁷"Sino Accent: Conservation Exploration," *Oil & Gas Journal*, No. 53 (December 3, 1979), p. 42.

²⁸Ibid.

²⁹Woodard, *The International Energy Relations of China*, p. 12.

³⁰*Air War College Associate Programs, Vol. 1, Chinese Political, Economic, and Social Systems* (Maxwell AFB, Alabama, April 1, 1976), p. 30.

The above chart shows that by 1985 China's onshore oil production will increase by only modest amounts, to approximately 2.5 million barrels per day. In fact, the chart indicates that the Daqing oil field, which presently accounts for one-half of China's production, will actually suffer a drop in production of 30,000 barrels a day by 1985. An ominous report out of Hong Kong states that it is possible that Daqing will only be producing 700,000 barrels per day by 1985. According to the *Oil & Gas Journal*, "Such a drop could not be balanced by higher flows from other onshore fields or by bringing new offshore fields on stream."³⁹ Whether the Hong Kong report is correct or not, the Daqing oil field is expected to be almost completely played out by the early 1990s.⁴⁰

Similar difficulties are afflicting China's other major onshore fields. Saltwater is a growing problem in onshore Chinese fields.⁴¹ Some oil fields are suffering from declining reservoir pressure.⁴² Two of China's biggest fields, Shengli and Renqiu, are showing production losses, a worrisome sign since both oil fields went on line after Daqing.⁴³

Another problem that inhibits China's oil industry is a willful misstatement of facts. According to *World Oil* magazine, most official statistics are designed to please superiors rather than to provide useful information. Among Chinese oil industry officials, there has developed a habit of not reporting production gains that exceed the official state targets in good economic years. This "pocket oil," as it is called, is then added onto any production shortfall during a bad year in order to meet the production targets set in Beijing.⁴⁴

But perhaps the greatest single problem facing China's oil industry is a shortfall in technical ability. The Chinese themselves have freely admitted that their technical difficulties stem, in large part, from low educational levels. Su Yu, Secretary of the Liaoning Provincial Party Committee, complained that, "Cadres' educational levels are rather low and they lack professional knowledge."⁴⁵ A 1974 report in *Renmin Ribao* expressed similar disapproval of China's generally low level of technical training.

China's scientists, technicians, and managers fall short of those needed for the modernization of the country . . . China now has several million scientists and technicians. This number is not small and some are top rate, but the level of the majority is not high enough.⁴⁶

While shortages of trained manpower are a common feature of many Third World societies, some of the reasons for the PRC's shortage of skilled manpower have a uniquely Chinese twist. The persistent "Red vs. Expert" debate and the damage done to China's educational system by the Cultural Revolution are the most visible reasons for the PRC's continued shortage of high caliber technical manpower. The

³⁹"Communist Bloc Oil Flows: Up Less than 1% in First Half 1981," *Oil & Gas Journal*, No. 37 (September 14, 1981), p. 33.

⁴⁰"Petroleum Surplus," *Oil & Gas Journal*, p. 28.

⁴¹"International Outlook Issue," *World Oil*, No. 3 (August 15, 1981), p. 286.

⁴²*Ibid.*

⁴³"Communist Bloc Oil Flows: . . .," *Oil & Gas Journal*, No. 37 (September 14, 1981), p. 33.

⁴⁴"International Outlook," *World Oil*, p. 287.

⁴⁵FBIS-CHI-80-79-247-L7.

⁴⁶JPRS-CHI-76609 (October 14, 1980), p. 9.

Cultural Revolution wrecked the educational careers of a whole generation of young Chinese. Consequently, most of China's technical manpower was trained prior to the Cultural Revolution. This is especially true of the elite cadre of China's top scientists, many of whom received their training in the West before 1949. The perennial "Red vs. Expert" debate is also to blame for the PRC's technical shortcomings. This remnant of the policies of the late Mao Zeodang has received thorough treatment in the Chinese press. One such article illustrated the conflict between ideology and reality in the following manner:

However, another pilot determined to defend and sacrifice for the Motherland will never fly to the enemy's side, but as his skill is poor, will invariably be shot down by the enemy as soon as he takes off . . . for this reason, skill alone without politics won't do, and politics alone without skill won't do either.⁴⁷

An April 1980 editorial in *Renmin Ribao* was even more to the point:

Adherence to socialism is our political orientation. But this alone cannot bring about China's modernization unless there are large numbers of really knowledgeable cadres.

