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CHINA AFTER MAO

By

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CHINA AFTER MAO

TK Moulik

This work is dedicated
to all those comrades
who fought and are
still fighting for the
cause of the downtro-
dden since the days of
Naxalbari of 1967.

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PREFACE

In recent times much has been written about China. Many more are forthcoming. Expectedly, these writings vary between 'landatory' and 'gloom', depending upon the kinds of "prism" through which the authors looked at the Chinese Society. Perhaps this is inevitable. But this inevitability in variations makes the task of the common readers, interested in contemporary Chinese history, hard enough to have a clear and consistent view. The confusion about the happenings in China among a large mass of common readers, whether or not ideologically committed in one way or the other, is compounded manifold by the politically tumultous years that continue to follow the death of Mao Zedong in 1976. The net result of this confusion is a myth about the Chinese people and the society.

It was with this 'mythical' image I visited China. Also, my background in Chinese history has been far less than adequate, inspite of avid reading of available published materials on China. Knowing my own limitations, the visit to China gave me the opportunity to validate or discard some of these 'myths'. "Seeing is believing", has been the motto during my visit to China. I visited China as a member of the Indo-German study-team on rural energy with particular reference to biogas. It was about a month long visit between 11 September to October 6, 1980. The exchange programme of the study team was sponsored by the Bremen Overseas Research and Development Association (BORDA), Federal Republic of Germany and the Federal Authorities of Germany.

We reached Beijing at 2.30 p.m. local time on 11 September 1980, just a day after the Fifth Peoples' National Congress started in Beijing. From the day of our arrival in Beijing to the day of departure, most of our time was spent visiting the communes and rural areas of China. We visited the rural areas of Beijing and Shanghai municipalities and the five provinces, Zhejiang, Jiangsu, Sichuan, Liaoning and Hebei. In the course of our extensive tour of rural China, we had to stay overnights or a day or two in transit in some of the important cities and towns, such as, Beijing, Shanghai, Haugzhow (Zhejiang province), Chengdu and Mianyang (Sichuan province), Shenyang, Dalian and Luda (Liaoning province) and Shijiazhuang (Hebei province). Thus, we had the opportunities to observe and investigate some aspects of rural and urban life-patterns in China.

Given the history of socio-political relationship between India and China, I was perhaps more overt during the whole trip than many other members of our study-team in seeking information on various facets of development in China. Thus, at the risk of creating inconveniences to other team members and the host, most often my enquiry strayed into quite different areas of interest than the basic purpose of the study-team, that is, the rural energy supply and biogas system. Many a times I had been selfish in monopolising the services of the Chinese interpreters by arranging private discussions with the Chinese respondents depriving the study-team as a whole. The fact that I was able to spend more than 70 per cent

of my time in pursuing private enquiries into other than rural energy and biogas related issues, speaks volume of the tolerance of other team members about my indulgence and the Chinese hosts' patience and helping nature. I exploited the opportunities to the fullest of my abilities.

In the course of our visit, I had meetings with wide variety of the Chinese people, both informally and formally, from communist party officials and technology experts, to large number of peasants, workers, students, teachers and bureaucrats. In many such meetings, I was able to organise the assistance of the English-knowing foreign language students of the universities as interpreters, which they most willingly agreed to render.

Whether it was formal or informal chance-meetings with the Chinese people, my focus of enquiry had always been into the nature and functioning of the socialist development strategy in China and the trends of change in the strategy in the post-Mao era. What follows in this book is the result of numerous discussions with a wide variety of Chinese people. My original idea was to write a series of articles about my experience in China in relation to various aspects of the Chinese life based on the information collected through personal contacts and discussions. It was only later, when suggested by a journalist friend in India, that I realized that the series of articles originally contemplated seemed to have a coherent theme justifying a book under a single title.

The title of the book, "China After Mao" was chosen not to suggest a comprehensive and analytical comparison between pre-and post-Mao China in all facets of life. This was certainly not possible in a short month-long visit. The mere fact that my visit occurred at the very time when the crucial Fifth Peoples' National Congress was held, characterising the ensuing changes in the post-Mao era in the economic and political thrusts of the new-look leaders under Deng Xiaoping, prompted me to choose the title of the book.

In writing this book, I deliberately and almost entirely depended on the information collected by myself through personal discussions with large number of Chinese people. It was only very rarely that other published or unpublished source materials were used to interpret the information. Neither was any attempt made to unnecessarily crowd the book with my own academic interpretations of the information provided by the Chinese people. To a large extent, therefore, the book is the honest account of the facts generated through my personal experiences in interacting with individual Chinese people. Perhaps the preference for personal experiences without much analytical dissections gives the book a fairly subjective and impressionistic flavour. Accepting this limitation, I preferred to avoid the imposition my own academic biases as far as possible on the readers with the hope that the book would be sufficiently entertaining and illuminating for the readers to interpret the facts for themselves.

Following from above, the reader may find the book inadequate and

sketchy in many places. It would have been not very difficult to remove some of these shortcomings if I chose to supplement with other published literature and data. Having decided not to do that the shortcomings remained. In a visit like this, it was not possible to collect information on every aspect in great details, especially when the nature of the enquiry was wide-ranging and one had to depend on chance-meetings with knowledgeable Chinese informants. One can only hope that the future will provide an opportunity to correct the shortcomings.

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1 · INDIAN VISITOR

"Our policy is to learn from the strong points of all nations and all countries, learn all that is genuinely good in the political, scientific and technological fields and in literature and art" –

MAO ZEDONG

Apprehensions

How would an Indian feel about the prospect of his visiting China? Most likely he would be excited and thrilled. Excited because of the myth about the 'forbidden' country, – a country about which he has probably heard and read quite a lot, yet much remains unknown behind the bamboo curtain. Thrilled because of the prospect of knowing the unknown and being among the privileged few, – a feeling of uniqueness. But behind all the excitement and thrill, there would possibly lurk a spectre of apprehension and uncertainty. A conscientous Indian would always be haunted by the history of Sino-Indian relationship. The rude shock of Sino-Indian border-war is not a distant past. Neither can he forget the peculiar complexity of political relationships, China's new-found friendship with America and other Western capitalist world vis-a-vis India's close relationship with USSR, Vietnam, Kampuchea and soft-pedalling on the recent Afghanistan issue. Nothing could have been a more inopportune time to visit China than in September-October 1980, when Chairman Hua cancelled his proposed trip to India, apparently in protest against India's recognition of the new regime of Kampuchea. Indeed, I started my journey to China with many apprehensions.

All the enthusiasm of an Indian visitor to China would be dampened and his apprehensions heightened manifold if he was unfortunate to route his journey to Beijing via Karachi. With Moradabad-Aligarh riots back at home, it was not a very pleasant prospect to have to spend a day in Karachi to catch a flight to Beijing next day. I was curtly told by a Pakistani official at the airport that I should not go out of the gate, a warning given to South Africans, Bangladeshis, Israelis and Taiwanese as well. I was then escorted in a small van to a nearby hotel, a mere half-a-minute's drive from the airport. It was equally uncomfortable to have to answer the persistent queries of the Pakistani cab-drivers, hotel-boys and air-crews about the communal riots in India. Yet, this was the country which Indians should feel most at home - culturally, linguistically and even physically. After this experience in Karachi, what could be expected in China? I forgot my apprehensions in the excitement of flying over the Karakoram pass, Nanga Parvat and Gobi Desert to reach Beijing airport on 11th September, 1980.

As if to dispel my fears, big red-banners all around Beijing airport carrying Chairman Hua's message welcomed us. It instructed the Chinese people to treat all foreigners coming to China with utmost hospitality and politeness. The message was timely as the Peoples' Congress had started a day before we arrived in China and this had added to the usual rush of tourists. Later, I came to know the reason for this special message. A few days earlier an African

diplomat had been treated roughly by some airport-officials and this prompted Chairman Hua to instruct his countrymen, particularly, airport officials to be polite to the visiting foreigners. All along our month-long visit in China, the People at all levels were extremely friendly and cooperative. How much of it was due to Hua's message was difficult to know.

It took merely half an hour for about 100 odd passengers to get through the custom checking, be they Indian, German or American. All the checkings seem to have been completed while issuing the visa or permit, which is perhaps the normal practice for all countries. But then there is the tedious long custom-checking procedures followed in many countries. There was still a more unusual thing for a foreigner to observe and that is, no security checking either for international or domestic flights. Hijacking or its possibility seemed to be unknown to China. When enquired about it, the official view was that the primary checking at the time of issuing visa or permit was enough to ensure safety and about the Chinese passengers the question should not arise.

A group of officials came to receive us at the airport and most of them were known to me, as I had met them ten days before during their exchange-visit to India. In fact, one of them, Mr. Zheng Wei of the South West Institute of Building Design, Chengdu, Sichuan, was my old acquaintance who had also attended the International Workshop on Biogas held in Bremen, Germany in May 1979. Mr. Zheng

also happened to be the only English-speaking official among the group, and therefore, was a great help as an interpreter during our trip. There were two other young ladies, Mrs. Li and Miss Li, who were our official interpreters specially assigned by the International Liaison Department.

We faced some trouble about hotel accommodation in Beijing for our overnight stay. Hotel accommodation is generally difficult in Beijing. It was more so due to the autumn rush of tourists and that of journalists and observers who came to witness the Peoples' Congress. We had to wait at the airport lobby for about two and a half hours before we could board the bus to go to the famous summer palace of The Empress Dowager for our overnight stay. This ineptness of the Chinese officials in organizing such facilities and the animated shrill-voiced discussions amongst themselves gave me a perverted feeling of homeliness and comfort.

Behaviour towards Indians

In China, Indians are called 'Indu', which means India. Surprisingly the Chinese are not able to identify Indians. Whenever I asked them to guess my country, their response was prompt: "America". This was rather embarrasing. How could the Chinese not differentiate between an Indian and an American? I found that the Chinese did not lack in knowledge on India, especially they had read about Buddha (known as Shakya Muni) and Dr. Kotnis. But as a group of final-year

University students in Shijiazhuang, Hebei province, told me, "How could we know that you are an Indu? This is the first time we are seeing an Indu. All we know about Indus are from books. On the other hand, during the last three to four years we have not only seen many Americans but also heard and read about America through newspapers, radio and TV." Similarly, a middle-aged doctor in Sichuan province told me, "You are the first Indian visitor to our hospital. I have so far not seen any other Indian. Perhaps the people of Beijing would recognise you as an Indu, since foreigners generally visit Beijing."

The bamboo curtain seemed to have been quite effective in screening out foreigners, particularly, outside Beijing and Shanghai. On the other hand, it was interesting to observe that a consistent propaganda about America in the Chinese media created a psychological closeness with Americans. The shange of feeling towards America seems to have taken a sharp turn particularly when one recalls the anti-Americanism before the recent Sino-American accord. This feeling of closeness has been further strengthened by the stream of American visitors following the accord.

What surprised me most was the total absence of suspicion and reservation of the Chinese towards me. They did not seem to be affected by the Sino-Indian border war or the prevailing strained political relationship between the two countries. In India there still continues to be overt and covert anti-China propaganda and

the impact is quite obvious. In a recent popularity survey about foreign nationals in India (India Today, October 1-15, 1980), the Chinese were rated lowest. One of my Bombay-based friends told me the story about how derisively he was castigated by his friends because he bought a Chinese fountain pen. In China, there had never been any intense anti-India propaganda. According to Mr. Zheng, "Perhaps the propaganda was aimed for the red-army, not for the common people. There has never been a hatred campaign against India." It was difficult for me to assess the truth. But the fact remains that among the common people of China, Indians are welcome foreigners as any other nationalities.

The irresistable curiosity of the Chinese about foreigners was evident everywhere, in metropolitan cities, provincial or county towns, and villages. Everywhere, except in Beijing, we found crowds of people, old, young and children, sometimes as large as about 500, curiously looking at us from a distance. Often the crowds waited for hours till we departed. Once walking along a busy Shanghai Street, a group of 15-20 people followed me at a distance. They helped me find my way to the International Bookshop talking to me in pidgin English. Before we parted they all shook hands with me. Another time, when we visited the food-processing unit of a commune in Sichuan province, found a nine year old boy playing with a wheel and stick. He seemed most reluctant to share his game with me. Every adult present in the crowd, which comprised 500 to 600 people, started persuading the child without any effect. As I was

walking away, an old woman took me aside and managed to get me a wheel and stick from a nearby store-room. And then the whole crowd joined in the game, including the small boy who had earlier refused to give his wheel and stick. An old Chinese came to me smooking his pipe and said, "You love children. Why don't you stay here for some days?" China was not different. This could have happened anywhere in the oriental world.

But a more spontaneous and friendly behaviour was from the two senior middle-school girls in Chengdu, Sichuan province. I was taking an after-dinner stroll outside the hotel when I met them. They came to converse with me in English, - an usual scene in today's China. They also could not identify me as Indu. We talked about our homes and families. The girls wanted to see the photograph of my two children. I had with me my 6-year old daughter's photograph. Without hesitating one of the girls asked for the photograph. Reluctantly I agreed. The girls were overjoyed and invited me to visit their home and meet their parents. They gave me in return their school-badges as souvenirs. We have become pen-friends ever since.

Another encounter which moved me most was with an employee in the Foreign Trade Department in Beijing. I met him during my train journey from Beijing to Shijiazhuang, Hebei province. I could see that he was very eager to talk to me and with the help of Miss Li, we had a long conversation. When we parted he said: "Please be my guest at my apartment on your return journey to Beijing." I did contact him in

Beijing and spent a few hours with him before my departure from China. Unfortunately this was the last lap of my journey, I was leaving for India the same day. Nevertheless, the youngman was visibly moved seeing me in Beijing. Before seeing me off at the airport, he almost pleaded, "Please do not forget that we became friends and should continue our friendship through letters."

There was, of course, a marked difference in the behaviour of the rural and the urban people. This was expected. The peasants were uninhibited and friendly once they overcame the initial shyness. Quite often they shied away from my camera. My Chinese colleague, Mr. Ren remarked jokingly, "They are afraid of foreign devils!" Observing my curiosity about their life style very often they took me inside their houses, right into their bed rooms. On one such occasion in Liaoning province, one housewife who was making canvass-shoes insisted that I should have a pair as a gift. Unfortunately there were no shoes of my size. She was very disappointed, and then consoled herself by giving me a small home-made knife as a souvenir. During this episode, I was without an interpreter. There was, therefore, no verbal communication, we understood each other through gestures. The only word they understood was, Indu.

The personal concern shown towards Mr. JJ Patel, the oldest member of our team, and the sincere attempt to satisfy our doubts and queries which often went beyond the purpose of our visit, were genuine and not dictated or forced upon them. An incident would illustrate this. I had to cut short my visit by a week due to some urgent work back at home.

We were in Shijiagzhuang, Hebei province. I had to catch a train to Beijing on 6th October at 5'0 clock in the morning. Mrs. Li was accompanying me to Beijing. It was a very cold morning and I was leaving the hotel, the elderly Director of the Bureau of Rural Energy, Hebei province came to see me off along with another official. This was most unexpected. In spite of my vehement protests, they accompanied me to the railway station and remained with me till the train left. I was so touched that I was speechless. As the train started, the Director clasped my hand and said, "Please come back again to China." Later, I asked Mrs. Li, whether this was the normal protocol. Mrs. Li explained:

"The Director and other officials who attended yesterday's discussion meetings in the hotel were very impressed by your defense of the Third World view of Science and Technology Policy which happens to be China's policy also. He came to see you off because of that. He shares your views. This is what he told me to tell you, while coming to the railway station. I did not tell you then because you were so quiet. He wanted to express his gratitude!"

What I had said to my German friends in the meeting was stop sermonizing and let the Third World decide their preference for Science and Technology, - be it nuclear or modern or Schumacherian "small". I did not realize then the impact of my views on the Chinese. Neither could I imagine that a man holding such a high official position would be so impressed to express his gratitude this way.

Image about India

I was amused by a statement that the Chinese very often made about Indians. Whenever I introduced myself as Indu they said, "Indians are brave and hard-working." At first I felt that they were making cruel jokes about our poor performance in the Sino-Indian border war. Or, was it the famed Chinese politeness? Once I confronted a group of senior University students at Shijiagzhuang, "A moment ago you said that you have never seen an Indian. So, how do you know about Indians?" Immediately they replied: "Why, we have seen many Indian movies. They depict clearly the brave and hard-working nature of the Indians."

It was a classic anti-climax! They were apparently talking about the fantasy-world of the Indians as depicted in Hindi movies! Movies, particularly Hindi, are very popular in China today. Everywhere, in cities or towns, people talk of how much they like Indian movies. Almost all of them had seen Raj Kapoor's Awara and Bimal Roy's Do Bigha Zamin. At the time of our visit, the Hindi movies currently running in all the cities and towns we visited were, Ali Baba and Challis Chor and Karvan. The young interpreter from the Foreign Relations Office at Shijiagzhuang said, "The Caravan is the best movie I have ever seen in my life." There was hardly any difference in the behaviour of the younger generation in China and in India as far as movies were concerned. In fact, seeing this enthusiasm of the Chinese people about Hindi-movies, one of my Indian colleagues

from Bombay decided to pass on this market-intelligence to the business circle of Hindi-movies in Bombay.

The standard of film-making technique in China is far inferior to that in India. It could be compared to the standard of Indian movies of 1930s and 1940s. The Chinese were fully aware of it, they also knew that India was among the first few countries in terms of annual film production. But, it was not the technique or number which impressed them. The stories and songs were equally impressive. Almost everyday during our visit in China, some Hindi-movie songs were played over the radio. As soon as a Hindi song was played our Chinese colleagues would come running to us humming the tune in apparent appreciation. "Awara Hum" is perhaps one of the most popular songs in China today. The restaurant girls in Haughzhon, Zhejiang province, started singing it quite loudly as soon as it was played over the radio. In an entertainment show which some of us went to see, the Chinese singer got the rapturous appreciation from the audience when he sang "Awara Hum".

It was quite apparent that a large part of the knowledge, interests and perception of the Chinese about India was due to their exposure to Hindi-movies. In their conversation, the girls in particular, were curious to know about our marriage and dowry system, problems of inter-caste marriage and untouchability, and cost of Indian women's dress (sari) and jewellery. However, when one of my Indian colleagues boasted of the money he spent on his daughter's marriage and the number of people (in thousands) he invited for the marriage feast, the number of

sarees and ornaments his daughter had, her monthly expenditure on cosmetics and so on, the Chinese found it ridiculously silly. Miss Li, frankly told him, "The Chinese girls do not wear any jewellery or ornaments. It is not necessary. Neither do we use any cosmetics except a cream to protect the skin from cracking". The Chinese were apparently amused to listen to my colleagues narration, but certainly not impressed. Instead, they perhaps got their views reconfirmed about the continuation of feudal system in India. Our subsequent talk about changing trends in India perhaps did not make much impression on them.

The Chinese knew about India's caste system and poverty. Apart from movies, radio, TV, newspapers and books were their other sources of information. Some of the information were understandably biased. Wherever we went we were asked questions on these topics. Once I asked Mr. Zheng, the English speaking member of Chinese team who visited India recently as a part of our exchange-visit programme, about his impression on India. His reply was brief and interesting: "We were impressed by India's variety of culture, people and religion. We were amazed to see churches and mosques near temples in the same city. The People in India were so different in their dress and food-habits. We also observed that there were vast differences in economic status of the people - there were very rich people with beautiful houses as well as poor beggars. Except Bangalore, all the cities we saw in India seemed to us relatively dirtier than those in China."