As one might expect, this emphasis on political reliability at the expense of technical expertise has led in Chinese industries to "serious accidents, numerous casualties, and great economic damage," which are the result of "not paying attention to science and not acting in accordance with objective laws."⁴⁸

This lack of respect for "objective laws" extends to China's petroleum industry as well. A Xinhua News Agency report recounted the following incident.

In many localities, oil refineries with crude and simple equipment, are producing refined oil of very poor quality. As a result, it damages the machinery and instruments of the units using it . . . Because of using substandard gasoline, several important motor vehicles of the Sino-Czech friendship plant at Liaoning were damaged.⁴⁹

China's shortage of skilled manpower is also affecting its exploration program. Currently, the Chinese possess 1,196 onshore drilling rigs. However, the Chinese only have 726 trained work crews to operate them.⁵⁰ This leaves 467 rigs that are idle at any one time. In 1980, 55 officials at the Daqing oil field were demoted for "inefficiency and radicalism."⁵¹

However, the one incident that perfectly sums up the problems mentioned above was the collapse of the Bohai No. 2 oil rig during a storm in the Yellow Sea during November 1979. This accident, which claimed 72 lives, was a severe blow to the development of China's offshore oil industry, since the Bohai No. 2 rig was at that time China's only operational semi-submersible drilling rig. At first, the accident seemed to be due to what China's Petroleum Exploration Bureau termed "a sudden irresistible wind."⁵²

It soon became apparent that it was not only the weather that was responsible for

⁴⁷JPRS-CHI-80-76609 (October 14, 1980).

⁴⁸*Ibid.*

⁴⁹FBIS-PRC-81-023-L15.

⁵⁰"International Outlook," *World Oil*, p. 288.

⁵¹*Ibid.*, p. 286.

⁵²FBIS-PRC-80-150-U1.

the tragedy. The Bohai No. 2 rig had collapsed in a storm containing winds no greater than force 8 or 9—the rig had been designed to withstand winds up to force 12. Later, it was also revealed that the captain of the tug towing the rig had ignored storm warnings from shore-based weather stations. Later on, when the rig itself collapsed, the tug captain abandoned the scene of the accident instead of lending assistance to any possible survivors.

Still, what perhaps contributed most to the disaster was the fact that the Chinese had failed to learn how to operate the rig properly upon its importation from Japan seven years earlier.

Owing to our arrogance, we often failed to respect science, did things blindly and were inclined to stress revolutionary enthusiasm. . . . When we purchased the Bohai No. 2 oil rig from abroad, we received its technical data and operating procedures manual, which set clear specifications for sea operations. However, since its importation seven years ago, we never translated certain data, including the calculations book for the stability of the rig. We did translate some data, but we did not organize staff members and workers to study this.⁵³

To make matters worse, high officials in the Petroleum Ministry supposedly tried to conceal the facts related above. According to one editorial in the Chinese press,

It is even more annoying that those officials tried every possible way to cover up their gross errors. They gave awards, commended people, held banquets, . . . intending to conceal the facts.⁵⁴

As a result of the ensuing investigation, four officials in the Petroleum Ministry were held responsible for the accident. A vice minister was dismissed from his post and a vice premier was severely reprimanded.⁵⁵ In addition, four members of the Petroleum Exploration Bureau were placed on trial and convicted. These were the Director of the Bureau, the Deputy Director, the Chief Dispatcher of the Bureau, the Deputy Director, the Chief Dispatcher of the Bureau, and the captain of the tugboat that was towing the rig at the time of the accident. They received sentences ranging from one to four years in prison.⁵⁶ At the conclusion of the case, an editorial in *Guangming Ribao* commented that,

Sacrifices have to be made in revolutionary war, and prices have to be paid in economic construction However, "paying tuition" in the manner of the Marine Exploration Bureau must not be allowed.⁵⁷