Two historical figures of India, the Buddha and Dr. Kotnis who headed the Indian Parliamentary delegation of the Medical team during Sino-Japan war in the last 1930s were known to the Chinese. During our visits to some famous Buddhist temples, the interpreters would often check with us some historical facts about Shakya Muni. They would often ask us for the English translation of Shlokas and Stupas as they expected that being Indians we would be able to explain better. They also wanted to know why Buddhism could not flourish in India and the essential differences between Hinduism and Buddhism.

Dr. Kotnis is also a well-known Indian figure in China. At Shijiag-zhuang, Hebei province, where Dr. Kotnis had become the head of the Bethune Memorial Hospital, a memorial was built in his honour. As soon as we got down at Shijiagzhuang railway station, the young inter-preter of Foreign Relations Department told us about the Kotnis Memorial and informed that Major Basu of the same medical team visited the memorial early this year.

One aspect which could not go unnoticed, especially by an Indian, was their constant attempt to compare China with India. Whether it was in a commune or in an industrial unit, we were asked questions on the crop yields in India, average income of an Indian farmer, the rate of farm mechanisation, wages of industrial workers, production capacity and so on. When I compared the cotton yield of a farmer's private plot in a brigade in Shanghai municipality area with the cotton yield

in Gujarat and remarked that the cotton yield in Gujarat seemed to be higher than the yield obtained by this particular brigade member, a whole group of brigade leaders and members assmbled around me. They seemed disturbed. They started questioning me about cultivation practices and other details and finally tried to explain why the crop yields of this particular plot was relatively low. There was nothing special so far in the behaviour of this group of Chinese peasants. One would expect such behaviour from the farmers anywhere in the world. What surprised me most was what followed. During our entire visit afterwards, whenever a good cotton-plot appeared, we were asked to compare it with that of India.

Another time in a commune in Zhejiang province, - one of the best rice growing areas in China - the commune leader asked me point blank whether India had such good paddy cultivation as in his commune. We were standing in front of a plot of bumper paddy field ready for harvest. "Yes. we have." I replied, "What you are showing me now is perhaps one of your best paddy plots in the best paddy growing areas in China. Many of our farmers in Punjab and Andhra Pradesh grow paddy as good as yours, if not better." My irritation betrayed me. The commune leader gave a wry smile. He was, of course, not very happy with my reply.

But the best manifestation of the Chinese competitiveness versus India was, when our Indian biogas expert Mr. J.J. Patel commented in his formal lecture that the Chinese design produced 40 per cent less gas than the Indian KVIC design as observed in an experiment in India.

For the next two and a half hours Mr. Patel was hounded by number of questions. Apparently, the Chinese were not convinced about Mr.Patel's observation even to the last day. In a formal discussion on the day before I left China, at Shijiagzhuang, Hebei province, one of the national level Chinese biogas expert again referred to Mr. Patel's comparative observation and suggested; "Let the Chinese pattern of biogas unit be constructed in India by the Chinese themselves for a comparative experiment. Similarly, let the Indians come and construct an Indian unit in China for comparison. Only then can we truly compare the results of the two designs." It was indeed a very open challenge.

Modernization was the key issue in our discussions held at the industrial units we visited and most of these were commune-level units. I once commented in a commune's cement factory at Shanghai, "I do not know much about machinery and technologies. But the buildings and premises of the industrial units that I have seen in China are not as good and as modern as those in India. Also there seemed to be more professionally trained technicians in India's industrial units than in China."

A young carpenter-mechanic remarked;
"We are soon going to modernise the plant. Even with this old premises and buildings, our cement production is one of the highest in this area."

Indian Politics

While talking to a group of University students of the Foreign Language Department at Shijiagzhuang, Hebei, I was asked abruptly by one of them, "Who is your number one enemy?". This was the first time a political question was asked about India. I was, therefore, taken aback for a moment. By the time I could formulate a reply, many others - students and some instructors too - joined the discussion. "Luckily or unluckily," I said, "You in China have identified USSR as your number one enemy. We in India have not done so. For India, any country trying to harm India and her interest at any point of time will be our number one enemy." Their reaction to my reply was cryptic, "It is a very clever answer."

I recall only two other occasions when the Chinese showed some interest in the Indian political scene. At Chengdu, the provincial capital of Sichuan province, a young factory worker with his girl friend accompanied us on our after-dinner walk, apparently to practise his English. He was an engineer and seemed to be well-conversed with current affairs in world-politics. He remarked, "Mrs. Gandhi is a strong politician. What do you think will happen now after her son, Sanjay Gandhi's death?" Little later he added, "Both China and India are old civilizations. They should come together to be a great power."

The second instance also took place in Chengdu. At a formal dinner we met the provincial minister, Mr. Yung, in-charge of Science and Technology Committee of Sichuan province. At the dinner table discussing the technological cooperation between the third world countries he

commented; "In spite of political differences I am keen to visit India and promote direct exchange between China and India. More and more exchange visits must be promoted between these two great countries." Perhaps Mr. Yung was voicing the present official partyline.

Apart from these stray political comments, the Chinese seemed to be totally disinterested in the Indian political situation. Or was it a deliberate silence? At a certain stage, it became unbearably ridiculous. While we were continuously asking questions on China's social and political situation, the Chinese showed no curiosity regarding our political scene. At best, some of them would occasionally make a broad comment to the effect that it required social revolution in order to solve India's problem of poverty and unemployment. They never mentioned about Sino-Indian border war or Sino-Indian political relationship. Only once I got an opportunity to confront two of my Chinese colleagues, Mr. Tu, a senior party cadre and national level bureaucrat, and Mr.Zhuang from Building Design Institute, Sichuan. During our train journey from Daliau (Liaoning province) to Beijing I happened to share the compartment with them. I asked them why the Chinese never asked us (Germans and Indians) any question related to socio-political situations in our countries. Their answer to my question was too simple to satisfy my curiosity. "It is not necessary", they said, "But it is understandable that you would ask questions on socio-political situations in China."

Their reply though simple was quite apt as I found out later.

In the course of our conversation I came to understand that they were not as disinterested in Indian politics as they appeared to be. They knew about the elected communist governments in Kerala and West Bengal. They were also aware of the splits and fractions in the Communist Party of India. Mr. Zhuang, for example, was curious to know about the history of the splits. They also knew about the Naxalite movement. They said their source of information was the Chinese media and the party documents. They both showed surprise when I told them about the Naxalite slogan in Calcutta in the early 1970s: "Chairman Mao is our Chairman." They told me, "That was an utterly wrong thing to do. How can Chairman Mao be the Chairman of an Indian party?". As both Mr. Tu and Mr. Zheng had visited India only a month prior to our visit to China, I asked them their opinion on the possibility of a socialistic revolution in India. They both seemed to be in a relaxed and informal mood. According to them; "It is difficult to organise socialistic revolution in India due to differences in caste, and religion as also due to tremendous regional variations."

Our visit was too short to have any meaningful discussions on the Indian political situation. However, we got an impression that the Chinese deliberately avoided talking about politics with foreigners. On the other hand, they were not averse to talk about the political situation of their own country. In this regard the Chinese seemed to me quite different from Indians and many other foreigners. This is not to suggest that the Chinese were unfriendly and hostile to

Indians. As my German colleague, Mr. Sassee wrote to his friends; "The Chinese people are charming people. When I saw groups of them in Tanzania or now sometimes in Bremen, they looked to me rather flat and grey. But they are not at all flat and grey or dull. Their eyes look only different from outside. But if they smile you get warmed up". To us Indians, China is indeed a friendly and homely place.

2 COMMUNES AND RURAL DEVELOPMENT

"Peoples' Communes are fine" -

MAO ZEDONG

Fortunately for me, the nature of our study mission on rural energy was such that most of our one month's stay in China was spent in the rural areas visiting communes, production brigades and teams. In all, we visited more than 30 production brigades/teams covering five provinces and two municipalities of Beijing and Shanghai. Thus, we could have some idea of Southern China covering Shanghai, Jiangsu and Zhejiang, Northern China of Liaoning, Beijing and Hebei, and South Western China of Sichuan. Although our main focus of enquiries in the rural areas was on rural energy, particularly, biogas programmes, it was not at all difficult for me to make ample time available to pursue my interest in investigating many more details of the commune life, particularly, the politico-economic strategies of rural development in the communes. What follows here is based on my own enquiries, observations and impressions of the commune system of today's China.

Historical Background

The evolution of China's commune system is perhaps well-known to many readers. Briefly, it started with the land reform movement immediately after the founding of the Peoples' Republic and completed by the end of 1952. During this period about 700 million mu

(1 mu = 1/15 hectare) of land held by the landlords and rich peasants were confiscated and distributed among 300 million landless or land-poor peasants. Almost simultaneously the cooperative moment started in 1951. From 1951 to early 1953, the peasants were organized into mutual-aid teams consisting upto 10-12 peasant households pooling labour collectively, but still based on individual ownership of land.

Subsequently from the end of December 1953, all the mutual aid teams were turned into elementary agricultural producers' cooperatives by pooling of land as shares under unified management. By the end of 1956 most of these elementary cooperatives were transformed into advanced co-operatives in which no remuneration was given for the pooled land, farm implements and draught animals were owned by the co-operatives after paying the owners in cash and the principle of distribution according to work was applied.

By the end of 1956, over 96 per cent of the peasant households in China joined agricultural producers' cooperatives, of which 87.8 per cent were in advanced cooperatives. By the end of 1958, all the agricultural producers' co-operatives of China were changed into communes as a socialist sector of the national economy. There are more than 52,000 peoples' communes today in China covering more than 90% of the rural areas. The basic principle applied in the commune is "from each according to his ability and to each according to his work and more pay for more work".