This combination of declining or static onshore production, technical snafus, and bureaucratic cover-ups has of course had its effect on Chinese energy production. During the first four months of 1980, Chinese energy production from all sources rose only 1.5%.⁵⁸ For the year 1980, as a whole, energy production actually dropped by 3%.⁵⁹ As has been noted earlier, this production shortfall has already resulted in a

painful energy crisis for the Chinese. This lag in energy production has already begun to affect Chinese oil exports. During 1980, the PRC exported 13.4 million metric tons of crude oil. Woodard estimated that China's 1981 crude oil exports totaled only 12 million metric tons.⁶⁰ In October 1980, a Chilean delegation visited the PRC. The members of the delegation expressed interest in purchasing Chinese oil, but were forced to face the fact that it was unavailable.⁶¹ At the present time, the PRC exports oil to Japan, Hong Kong, the Philippines, and Rumania. If present trends continue, it is likely that by the mid-1980's these nations will have to replace Chinese oil with other sources of petroleum. Tatsu Kambara, Manager of Research and Planning for Japan's National Oil Corporation, has compiled the following figures concerning Chinese oil exports:

1980-1981	160,000	barrells/day exports		
1982	120,000	" "	" "	" "
1983	20,000	" "	" "	" "
1984	140,000	" "	" "	" "
1985	320,000	" "	" "	" "

The disappearance of the PRC's petroleum exports is likely to have serious consequences for that nation's economy. It signals the loss of a valuable source of scarce foreign exchange. In 1980, China earned \$2 billion from its oil export program.⁶² The drying-up of this lucrative source of income will further reduce the PRC's ability to pay for expensive foreign technology. The decline of China's export program is directly attributable to its present energy crisis. If the PRC's present conservation efforts are unsuccessful, it may be forced to import up to 1.7 million barrels per day by 1990.⁶⁴ The PRC totally lacks the means to pay for such high import levels. An import level of 1.7 million barrels per day would require the Chinese to borrow heavily overseas to pay for their energy needs. As with so many other underdeveloped countries, the PRC could be forced to abandon necessary development projects to pay for high priced oil imports.

Fortunately, for the Chinese, there might be a solution to their energy difficulties besides stringent conservation measures. This solution is in the form of the PRC's potentially vast offshore oil reserves. Currently, the PRC is estimated to possess proven onshore oil reserves of 18 to 22 billion barrels.⁶⁵ Given declining or static onshore production levels, 18 to 22 billion barrels is not a very substantial amount of oil for a country the size of China. Therefore, the possibility of major offshore finds provides a strong boost to the PRC's economic prospects. However, China's petroleum industry suffers from problems at sea as well as on land.

Credibility is one difficulty that might hamper the development of China's offshore petroleum reserves. The Chinese have a clear tendency to exaggerate their oil potential for political and economic reasons. It has been explained earlier how

⁵³FBIS-PRC-80-167-L4.

⁵⁴FBIS-PRC-80-150-U1.

⁵⁵FBIS-PRC-80-173-L21.

⁵⁶FBIS-PRC-80-158-L17.

⁵⁷Ibid.

⁵⁸"Petroleum Surplus," *Oil & Gas Journal*, p. 27.

⁵⁹Delfs, *Far Eastern Economic Review*, p. 52.

⁶⁰Kim Woodard, "China and Offshore Energy," *Problems of Communism*, Vol. XXX (November-December 1981), p. 34.

⁶¹FBIS-CHI-80-202-J1.

⁶²"Petroleum Surplus," *Oil & Gas Journal*, p. 27.

⁶³"Offshore Checkers," *The Economist* (September 12, 1981), p. 70.

⁶⁴Robert Delfs, "A New Kind of Planning," *Far Eastern Economic Review*, No. 34 (August 14, 1981), p. 44.

⁶⁵"International Outlook," *World Oil*, p. 281.

the Chinese used the prospect of large-scale oil exports to dissuade the Japanese from assisting the Soviet Union in the development of Siberian petroleum resources. The promised amounts of oil have not materialized. In the late 1970s, the Chinese were beginning their efforts to interest western oil firms in joint offshore development efforts, in both the Bohai Gulf and the South China Sea. During the first months of 1978, more than thirty United States oil firms gave technical seminars in the PRC. At this time, the Chinese probably first broached the idea of joint ventures with United States oil firms. Starting in the summer of 1978, the Chinese began dropping hints concerning the South China Sea's oil potential. At this time, Deng Xiaoping claimed that China had 400 billion barrels of oil.⁶⁶ Meanwhile, Chiao Lin-yi, Executive Secretary of the Guangdong Party Committee announced murky plans for the development of a large offshore oil field at the mouth of the Pearl River.⁶⁷ At the same time, talks about joint ventures continued with American, British, French, and West German firms. Each company was led to believe that it held the advantage over its rivals. By the end of the summer of 1978, according to Kim Woodard, the competition for Chinese oil had reached "magnificent if somewhat imaginary proportions."⁶⁸