What were the rural peoples' reactions to, and experiences in this fundamental upsurge and social change? I posed this question to a few relatively older men and women in every brigade and team visited. As expected, their answers varied. But at the same time, there was a broad consistency in their experiences. They all reported, for example, that the most difficult and tumultuous period in this process was the land reform movement up to 1952 and the co-operative movement in 1955-56. The stiff resistance and conflict with the landlords and rich peasants during the land reform movement often reached such a stage in some villages that it resulted in violent physical clashes between the party cadres and poor peasants on the one hand and the landlords and rich peasants on the other. For example, the beautiful looking courtyard surrounded by a row of houses, which became the collective property of a production team in Sichuan province, was originally owned by one of the four big landlords of the village. The resistance for land reform was violent and bloody in this village. In spite of my repeated requests, I could not contact any one of these four landlords during my whole day's stay in the village. I could however meet the young grandson of the landlord whose courtyard was now the team's collective property. The grandson's family lived in a small house like many other team members and the family worked in the collective farms like others. I was told earlier by a State official that in some cases some landlords and rich peasants got killed during the land reform movement. Significantly, almost all the production teams visited had a similar courtyard or large house collectively owned and used as office space and meeting places.

Without except it was reported that the land reform movement in the villages mainly mobilized the landless and poor peasants who formed the majority and among whom were essentially the core of the party cadres in the villages. With the support of the party and the State, these core party cadres in the village, usually the young, carried out the implementation of land reform measures in terms of classifying the villagers into different land ownership categories, confiscation and distribution of the surplus land among the landless and the poor peasants. Rarely was there any involvement of government officials or party cadres from outside the village unless absolutely essential or the situation went completely out of control. To quote an old man of a production team in Zhejiang province: "For 2-3 months the local party cadres of my village, I myself being one of them, could not implement the land reform measures due to stiff resistance of the landlords and rich peasants. The tension mounted as everyday passed. On the basis of the report given by us in a party meeting in the district town two experienced cadres from the district party office were sent to the village to assist us. These two district level party cadres stayed in the village for less than a week. By the end of the week the situation became easy for implementing the land reform measures. During this period there were long discussions, debates and persuasion giving examples of other places and even a visit was organised to a nearby village where the land reform measures had been successfully implemented. In the course of events, verbal threats were sometimes used, but there was no killing. We had about 81

households in the village of which 46 were classified into either poor peasants or landless. I myself had no land and my whole family used to work as hired labour to a landlord family. All the 46 poor peasants and landless got some land due to the land reform and immediately afterwards we formed 6 mutual aid teams."

The problems and difficulties experienced during the co-operative movement in 1955-56 were reported to be of a different nature. In this case the resistance and skepticism were not only restricted to the landlords and rich peasants, but also came from lower and middle peasants and even from some poor peasants. In addition, there were bureaucratic delays and wavering from the higher levels of party organizations, severe lack of financial and farm equipment resources, particularly draught animals, lack of technical experiences in book-keeping, work organizations, and methods of collective sharing and management among the members and most dangerous of all was sabotage by the vested interests and malpractices by some self-interested party cadres themselves. Given these problems, there was more involvement of the higher level party cadres from outside the village in this phase in helping out the local co-operative through continuous education, training and even in some cases with physical labour and financial help in the form of bank loans. In general, the co-operatives were started with the poor peasants and lower middle class peasants, often with membership of only 5 to 6 households. It was at this stage there were more exchange visits and assistance between co-operatives of different villages. There was continuous sharing of experiences between co-operative members and party cadres at various levels.

The co-operative movement took a momentum among the masses only when there were visible successes and advantages, which was essentially the result of diligence, hard work and thrift of the pioneers composed mainly of poor and lower-middle class peasants. A commune member of Jiangsu province summed up his experiences in the following words:

> "We never did such hard work and since then never ever lived with so meagre income. Neither had we so many meetings, discussions and visits to other villages after that period. Now, everything looks so organised and smooth. But for the determination of the poor peasants, co-operatives would not have started at all."

The brief account of some commune members' experiences clearly indicates that the social upsurge as witnessed during the evolution of the commune system in China was not a smooth and peaceful one. Neither was it expected to be. What was interesting to observe, however, was the fact that there was very little involvement of the bureaucracy or higher level party officials in bringing about the fundamental structural change of land reform. Unlike in India, the land reform movement and implementation was largely carried out by the local villagers and party cadres themselves. Even when the involvement of external agencies and higher level party officials was relatively more pronounced during the co-operative movement, it was largely in the form of technical assistance in training and education for a short period and never in the form of controlling the management of the co-operatives from above or from outside. There had been deliberate and consistent policy to give the primacy to local poor and lower-middle peasants in controlling the management of the co-operatives. Thus, without exception cooperative managers were always from among the members themselves.

It was never a non-working supervisor or official as is so commonly found in India. In other words, no Kurien of Amul was necessary and thought to be desirable to make the co-operatives successful, however technologically modern it might be. A woman production team leader in Shanghai municipality, for example, was reported to do an average of 8 hours per day collective farm work and in busy season it often went up to 10-12 hours per day. This was apart from her accounting and organizational work for the team, for which, of course, she was rewarded with additional work points. In two instances, in Zhejiang and Hebei provinces, the presidents of the communes were found to be literally working on harvesting operations in the field during our visits. Even the presidents of the communes and their families had to do collective farm work to earn a living, a system which seemed to me inconceivable in the co-operative structure in India.

Commune Structure

The peoples' commune is a three level system of collective ownership integrating government administration and economic production management in the rural areas of China (see figure 1). In other words, it is the basic economic organization and a unit of state power at the grassroot level. The commune was formed in 1958 by merging many advanced production co-operatives within the confines of a township and putting them under direct county leadership. The commune is sometimes referred to as a five-in-one unit administering industry, agriculture, trade, education and military affairs.

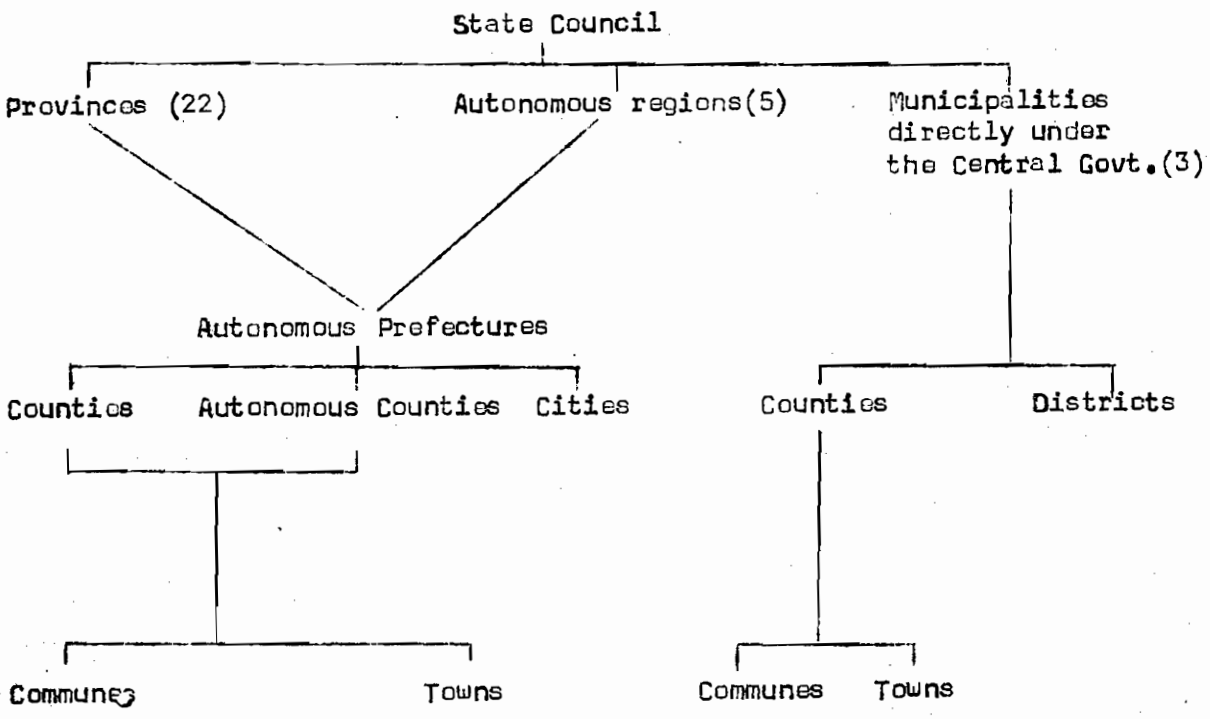

Figure 1: Administrative Organizational Hierarchies.

The commune system in modern China operates at three levels - the commune, production brigade and production team. At present, the production team remains the basic ownership and accounting unit in the commune structure. The team's area, all land, forest and water resources (other than those managed by the state), draught animals, farm implements and small farm machinery, belong to the team. The team also organizes production, the distribution of income and handles its own accounting. It is also responsible for its own profits or losses. The ultimate aim of state policy is to gradually switch the basic ownership from the team to the brigade level, then to the commune level and, finally, to the socialist state. However, that eventuality seems far off. Only in seven of the places we visited did we find the ownership having shifted to the brigade level.

The production team consists of 30-80 households, a population of 150-350 and cultivable collective land of 90-250 mu. The variations in size seems to be generally based on traditional locations of villages and due to some readjustment after the land reforms of the fifties.

The team is run by a committee of seven to nine members led by a leader and a deputy leader. These members share among themselves the responsibility of some specified functions such as political and ideological work, production, finance and accounting, work among women and the militia. At times the team forms special administrative groups, for example, special groups to supervise construction and management of biogas plants or to supervise improved methods of planting cotton.

The committee members and the leaders of a team are democratically elected by the team members for a period of two years. Quite frequently, women get elected because of a favourable woman-man ratio in the team. The deputy leader of a production team, a woman, in Sichuan province reported that the main reason for her being elected was the larger number of women members (about 70%) in the team. Many of the men were employed in industries in the nearby city.