As the situation stands today, the oil companies believe that the PRC may have recoverable offshore oil reserves in the vicinity of 10 to 30 billion barrels.⁶⁹ A recent article in *Far Eastern Economic Review* cited a "confidential" Chinese government report placing China's offshore reserves at 73 billion barrels.⁷⁰ If this figure is correct, it would place the PRC, on the basis of its offshore reserves alone, just ahead of Mexico with 72 billion barrels.⁷¹ In addition, Chinese offshore oil is far less waxy and much "sweeter" (lower sulphur content) than the PRC's onshore oil supplies. A more recent report in the Chinese press concerning potential oil reserves was more in line with foreign estimates, giving figures of 30 to 60 billion tons for both onshore and offshore reserves. The report also admitted that China's rate of onshore discoveries has lagged in recent years.⁷²

While Chinese claims for their offshore oil potential may sound like a repeat of the events of the 1970s, this time PRC claims may be justified. Only a small portion of China's vast continental shelf has been explored, and so far preliminary results appear to be quite promising. France's Total China Oil Corporation drilled six test wells off the Chinese coast during April and May of 1981. Two of the test wells produced oil in quantities in excess of 2,000 barrels a day.⁷³ In 1979 and 1980, Arco and Sante Fe Oil corporations sank four exploratory wells south of Hainan Island, one of which produced 1,000 barrels a day.⁷⁴ Recently, the Japan-China Oil Development Corporation drilled a 10,000 foot test well in the Bohai Gulf which flowed at a rate of over 7,000 barrels a day.⁷⁵

⁶⁶Woodard, *The International Energy Relations of China*, p. 213.

⁶⁷Ibid.

⁶⁸Ibid.

⁶⁹"Offshore Checkers," *The Economist*, p. 70.

⁷⁰Clarence Rivers, "China's 10 Billion Tonne Offshore Oil Bonanza," *Far Eastern Economic Review*, No. 41 (October 2, 1981), p. 57.

⁷¹Ibid.

⁷²FBIS-CHI-82-078-K10-11.

⁷³"China Discloses More Beiba Test Date," *Oil & Gas Journal*, No. 27 (July 6, 1981), p. 214.

⁷⁴"International Outlook," *World Oil*, p. 287.

⁷⁵Ibid.

The Chinese have great ambitions for their offshore oil industry. They plan to establish five major onshore support bases for their offshore fields. These facilities are to be located at Shanghai, Guangdong, Shenzhen, Shantou, and Tonggu on the Bohai Gulf. By 1985, the PRC hopes to put ten small- to medium-size offshore oil fields into production.⁷⁶ In fact, the Chinese now feel so confident of their domestic rig building capabilities that they plan to compete with Japan, Hong Kong, and Singapore in the rig export business, hoping it will become an important earner of foreign exchange.⁷⁷

Despite visions of an offshore mother lode, the Chinese oil industry faces substantial difficulties in the development of China's continental shelf.

For one thing, bureaucratic skirmishes still have the potential to hamper China's oil industry. For instance, as of 1980, an oil pipeline in Guangdong province was unable to function due to a jurisdictional dispute between the local oil bureau and the harbor authority over which party owned a pumping station.⁷⁸ A continuation of such squabbles could seriously hinder the PRC's offshore development program efforts.

Secondly, the Chinese are apparently still suffering from the same inadequacies that led to the Bohai No. 2 disaster. *World Oil* magazine issued the following report on a Chinese-built rig rented by the French national oil company, Elf Aquitaine.

... food, living conditions substandard, poor to fair food, or undrinkable water, lack of soap, coffee or tea, generally unsanitary living conditions. One galley fire resulted on the Elf rig because no one had ever cleaned the collection of grease on the exhaust hood. This was the first well the rig had ever drilled. Such conditions will obviously not be acceptable to private companies, as opposed to the national and quasinational companies whose deals have political overtones. There is no doubt that the Chinese drilling industry will have to clean up its act.⁷⁹

French oil firms also encountered organizational problems while dealing with the Chinese. When the French arrived at Zhanjiang, the site of a proposed supply base, the French found 8,000 Chinese oil workers, but no facilities of any kind.⁸⁰

Also, Chinese attempts to export domestically built oil rigs are likely to run into very stiff competition. This is especially true since the PRC lacks the financial wherewithal to implement large-scale export financing schemes. These export packages used by Japan, South Korea, Taiwan, and others provide up to eight-year loans at 8 to 9% interest rates.⁸¹ To ease the expected competition for their embryonic rig building industry, the Chinese intend to offer oil firms operating in Chinese waters special preference if they use Chinese-built equipment.⁸²

But the greatest obstacles the Chinese face in their offshore development drive are financial rather than technical. China is an underdeveloped nation and offshore development is a horribly expensive proposition. It is estimated that to develop

⁷⁶Rivers, *Far Eastern Economic Review*, p. 57.

⁷⁷"An Offshore Bonanza," *Far Eastern Economic Review*, No. 39 (September 18, 1981), p. 134.

⁷⁸FBIS-CHI-80-195-P1.

⁷⁹"International Outlook," *World Oil*, p. 288.

⁸⁰"China's Offshore Riches," *The Economist* (May 8, 1982), p. 89.

⁸¹"Offshore Bonanza," *Far Eastern Economic Review*, p. 134.

⁸²Ibid.

China's newly discovered offshore fields to the point where they could produce one million barrels per day might easily cost \$13 to \$14 billion.⁸³ Arco Oil Corporation may have to commit as much as \$2 billion to develop the oil fields discovered around Hainan Island.⁸⁴ Since the Chinese lack the necessary technical and financial resources to fully develop their offshore oil reserves, they have been forced to turn overseas for assistance.

It was during 1978 that the Chinese dropped their long-held distaste for foreign loans. In September of that year, the PRC negotiated a deal with the Tokyo Export-Import Bank that extended to China loans for coal and oil development over a ten-year period at a 6¼% interest rate.⁸⁵ The Chinese had earlier argued the Japanese down from a 7.5% annual interest rate. The next year, Beijing leased four areas off the China coast for exploratory drilling and seismic testing. These tracts were leased to four consortiums involving some 30 oil companies. Two of the consortiums were led by British Petroleum and Elf Aquitaine. The other groups involved were Exxon, Phillips, Texaco, and others operating in the Pearl River basin, plus a group led by Amoco operating in the areas west and south of Hainan Island.⁸⁶

Aside from finances, the persistent issue of credibility still haunts China's leaders in the field of offshore oil development. Will the Chinese honor previously made commitments; and secondly, will the Chinese provide sufficient incentives to insure the continued participation of private oil companies in China's offshore development plans?

During the late 1970s, the PRC went on a buying spree of foreign plants and equipment. Soon thereafter, the Chinese realized they lacked the financial means for paying for many of their purchases. They then indulged in a series of cancellations for orders of new plants and equipment. In January 1980, China's National Technical Import Corporation informed a group of major Japanese companies that it was canceling the second phase of the huge Baoshan steel complex near Shanghai, a \$2 billion project that was supposedly a symbol of Sino-Japanese economic cooperation. Japan's powerful Ministry of International Trade countered with the threat that Tokyo could be forced to make export insurance payments to Japanese firms involved in the Baoshan project. Such an action would have sent up a red flag warning Japanese companies to be wary of investing in China.⁸⁷ Furthermore, the PRC would be ineligible for future trade insurance coverage.

The Chinese reacted to this danger with great rapidity—they apologized for the cancellations. The Chinese government promised to compensate Japanese firms "according to the standards of international law."⁸⁸ In discussing the situation with a visiting Japanese business delegation, Deng Xiaoping said, "If no better way can be found for the time being, we will assume appropriate economic responsibility for

compensating the foreign companies holding the canceled contracts."⁸⁹ While the Baoshan incident is not directly related to petroleum development, it did alert the Chinese to the fact that foreign businesses and their governments cannot be pushed beyond a certain point without grave risk.