The next higher level is the production brigade. The size of a brigade varies according to areas and population density. There were brigades we visited which consisted of eight to fifteen production teams. On the other hand, the average brigade which is the basic accounting unit is smaller, and consists of two to four production teams. Thus a brigade covers between 140-750 households with population ranging from 650 to 2000 and cultivable land ranging from 570 to 2900 mu.

Besides directing the production teams in production planning, supervision and administration, the brigade helps them in improving management, initiates and runs brigade-wide water-conservancy and other farm capital construction projects. When necessary it also organises joint undertakings with the teams. It is the brigade which usually runs small enterprises like farm experiment workshops, boat repair yards, food and fodder processing units and farm machinery like tractors and pumps. The brigade also looks after civil affairs, militia, public security, education, cultural and training activities and public health.

The peoples' commune is the apex level organization of the whole system. Again, the communes vary in size. The average size is 5,000 households. The communes we visited were composed of 11-16 brigades (65-122 production teams) with 4425-5800 households and a population of more than 20,000. The communes operate collectivised cultivable land of ranging between 11,400-22350 mu.

The commune is considered to be the corporate level political and administrative unit of the whole structure. Its major function is to help the brigades and teams achieve all round development as a five-in-one unit. The commune usually manages relatively bigger enterprises and facilities than those managed by the brigades and teams, - cement and brick factories, sapling nurseries, fish hatcheries, dairy farms, large piggeries, irrigation stations, farm machinery reapir shops, big food and fodder processing units, paper manufacturing units, radio stations and hospitals. It is the commune which usually takes the responsibility of organizing training and educational programmes for the members.

The administration and leadership of the brigades and the communes are democratically organized in a fashion similar to the production teams. The leading administrative organization of the brigades and the communes is the revolutionary committee, members and leaders of which are elected by the peasants of the area concerned. Being members of production teams too, these leaders and committee members continue to do actual farm work. Depending on the leadership quality and ability, a production team leader can rise upto the commune leadership position. The leader of a production team of the Ever Green Commune in Zhejiang

province was, for example, elected as the Vice Chairman of the commune ostensibly for his leadership qualities. However, most of the leaders in the commune structure, right from the team to commune levels, were reported to be party cadres, most of whom belonged essentially to the poor peasant and/or lower-middle peasant class or in a few cases new (after the land reform and collectivization) middle class peasants. In fact, often the party affiliation of the leaders were made quite apparent and public. The woman deputy director of a production brigade in Liaoning province, for example, concluded her briefing session by saying that Mao's way was the way for improvement and socialism was the only path for development.

Production Team: The Basic Unit

The size of a production team is usually that of a small village. The team area consists of a nucleus of residential blocks surrounded by well laid out regular sized cultivable land for collective production. Each team household owns a house with an attached private plot of cultivable land and a private pigsty. The size of the private plots varies, between teams, from 0.1 mu to 0.4 mu. In some cases, the housing of the old village locations of a team/brigade was resettled and relocated in a planned manner to accommodate the private gardens to each house and to provide a better look and facilities with properly laid-out roads. This resettlement and relocation of the village was carried out by the team members themselves with their own savings and resources. Thus, it was obvious that the relatively richer teams were able to do this planned resettlement of housing and other

village facilities. There were many teams which were found to be still continuing with the old village settlement with narrow paths and congestions and with houses constructed with inferior building materials.

Unlike brigades and communes, the production teams do not usually have an office as such, except a collectively owned courtyard at the centre of the village with a hall and a blackboard hung on the wall or framed separately for holding meetings or discussions. The blackboard and the courtyard was, in fact, reported to be extensively used by the party cadres during the land reform movement. Even today, the blackboard was found to be used to announce various decisions of the team or to criticise and praise certain team members for their actions. It has become a very prominent and permanent feature of the rural scenario in China.

One of the most striking features in the spatial layout of the production team area were the tree lining both sides of the village roads and paths, irrigation channels and canals, around the ponds and on the dividing line between the plots of collective land. In fact, a thick tree lining along the roads, be it in cities, towns or villages or along the highways and railway tracks, was so conspicuous and impressive that one felt always moving under a green canopy of trees in modern China. On enquiry it was reported that this was achieved during the last 10 years after Mao gave the call for "covering the country by tree plantings." Significantly, the whole operation of planting trees and nursing them to maturity was done and managed by the collective's labour and not by a huge government organization like The Forest Department in India. Neither the collective's labour was used by force or free of cost.

The labour used in the tree planting operations were duly remunerated by the collective on the basis of normal work points system. On the other hand, in order to ensure proper growth of trees, the collectives enforced the norms of penalty to prevent indiscriminate cutting or damaging of trees (a minimum fine of 0.05 yuan per tree cut or damaged). The saplings were normally supplied from the commune nursery. By 1980, a commune in Sichuan province had planted trees in 9304 mu and protected 3809 mu of forest areas comprising 90 per cent of the total forest area in the commune. At the time of our visit, this commune had 27900 cubic metres of standing crops of timber. As a result of such sustained efforts by the collective labour, the tree-covered areas in China have expanded from 8 per cent in the early 1950s to 12.7 per cent of the total land area by 1978. It was therefore not very surprising to know that China, starting with almost similar position in the early post-liberation stage, have surpassed India in timber production by five times in 1973.

Another striking feature of the production team area was the extent of land utilization. Given the near inelastic supply of available cultivable land in China (100 million hectares), a high rate of land utilization was expected, especially, in the chequered regular shaped collective plots. What was interesting to observe was the way the team made use of the small plots of waste land on the edges of fields, villages, roads and canals/rivers. Every inch of available cultivable land which came within our sight had some standing crops on it or in the process of being tilled or already tilled. A similar phenomenon was observed in relation to the use of organic matter. Right from the agricultural

wastes and crop stalks to all kinds of fallen green leaves and animal excreta including human excreta were meticulously collected and composted into organic fertilizers. This made the village look extraordinarily cleaner than Indian villages. In fact, both the rate of land utilization and intensive use of organic fertilizers in China were something which were immediately conspicuous to an Indian observer because of its contrasting character.

Agricultural Production Plan

The collective land of a production team is divided into a specific number of plots. The team leader would know these plots almost by heart - he could tell the crops planted in each of them and their specific soil characteristics. On the other hand, a commune leader would know the exact share of lands under different crops in the commune. The chairman of a commune in Shanghai municipality had no problem in giving us the data about the share of collective land under different crops during the 1979-80 cropping seasons: 60 per cent for grains (rice + wheat), 30 per cent for cotton and 2 per cent for beans, fruits and other vegetables.

However, the formulation of an agricultural production plan for a team was reported to be not a very easy and smooth affair. This was particularly so in present time with the new economic emphasis. Earlier with the policy of "taking grain as the key link", there had been the practice of giving less flexible production plan and target to the team from above, that is, a centralized production plan and targets.

Broadly, the criteria considered for preparing a production plan by a team are the state plan on the one hand and the needs of its members. Within this framework, the county authority first assigns targets to the communes, taking into consideration their land, population and production capacity. The commune prepares a tentative cropping plan and passes it on to the brigades, which in turn make their proposals to the respective production teams. Then the production team works out a production plan for discussion and approval at a general meeting of the team members.

In the whole process there are often different views with varying interests at different levels. This is particularly so in view of the state-procurement price for different agricultural produce, which is announced annually before the cropping season. Given the price structure, for example, a production team may earn more by growing vegetables than growing grains and therefore the pressure of the team members will naturally be for growing more of vegetables than grain. Similarly, team members as private households may not be interested in growing two rice crops a year which may curtail their time-input in their private sideline occupation and therefore may reduce their private income. In fact, since last year, the access to the "free markets" (almost without State price controls like the Indian Bazar) have created some conspicuous conflicts in terms of time allocation of the team members between collective production and private production in the kitchen gardens (private plots).

In view of these problems, there has been some relaxation in terms of centralized production plan on the one hand and lightening of norms about

the time peasants should spend each week in private production and in collective labour. In the case of production plan there is the new policy (approved by the Central Committee in September 1979) to use the land for purposes for which it is best suited, be it grain, forest, fish or livestock. However, this policy of 'agricultural zones' or 'key areas' is not yet been fully implemented. Meanwhile, given the limited arable land, foodgrain production and self-sufficiency still remain the key focus in agricultural production planning. Consequently, the recent flexibility enjoyed by the commune, brigade or team in preparing the cropping plan is limited to a certain minimum level of target production of foodgrains and other specified crops according to the State plan leaving relatively larger proportion of the land than before for decentralized decision. However, the production plan made by the team is negotiated again with the higher authority (State buying authority at the county level) through the brigade and commune.

Work Organization

Having finalized the production plan of the collective plots of the team, the special group of the team looking after agricultural production and the team leaders prepare a weekly work plan for the able-bodied team members who can do physical work. However, it took quite some time since the establishment of the communes to evolve a workeable system of organizing labour for collective work and distribution of collective income.

The basic principle followed presently is "to each according to his work and more pay for more work". In order to apply this principle the teams or brigades were reported to practice the following method in general:

1 All the collective land was divided into work areas considering the sizes of the fields, soil quality, crops to be raised according to the production plan and the distance from the village.

2 Depending on the capacity and technical skills required, a group of members were assigned to various work areas, setting forth the target of number of work-days to be employed for various farming operations according to crops and the target yield aimed at.

3 Specific jobs were subdivided among the individual members of the group assigned to a particular work area.

4 In order to ensure "three guarantees" of a certain quantity, a certain quality, and a certain date by which the job was to be completed, a system of inspection, - rewards and penalties, - were instituted. Apart from individual members checking each other, inspection teams were organized to examine all ongoing work. Groups and individual members who were found to do their assigned jobs better were publicly commended and often given rewards in the form of extra work points. Similarly, those who work was found to be poor were criticized and in some instances even work points deducted. In many teams, a differing rate of work points was instituted in recognition to the varying levels of skills and labour required for different jobs.