The Chinese have also had difficulties in providing sufficient incentives for foreign oil firms as well. Despite several years of reformist rule by Deng Xiaoping and his followers, there still seems to be substantial opposition among Chinese elites to cooperation with the capitalist economies. A Chinese economist, Ji Chongwei, was forced to state that there would be "no return to past closed door policies," and that, "Of course, the foreigners will not come to make their investments if they cannot earn a profit."⁹⁰ In July 1981, Deng Xiaoping was forced to lecture reluctant provincial officials on the virtues of foreign investors.

He [Deng] advocated making active use of foreign investment to speed up the pace of construction, and also warned that it is impermissible to indulge in bureaucratic practices on this issue . . . It is necessary to relax the policies a bit to speed up the process.⁹¹

This reluctance on the part of some Chinese to accept overseas investment in their country may be the result of ideological indoctrination since 1949. The traditional Chinese xenophobia may also play a role.

These inhibitions on the part of the Chinese have created serious grievances among many western oil executives. In the fall of 1980, at the Fifth National People's Congress, the Chinese unveiled details of their new joint venture income tax laws.

1. Income taxes on joint ventures shall be 39% with a local surtax of 10%.
2. A newly established joint venture, scheduled to operate for a period of ten years or more, may, upon approval by the Chinese, be exempted from income taxes in the first profit-making year. In the second and third profit-making years, the foreign company involved may be allowed a 50% income tax reduction.
3. A participant in a joint venture, which reinvests its share of the profit in China for a period of not less than five years, may obtain a 40% tax refund on the amount reinvested.⁹²

What bothered many oil men, particularly American ones, was point number one, which provided for a combined maximum rate of up to 49% on earnings. Oil company personnel felt this would provide inadequate compensation for the high cost of offshore exploration. One oil company executive in *Far Eastern Economic Review* expressed the following opinion on China's tax laws.

Purely on economic grounds, we would not touch them . . . They fail to recognize the risk elements of exploration. The whole framework is based on the assumption that the oil is there. Exploration is treated as a straight investment rather than a risk investment.⁹³

⁸³Rivers, "China's 10 Billion Tonne Offshore Oil Bonanza," p. 57.

⁸⁴"International Outlook," *World Oil*, p. 287.

⁸⁵Woodard, *The International Energy Relations of China*, p. 215.

⁸⁶"Offshore Checkers," *The Economist*, p. 70.

⁸⁷Nobuko Hashimoto, "Scrapped Projects Threaten China's Ties with Tokyo," *The Asian Wall Street Journal*, 4 February 1981, p. 1.

⁸⁸Barry Kramer, "China Pledges to Pay Firms Hurt by Canceled Contracts," *The Asian Wall Street Journal*, 16 February 1981, p. 8.

⁸⁹Ibid.

⁹⁰IBIS-CHI-81-125-W3.

⁹¹IBIS-CHI-81-148-W3.

⁹²"Key Points of Joint Venture Law," *Far Eastern Economic Law*, No. 40 (September 26, 1980), p. 53.

⁹³Anthony Rowely, "Cashing in on China's Oil Boom," *Far Eastern Economic Review* No. 14 (November 14, 1980), 52-54.

To cover the risks of offshore investment in China, western oil men are seeking 20 to 40% production of an oil well over the lifetime of the well. The Chinese are only offering the oil companies a sufficient share of a well's oil to cover exploration costs.⁹⁴ Afterwards, the entire production of the well reverts to China. The idea of only being allowed to break even does not sit well with most private oil company executives. At this point in time, many western oil men are still displeased with Chinese terms for offshore development. One of the major sticking points is that all exploration costs must be borne by China's foreign partners. The Japanese are estimated to have repaid the Chinese between \$100 million and \$200 million in exploration costs.⁹⁵