5 The distribution of draught animals, implements, agricultural inputs (e.g. fertilizers, manures, pesticides, seeds etc.) was planned by the team according to the requirements of the work areas and available resources.

6 Based on the assessment of both the quantity and quality of the work done, each member was assigned work points, which were recorded daily by the team leader. The value of each work point was finally fixed by the team at the end of a year according to the level of production in the current year. In general, 10 work points per man-day were given to a member taking part in collective labour. On an average, a member was reported to put 200-270 man-days per year into collective labour. The women generally worked less number of days and less number of hours per day than the men.

Every member was entitled to 14 rest days in a month. In the busy farming seasons, a day's working hours were 10 with a three-hour mid-day rest, while in the slack season, it was eight hours between 7 a.m. and 4 p.m. with one-hour break between 11 a.m. - 12 a.m. The mid-day break and the end of day's work were announced by the commune-owned radio-station (almost each commune visited had a radio-station of their own) through a network of speakers usually fixed on the electric poles in the middle of the collective plots. The radio-station was, of course, used for other necessary announcements or instructions, as well as for playing songs. Apart from weekly meetings for political education and sharing of experiences, the members were free to use the off-hours as they liked.

One of the most common scenes observed while going around the rural areas of China was the groups of peasants working in the fields till the dark hours in the evenings. Often it was a group of 10-20 peasants (men and women) engaged in either harvesting or turning the harvested bundles for drying, or levelling and breaking the clots of soil in a recently ploughed land, or applying fertilizers/manures by hand or sprayer, or spraying insecticides/pesticides, or weeding, or ploughing with country plows or tractors, or irrigating the land. Quite often it was a scene of solitary old

man ploughing a plot of land with a buffalo or mule-driven country plow. Like in India, the peasants were found to spread grains and straws on the main streets for drying (also for getting the grains threshed by the fast moving vehicles). Young boys and girls were often seen pushing a huge load of stalks or harvested crops in push-carts or transporting bucket/basket full of slurries, manure and pig-feeds in a shoulder-pole. It was a busy season characterised by busy people. Their rhythm of work got disrupted or interrupted by the sudden appearance of foreigners like us or by the announcement of the break over the speakers of the commune radio-station.

In this whole system of labour mobilization for collective work, no labour input or contribution was free or voluntary. Each and every labour input or contribution for production of collective goods were given material incentives in terms of work points or grains. Even the pig manure and human excreta contributed by the private households for manure purposes in the collective plots were given material incentives. The rate of incentives, however, varied according to the richness of the collective. In Zhejiang province, for example, each privately owned pig was given 1 work point per day for the contribution of pig manure to the collective. Similarly 8-12 work points were given per 50 kg of human excreta contributed by the private households to the collective for manure purposes (contribution of human excreta was calculated on the basis of the grain quota obtained per person of the household from the collective).

In fact, the average annual per capita income from human excreta contribution alone was reported to be 15 yuan. A production brigade (in this case a basic accounting unit) in Hebei province, for example, announced the following revised incentive system for private contribution to the collective in the village blackboard:

- 80 work points/1m^3 of digested sludge manure
- 35-40 work points/1m^3 of digested pigmanure
- 6-10 work points/1 ton of effluent from biogas digester
- 0.05-0.35 kg of grain/1 pig according to its weights.

The material incentive system often resulted into surplus production so much so that in the early part of 1980 the Sichuan peasants faced a 'pig-glut' in the market.

This is not to suggest that there was a smooth, problem-free harmonious process of labour mobilization and collective work organization. It was quite the contrary as often repeated by the Chinese collective leaders and ordinary members as well. As mentioned earlier, there were serious conflicts between private gains and collective production; there were dissatisfactions about the inspection system and assessment of work points; there were clashes of interests in terms of time allocations between private kitchen gardens and collective agricultural production which was aggravated by the recent access to "free markets"; there were pressures to increase the share of collective land under more remunerative crops replacing foodgrains; there were complaints

about surplus production and market gluts; there were problems of human relationship between individual members and between leadership hierarchies at different levels; there were constraints of technical manpower, managerial expertise and limitation of productive inputs; and lastly there were grievances against the restrictions on labour mobility from rural to urban areas. These were all problems mentioned by the leaders and peasants and for which they seemed to be genuinely concerned. Concerned they were, but more important was their confidence and critical analysis of the problems in dialectical terms. There was almost no 'interventions' or 'expert consultancy' from the higher level bureaucracies or party cadres to solve these local problems. In almost all cases these problems were discussed at the local levels, in some cases for days together, and finally agreeable solutions were worked out. If necessary, there was exchange of experiences between collectives and even visits to another collective where a particular problem had been solved satisfactorily.

Thus, the commune system were found to be largely autonomous in decision-making and problem-solving processes related to its major areas of activities. This should not, however, mean that there were no guidance, help and/or interventions from the higher authority (both party and bureaucracy). In fact, sending higher-level officials down to the grassroots to find out what is going on is a well-established practice in China, which implicitly recognizes the inadequacy of the bureaucratic channels of communication. Occasionally therefore some fact-finding high level party or state officials were reported to visit the teams, brigades or communes. Such fact-finding missions were generally on

some concrete problems, the findings of which were used by policy-makers up to the central level, particularly, for remedial action. Sending high-level officials to the grassroot levels as a fact-finding mission is a common practice in other countries including India. There seemed to be added importance of the findings of such mission in China due to awful respect for written words and concreteness of the problems investigated. As a result, there were many remedial actions taken at the collective levels which originated from the findings of the occasional visits of high level officials.

Was there exploitation by the leaders? My German colleague Mr. Sasse wrote the following in a letter to his friends: "Of course there is. Everywhere where people live are they trying to take advantage of people. But knowing India a bit I say: There is no exploitation. And I mean it. I have seen the leaders of brigades or peoples' communes and can imagine how they might rule, if they want. But from what I have seen I cannot imagine that they are moneylenders or feudal blood suckers."

Agricultural Productivity

The total grain output of China in 1979 was 332.12 million tons, a 8.6 per cent increase over 1978. The Vice-Premier Yao Yilin said in the third plenary session of the Fifth National Peoples' Congress, held during our visit, that there was no parallel of such an increase in grain production since the liberation. For the year 1980, China has optimistically set grain production target of 342.5 million tons.

In modern China there are three major dilemmas for agricultural planners: first, how far to shift acreage towards commercial crops from foodgrains; second, to what extent to allow private plots to the peasants; and lastly, how far and how fast to go with mechanization.

The cautious and pragmatic approach to all the three issues of the Chinese planners can be understood in view of the limited arable land that China has. It has about 100 million hectares of arable land, that is, merely 11 per cent of its total land area and most of it is already in use.

Be that as it may, China's more than 300 million tons of grain production out of 100 million hectares of total arable land 80 per cent of which accounted for food crops as compared to India's 125 million tons of foodgrains out of about 170 million hectares of total cultivated land, of which 80 per cent under foodcrop gives a fair indication of these two countries' agricultural productivity. It was with this comparative picture in mind that I made some enquiries about the rate of fertilizer use, mechanization and crop yields during our visits to the communes/brigades/teams. Table 1 below gives a comparative picture of agricultural productivity between the visited communes in China and Punjab.

Table : Some Comparative Data on Crop Yields, Uses of Manure and Fertilizers Between Some Communes in China and Punjab*

Crops	Average dose of Manure (kg/ha)		Average dose of Fertilizers (kg/ha)		Average yield (kg/ha)	
	Commune	Punjab	Commune	Punjab	Commune	Punjab
Rice	66375	19500	N = 40 P = 45 K = 15	N = 84 P = 31 K = 17	6750	2583
Wheat	63750	21700	N = 45 P = 70 K = NIL	N = 61 P = 26 K = 11	3930	2432
Maize	41250	-	N = 35 P = 40	-	6000	1144
Cotton	6000	-	N = 22 P = 55	NPK=72	525	347
Millet	60000	-	N = 30	-	6375 (sorghum)	924 (Bajra)

*Crop yield data of the Punjab were for the year 1977-78 vide, Fertiliser Statistics, 1977-78, p 17-32. The data on fertiliser and manure usages in the Punjab were related to Amritsar and Ludhiana districts under HYV Programme for 1974-75, vide: The High Yielding Varieties Programmes in India, 1970-75 (PEO, Planning Commission, Govt. of India and The Australian National University, Canberra).

In Table 1, data on China are the simple averages of the reported yields and fertilizer/manure usages of more than 30 communes/brigades/teams visited by us. Some of these areas are traditionally rich in agriculture, such as, Hangshow city area of Zhejiang province which is called the 'rice bowl' of China. Of course, the areas visited by us within and between provinces varied considerably in richness of agriculture and therefore in agricultural productivity. But considering the most

likely possibility of our visiting the agriculturally richer and prosperous areas in China, the Chinese data were compared in Table 1 with the data from Punjab, one of India's most agriculturally progressive and richer areas. It was also to be noted that while the crop yield data for the Punjab were the averages of the whole State, the data on fertilizer/manure usage data of Punjab were based on a survey of a sample of progressive HYV growing farmers in Amritsar and Ludhiana districts - again the two most progressive districts of the Punjab. Unfortunately, since the crop-wise data of the Punjab for 1979-80 were not available for ready reference at the time of writing, the Punjab data referred to in the table were for different time period from the Chinese data. The comparisons, therefore, should have to be taken with some reservation. However, it can be safely assumed that even the comparable 1979-80 data on the Punjab would not vary to that extent as would drastically change the trend as observed in Table 1.

The data in Table 1 clearly indicate that the reported crop yields in China were about three or more times than Punjab, except in the case of wheat and cotton which were slightly more than 1.5 times the yield in Punjab. As regards usage of manures (FYM) China was reported to apply about three times more than the Punjab. On the other hand, the Punjab farmers were reported to use more nitrogenous fertilizers than their counterparts in China. Here it would be worthwhile to mention some interesting observations made regarding production and marketing of chemical fertilizers in China. The most commonly used N-fertilizers in China were ammonium bicarbonate, urea and liquid ammonia, while

superphosphate was used for P_2O_5 and ash from burning agricultural stalks and wastes was the common source for K_2O. Usually, each district, county, city or municipality had fertilizer factories servicing the concerned geographical area, besides a few rich communes having their own fertilizer manufacturing units. The prices of fertilizers were reported to be uniform all over the country, which presently were 170 yuan/ton of urea and 110 yuan/ton of superphosphate (1 yuan = Rs 5.50). Till recently, the entire requirements of the communes were allotted by the county authority earmarking particular fertilizer units to supply. In other words, there was no option given to the commune authority to buy their fertilizer requirements from other than the allotted units. For the last 2-3 years, this practice has been relaxed in the sense that the commune authority now has the option to buy its fertilizer requirements from any of the fertilizer units of its own choice. As a result, some competition seems to have developed among the fertilizer factories in marketing their products, an unusual phenomenon in otherwise state-controlled economy of modern China.

Farm Mechanization

In spite of the fact that following communization there has been a consistent emphasis in the agricultural policy of China to bring about gradual mechanization of the farms, the progress seemed to be not so remarkable as desired or expected. More important, there seemed to be a wide regional variation in the degrees of mechanization. In general, the plains of northern China were more tractorized than the southern paddy-growing areas. Also, there were variations between the communes in the same area largely depending on the richness of the

communes.

To illustrate, the Evergreen Commune comprised 10 brigades in the rice-growing southern province of Zhejiang having 5800 households, and 114000 mu of cultivated land, had 150 tractors, 27 walking tractors and 40 trucks, 210 diesel pumps and 210 sprayers. This was supposed to be one of the richest communes in the area. As compared to this commune, another commune in the same province had only 2 tractors, one electric pump and 36 trucks. Another medium-rich commune in the same province with 16 brigades and 21328 mu of land, had 85 tractors, 12 walking tractors, 24 diesel pumps and 240 sprayers. Even a commune in the most industrialized Shanghai municipality area could be far less mechanized as compared to the first mentioned rich commune. The Qixian commune in Shanghai municipality area, composed of 14 brigades and 22350 mu of cultivated land, had only 30 tractors, 150 walking tractors and 150 diesel pumps, 122 sprayers. With this level of mechanization not more than 40 per cent of the cultivated land in the southern provinces were machine ploughed.

The level of mechanization in the south-western province of Sichuan seemed to be at a still lower level than the communes in Zhejiang. A commune in Mianyang city area, composed of 12 brigades, had only 4 tractors, 4 walking tractors, and 6 trucks. Similarly, another brigade in the same area had only 3 tractors, 5 walking tractors and 3 sprayers. The low level of mechanization in this area was conspicuous in the sense that there was hardly any machine-ploughing and truck transport observed during our visit in the area.

As mentioned earlier, the northern plain of China was comparatively more mechanized than the southern part. A production brigade in Liaoning province, for example with 730 households and 2900 mu of cultivated land, had 28 tractors, 9 trucks and 64 diesel pumps. This was one of the rich brigades. A relatively poorer brigade in Hebei province, with 140 households and 570 mu of land, had 1 tractor, 2 walking tractors, 8 diesel pumps and 6 sprayers.

On an average, there was a tractor for every 16 hectares of land in the communes visited. In comparison, the Punjab had a tractor for every 40 hectare of land in 1977. Even then the Chinese agriculture was found to be still largely dependent upon animal and human power. In fact, there was conspicuous preponderance of animal driven ploughing and tillage operations by handtools. Transport by human and animal power were observed all throughout our visits in the rural areas of today's China. No production teams, the basic accounting unit, had any big machine like tractors, power-sprayers and trucks, of their own. These big machines were owned and managed generally at the brigade and commune levels which in turn allocated these machines to the teams according to requirements and pre-set plans. What was worthnoting here was the fact that even with such a low level of mechanization and high dependence on animal/human power rate of land utilization and cropping intensity was maintained uniformly high. None of the commune areas, for example, was found to grow less than two crops per year per plot, and even in many cases in better agricultural conditions, growing 3 crops per plot per year (2 rice crops followed by wheat) was the normal pattern.

Sideline Occupations and Industries

The commune's economic organization and production subsystem seemed to be still largely determined by the basic policy: "Take grain as the key-link and ensure an all-round development." Within this parameter, various sideline occupations were developed, both at the private household and collective levels, depending upon the local resources and available skills.

At the private household level, we have already mentioned the private plots and pigs as sideline occupations. Almost all the households in the commune areas visited had their own pigsty. On an average, a household raised 6-8 pigs per year as a source of private income. Apart from these two most commonly observed private sideline occupations, there were others, like raising chickens and geese and producing organic manure, growing mushrooms, handicrafts (e.g. shoe-making). Even home-made ice-creams and lollies were found to be hawked around the villages as a private sideline occupations.

At the collective level, almost all the sideline occupations as mentioned above were operated in a bigger scale in addition to many others, like, mulberry plantations for silkworms, fisheries, bamboos, raising livestocks (e.g. sheeps), orchards, medicinal herbs etc. To give some examples, a commune in a Zhejiang province had earned an income of 6.42 million yuan in 1979-80 from the following production activities: 17995 mu of foodgrain cultivation producing 1650 tons, 2741 mu of mulberry field producing 140 tons of cocoons, 592 mu of bamboo cultivation, 1572 mu of fish ponds, 29323 pigs and 9386 sheep. Similarly, a production team in Sichuan province had a fruit orchard of 13000

trees producing 25000 kg of fruits per year. A production brigade in Liaoning province diversified its production activities as follows: 1400 mu of vegetable, 1200 mu of foodgrains, 300 mu of fruits and quarying, a dairy farm of 50 cattle; 600 sheep, four piggeries with 3000 pigs and one general store. The income from side-line occupations, be it private or collective, contributed ultimately in increasing the level of income of the commune members.

Besides the above mentioned sideline occupations, the communes had some basic industrial enterprises of their own. There were reported to be over one million small-scale industrial enterprises collectively run and owned by the communes. In general 7 or 8 types of industrial enterprises were found in the commune system. They were: food processing (e.g. rice milling and husking, oil crushing, sugar, distillery, flour, noodle making etc.), fodder processing; building materials (bricks, tiles, cement); paper; agricultural machinery repair; chemicals (e.g. hair oil, soap, cream), plastic pipe; house construction; and handicrafts. While most of these enterprises were operated and managed either at the brigade or commune levels, many production teams were found to have their own small husking/milling units and even some noodle/spaghetti producing units. A production team in Shanghai municipality, for example, was operating husking and spaghetti making units for its own team members and also servicing surrounding team areas who did not have such machines. For spaghetti, it was charging the team members 0.03 yuan per ½ kg of flour and for husking 0.40 yuan per 50 kg of paddy.

There were wide variations between the communes in their ownership of number of industrial units, except that each commune had the 7-8 basic industrial enterprises as referred to earlier. The Qixian commune in Shanghai municipality, for example, had in all 13 industrial units. The brick factory of the commune had a total labour force of 225 producing 18 million bricks per year. The director of this brick factory was a fairly old man who joined his present duty about a year earlier, after 8 years of experience in the ship-building enterprise of the same commune. He had schooling only up to primary level, and had no experience and knowledge about the technology of brick-manufacturing before joining this factory. The only experience he had, as he said, was the experience in organizing and managing people in his previous job in the shipyard. The cement factory of the same commune was run by 110 workers producing daily 25 tons of cement. The total industrial output of the communes' 13 units was in the order of about 12 million yuan per year (in value terms).

A commune in Sichuan province had 17 industrial enterprises apart from those owned by the brigades and teams. There were 320 workers in these commune-owned industries with the annual running cost of 640,000 yuan and total income of 8,50,000 yuan. The commune had contributed to the State exchequer a sum of 400,000 yuan in 1979 in the form of industrial tax. In another commune in the same province there were 65 workers employed only in the food processing enterprises alone. In all, there were 300 industrial workers in the commune, who alone were reported to contribute about one-third of the total annual income of the commune.

There were a few important observations made regarding the commune-owned industries. First, as far as possible, most of these industries were found to use locally available raw materials. Second, the managers (directors) as well as the workers in these enterprises were all from the local communes; there were no trained professional managers or technicians from outside the commune areas or the cities. For technicians, the local people were either trained on the job or sent for training at the district/county levels as and when necessary. Lastly, the Chinese notion of profit from these industrial enterprises was simply the income or wages earned by the workers in the communes. Till recently, all the savings or profits made by these industrial enterprises were taken away by the State who in turn would provide some funds for capital expenditure when required. Also, it was the State which had to meet the losses incurred, if any. By the beginning of 1978 there has been a radical change in this policy in the sense that the communes were allowed to keep more than 50 per cent of the profit or savings for capital construction and reinvestment for expanded production with the responsibility to meet all the losses, if any.

Regional Differences

The Vice-Premier Yao Yilin reported in the Fifth National Peoples' Congress held in September 1980 that the per capita peasant income from the collective economy averaged 83.4 yuan in 1979 - an increase of 9.4 yuan compared to 1978. On the other hand, the recent statistics released by China's State Agricultural Commission showed 14.6 per cent of the total value of agricultural output in 1978 was from

the private side-line production, some of which (increasingly more) were sold in the "free markets." Thus, there are clearly two components of a commune member's income: one, from collective production and second, from private side-line occupation.