Furthermore, American oil companies are operating at somewhat of a disadvantage in China. The Chinese revised their tax laws upwards in the summer of 1981. The revised tax code provided a basic rate on joint ventures of 40 to 44%, plus a local surtax of 10%. This was considerably more severe than the revised 33% flat rate announced in late 1980.⁹⁶ Such an increase in taxes has placed American oil companies at a disadvantage vis-à-vis their foreign competitors. Unlike many foreign oil firms, United States companies are subject to a stiff tax on overseas profits by the Internal Revenue Service—up to 46%. Between China's 44% rate and the IRS's 46% rate, United States oil firms would have very little to show for their efforts. With 26 of the 46 oil companies expected to bid on licenses for offshore leases, being American based, this was obviously a matter for serious concern on the part of the Chinese.⁹⁷

To solve this problem, the Chinese devised a way to let United States oil companies credit tax payments made in China against their tax liabilities in America. Apparently, the Chinese will apply the maximum basic rate of 44% to all foreign companies operating in China, not just natural resource firms. Under United States tax law, the IRS could then give American oil companies a tax break on the 46% rate since oil and non-oil companies would be treated the same way by the host nation.⁹⁸ So far, however, Beijing has not implemented this plan.

Resolving tax difficulties, however, was only a start for the Chinese in relieving foreign concern regarding offshore development. In December 1981, the Ministry of Petroleum announced that procedures for accepting foreign bids for offshore explanation and production had been completed. This move signaled the end of geological survey of the PRC's offshore effort. Beginning in March 1979, this project had involved 41 foreign oil firms, and 8 regions, totaling 420,000 square kilometers off the China coast.⁹⁹ In February of 1982, the China National Offshore Oil Corporation (CNOOC) was found.¹⁰⁰ Designed to take full charge of China's offshore activities, it was hoped that the new organization would untangle some of the PRC's bureaucratic snarls. Headed by Qin Wencai, the CNOOC sent letters of notification to foreign oil firms eligible to bid for offshore leases in 17 areas.¹⁰¹ On

⁹⁴Ibid.

⁹⁵"Offshore Riches," *The Economist*, p. 88.

⁹⁶Robert Delfs, "China's Stiffer Taxes," *Far Eastern Economic Review*, No. 37 (September 4, 1981), p. 70.

⁹⁷Ibid.

⁹⁸Ibid.

⁹⁹FBIS-CHI-82-004-K4.

¹⁰⁰FBIS-CHI-82-032-K8.

¹⁰¹FBIS-CHI-82-051-K9.

May 10, 1982, representatives of 40 oil companies met in Beijing to formally begin the bidding process for offshore oil rights.¹⁰²

Despite the problems currently afflicting China's petroleum industry, the PRC has reason to be cautiously optimistic. Most of the basis for these hopes rests on the potential of China's continental shelf. Whatever reserve figures are quoted, whether Chinese or foreign, it is a virtual certainty that the PRC has very substantial offshore oil reserves. Large amounts of oil in today's world can cover a multitude of economic sins. Future trends in the world oil situation may also work in the PRC's favor. The current oil glut and China's credibility problem have resulted in a cautious attitude on the part of western oil companies. As one western oil executive put it, "We've walked away from Malaysia, Indonesia, and Libya in our day; we can walk away from this one if it is not just right."¹⁰³ However, the continued inflammability of the Middle East serves as a reminder that the present stability of the world oil market may not last forever. The 1973 oil embargo led directly to today's interest in China's oil potential. Another shock like that of 1973 could lead to another rush to China's oil riches, whether those riches are real or imagined. Furthermore, the opening of bidding for portions of China's continental shelf promises a steady, if not overly rapid, development of the PRC's offshore petroleum reserves. A steadily increasing flow of offshore oil will alleviate China's energy difficulties and may even revive foreign interest in China's possible export potential. This, in turn, could lead to a modest increase in the PRC's influence in international affairs.

Regardless of the positive aspects of the situation, China's oil industry still faces very real problems. Onshore oil production is at best stagnating. A report in FBIS from January of this year stated that the Chinese had begun the use of water injection techniques at the Daqing oil field. According to the report, three tons of water had to be injected into each well at Daqing to extract one ton of oil, a sure sign that the Daqing field has started to run down.¹⁰⁴

Whatever remaining export potential China still has, it is likely to be affected by its growing energy consumption. The PRC will probably be the world's third largest consumer of energy by the year 2000. To reinforce this probability, the Chinese government announced a 14% increase in power consumption for China's rural areas during 1981.¹⁰⁵ Considering the fact that 80% of China's population lives in the countryside, this rise in rural electric consumption could have serious repercussions over the next several years.

As evidenced by the Bohai 2 calamity, China still has major problems regarding technological development. Early this year, the State Council greatly restricted the use of small, local oil refineries. The State Council characterized local refineries as having "simple processing methods, backward technical and economic standards, low management levels, poor product quality, high-unit energy consumption and great waste in the utilization of resources."¹⁰⁶ Finally, it must be mentioned again

¹⁰²"China's Offshore Riches," *The Economist*, p. 88.

¹⁰³Ibid., p. 89.

¹⁰⁴FBIS-CHI-82-008-K17.

¹⁰⁵FBIS-CHI-82-003-K17.

¹⁰⁶FBIS-CHI-82-001-K13.

that many western oil executives are not pleased with China's terms for offshore development and remain skeptical of China's claims concerning offshore oil reserves. Even with optimum conditions, it will be several years before offshore oil reaches Chinese refineries in significant quantities.

In the West, China has been the subject of many misconceptions. During the Eighteenth Century, the French philosophes viewed Imperial China as having the ideal form of government. This illusion was destroyed in the Nineteenth Century by the discovery of the very real corruption and decay of Qing Dynasty China. More recently, the idea that China might prove to be a real military counterweight to the Soviet Union was badly damaged by the PLA's dismal performance during the 1979 invasion of Vietnam. Chinese plans to demobilize a million men from the PLA have further reduced the image of the PRC as a major military power. The persistent image of huge amounts of Chinese oil available for export is another myth that is being eroded by the intrusion of reality.

MEXICAN PETROPOLITICS AND U.S. ENERGY SECURITY IN THE 1980s: PROBLEMS, PROSPECTS AND POLICY IMPLICATIONS

By Christopher C. Joyner

INTRODUCTION

During the last decade, recurrent discoveries of increasingly vast hydrocarbon deposits in Mexico, coupled with unsettling political developments in the Middle East-Persian Gulf region, have thrust Mexico into a special priority consideration for United States foreign policy. Given the geographical contiguity of these two countries, it might seem only natural that some kind of symbiotic energy arrangement between them would have come about. Yet, to accept this inference today as fact appears to be politically premature at best, and very possibly, even economically myopic. Taking this premise, this paper seeks to accomplish three principal aims: (1) To ascertain and assess which factors presently encumber Mexican-U.S. energy relations; (2) To evaluate realistically the prospects for making that relationship more cordial, and hence more mutually beneficial; and (3) To draw from this particular bilateral experience those lessons about foreign energy policy that the United States might apply generally in its commercial dealings with other less developed nations. At the outset, however, some brief mention of how Mexico evolved into the status of a net hydrocarbon exporter seems warranted in order to provide a proper historical perspective for the contemporary situation.

II. HISTORICAL BACKGROUND

Long antedating Hernando Cortes' arrival in 1519, petroleum was known to the Aztec and Maya civilizations in the form of a natural asphalt seepage called *chapatote*. Accordingly, it was used as a fuel, caulking compound, religious incense and medicine.¹

The genesis of Mexico's modern oil industry can be traced in large measure to the efforts of two men, Edward L. Doheny, an American industrialist, and Weetman D. Pearson, an English entrepreneur. After hearing reports of Mexico's widespread petroleum seepages, Doheny and his associates in 1900 purchased 400,000 acres of land in the Tampico-Tuxpan region, and the next year their first well came on stream, yielding 50 barrels of oil daily. In 1904 a major strike at Ebano made production commercially profitable, and, in 1906 Doheny formed the Mexican Petroleum Company of Delaware.² Relatedly, Pearson, who was a close friend of then-President Porfirio Díaz, was awarded a number of large exploitation concessions in 1906, and two years later, he organized the *Compañía Mexicana de*

¹George W. Grayson, *The Politics of Mexican Oil* (Pittsburgh: University of Pittsburgh Press, 1980), p. 3; W. Pratt and D. Good, eds., *World Geography of Petroleum*, Special Publication No. 31 (American Geographical Society, 1950), p. 97.

²Pan American Petroleum and Transport Company, *Mexican Petroleum* (New York: PAP&TC, 1922), pp. 17-35.