How is the member's income from collective production determined? The basic accounting unit, either a team or a brigade, finalizes the distribution of income at the end of each year, after discussion at the general meeting of the members. At the meeting, the leader reports on the year's income, expenditure and balance and then reaffirms the state's policy regarding private, collective and state's interests. The collective's yearly total income is derived from the sale of surplus agricultural and industrial productions to the State purchasing authority after meeting the local requirements. The expenditure on agricultural inputs, fodder, fees for tractor services, agricultural and industrial expenses, and other miscellaneous expenses are deducted from the total income in order to arrive at the net income. A small portion (about 5%) of the net income is kept apart as public reserve fund for expanded reproduction and also as public welfare fund (e.g. for nurseries, short term loan to members, medicine, subsidies to disabled and poor). The remainder of the net income is then distributed among the members on the basis of the work points earned by each of them during the year. The members are usually paid by the collective partly in cash and partly in kind. The cash income is usually derived after deducting the charges of the allotted share of foodgrain and firewood (mainly agricultural stalks as fuel).

The average per capita annual income of a commune member in the visited areas was found to vary widely between the communes and regions depending upon the locations, available agricultural and industrial resources of the collective. Thus, the average per capita annual income of a peasant was reported to be about 236 yuan (ranging from 110-355 yuan) from collective sources and about 64 yuan (ranging from 20-160 yuan) from private sideline occupations. In other words, the average per capita income of a peasant in these communes, including his private income, was around 300 yuan with a range of 130-515 yuan. This was far higher than the national average (83.4 yuan of collective income). It clearly indicates that there are many poorer areas in China with average per capita collective income of even 30-40 yuan as compared to the areas visited by us.

Most of these poorer areas are located in the mountaineous regions, especially in the northern part of China. In general, these areas are characterized by harsh climate, difficult terrain and lack of transport/communication facilities, poor natural resources in relation to land fertility and agricultural productivity and the last but not least important aspect repeatedly emphasized by the Chinese is the poor leadership in certain cases. On the other hand, the relatively richer communes are located in the plains, mainly in the southern parts of China, with better climate and land resources resulting in higher agricultural productivity, with better transport/communication facilities along the highway and railway track, around the major cities with better marketing facilities, particularly, for vegetables and fruits, and potentialities for employment of the commune members in the factories in the cities.

Thus among the commune areas visited, the ones around the outskirts of Shanghai, Beijing, Hangzhow, Chengdu, Dalian, Shenyang and Shijiagzhuang, mostly specializing in vegetable and fruit cultivation, were reported to have much higher income than the areas located interior and mostly growing foodgrains.

The income differences between the commune areas were often visibly conspicuous even to a casual visitor. For example, the Deputy Director of a rich production brigade (basic accounting unit in this case) near an industrial town of Dalian, Liaoning province, proudly claimed that of the total of 730 households in the brigade 400 had built new well-designed houses, 600 had savings bank account of 350,000 yuan, and 90 per cent of the households had bicycle, sewing machines and electric fans. The brigade specialized mainly in vegetable and fruit production making an average per capita collective income of about 300 yuan. It was therefore not unusual when the same brigade leader boasted that it was able to provide the food processing facilities, electricity and medical treatment to its members free and also a free annual sight-seeing trip around various parts of China (including Tibet). Similarly, a vegetable-specializing team near Hangzhow, Zhejiang province, had radio electric fan and bicycle in almost all the houses of the team members. Even a record player and TV set was occasionally found in some houses of the relatively richer commune areas.

This brings us to the question of income-differences between the households in the same team, brigade or commune. In almost all the commune areas visited, it was very common to locate some households

which were conspicuously and relatively richer than the average household. On enquiry it was revealed that these richer households had either larger number of working members or had some factory workers earning more than double the income of a collective farm worker.

To the Chinese leaders and officials, this question of rich-poor differences between and within the commune areas seemed to be a very uncomfortable and disturbing one. More disturbing to them was the issue of the clear possibility of rich getting richer and poor getting poorer. There was a clear indication that with the new emphasis on productivity and modernization, more development and modern technologies were flowing into the richer areas. When confronted with these issues, the Chinese tended to avoid or give a very superficial answers. A high state official of Sichuan province, for example, simply mentioned that for development and modern technologies the needs of the poorer areas were also taken into consideration and he simply hoped that the poor would catch-up over time rather than slide back. Interestingly, on a pointed enquiry, he reported that there was no additional development efforts, either in terms of budgetory allocation or otherwise, specifically for the poorer areas. He however, mentioned about the bank-loan facilities (at a simple interest of 16%) which of course was presumably a common facility available to all except the fact that if a poor loanee could not repay for five to six years the loan amount was written off rather than pursued indefinitely and also there was no collateral security needed for bank loan except a simple recommendation from the leaders of the team, brigade or commune.

The most common response of the Chinese officials and leaders to the

question of rich-poor differences was a very generalized and passive one indicating perhaps basic contradiction in their policies and a resigned acceptance of the inevitable. A high national level official, for example, said that it had to be a stage-wise step-by-step development process with emphasis on enlarging and diversifying agriculture and sideline production in the poor areas.

In most of our discussions with the Chinese on this particular issue, the factor of local leadership quality was repeatedly emphasized by the Chinese, giving example of the Dazhai Production Brigade, the achievements of which was championed by Mao's call to "learn from Dazhai in agriculture." The Chinese response was extremely surprising in view of the strong criticism in the media recently, maligning and deflating Dazhai's achievement. Perhaps, the Chinese were emphasizing the pioneering indomitable spirit of the common masses under the able local leadership of Dazhai. Whatever it might be, Dazhai and Mao still remain a strong motivating force.

External Agent and Urban Elite

Some mention has already been made about the degree of autonomy and independence of the commune system. The meaning of autonomy here is in relation to the interventions of either the higher level party officials or the state bureaucracies. For, in China there are no other national or international autonomous voluntary organizations involved in rural development work as could be found in India and other developing countries. Neither was there any extension agency

of the state bureaucracies manned by university-trained graduates and stationed in the rural areas to carry out various developmental activities as compared to say, the block development office in India. The only direct linkage of the communes with the higher level authority outside the commune areas is the party through the commune leaders, who are usually the local party cadres. Apart from an occasional fact-finding mission from the higher level and/or an occasional visit on invitation of the higher level officials on specific purpose, there was hardly any outside interventions observed in the communes' work. In other words, the communes and its developmental functions were planned and managed essentially by its members and leaders.

This raised some basic questions about the limitations of a "closed system", particularly, in relation to diffusion of innovations and social mobility. The question became still more serious in view of the policy of restricting the mobility of farm workers since 1975. Before 1975, there was some amount of free movement of rural labour, particularly, skilled and educated farm workers to industries for better wages and urban life. Since 1975, the policy of the Land Development Ministry has been that no farm workers could be transferred freely, that is, without permission, in order to stabilize the farm workforce.

In spite of the closed system, the scientific innovations, particularly, agricultural innovations and their diffusion in the communes have been known to be quite high in China. In fact, the rate of diffusion of

innovations seemed to be much higher than many other developing counties. It did not take more than a month for the communes' of China to know and experiment an innovation which was originated and successfully implemented in say, Sichuan. Some of the plausible reasons for such a contradictory phenomenon are discussed in my earlier article on "Mass Participation in Science and Technology in Rural Areas in China." To recapitulate it was pointed out in the said article that the whole process of diffusion of innovations was largely based on local initiative and leadership, experimentation, awful respect to written words, learning by actually visiting the place of successful innovations, getting local experts trained, organizing training at the local level and lastly, a tradition of continuous sharing of experiences among the party cadres at different levels. The role of external agents and urban elites in the form of higher level state and party officials or scientists of research institutes and universities was found to be marginal in the whole process. This could be illustrated in relation to China biogas popularization programme as a source of fuel and manure. Biogas popularization programme is one of the important national programmes. So far, about 8 million biogas plants have been installed in the communes, of which about 50 per cent is concentrated in Sichuan province only. The whole programme is administered by a national biogas office manned by 9 officials in Beijing. In Sichuan, the provincial biogas office has merely 5 officials. The insignificant number of higher level administrative staff in China as compared to India's biogas programme in KVIC alone is quite apparent.

This is not to suggest that there are no role for the research scientists and scholars in the development process of the communes. In fact, over the years there has developed an organized network of agro-scientific and technical research institutes set up by the central and local authorities. Apart from these comprehensive research institutes, there are specialized institutes for research work in cotton, tea, vegetables, tobacco, beekeeping, fruit trees, sericulture forestry, biogas, fishery etc. Additionally there are experimental stations in the counties, districts and communes which are specifically set up to popularize better agricultural techniques,improved seeds, veterinary practices and soil improvement. These research institutes and experimental stations are usually manned by university-trained scientists and scholars and many of them have long years of urban background. However, besides the problem-solving researches and training the collective-nominated locals in some specific techniques or innovations, and perhaps occasional visit on invitation to the communes for taking training sessions, there seemed to be no direct involvement of the research scholars and these institutes in the affairs of the surrounding communes. There was at least no "village-adoption" by these institutes or experimental station, as is often found in India. The small state run De-Yang County Horticultural Farm, Sichuan Province for example, had so far very little direct economic or developmental relationship with the peasants in the surrounding commune areas. It is only recently there has been some talk about popularizing joint enterprises between communes and the state (Yugoslav model). Until then the direct involvement of the institutes and research scholars in the commune affairs would remain minimal.

There is, however, a particular kind of urban elite groups in the commune areas and that is, the urban educated youth. Since the Cultural Revolution, about 10-12 million urban youths, mostly graduates of middle schools, were transferred to the communes mainly for three reasons: first, limiting urban growth; second, to attain ideological goal of eliminating the "three great differences" (between town and county, worker and peasant, and manual and mental labour); and third, to contribute to the development of rural areas, especially, in the frontier provinces, such as, Heilongjiang. Mostly these urban youths were settled in the communes, not as experts or temporary visitors, but as a part of the commune structure and usually working under the guidance and supervision of a veteran local commune leader. There have been conflicts, clashes and serious difficulties in assimilating these urban youths in the commune structure. It was not easy for all the urban youths to adapt to the hard acts of rural life. Some of them could ultimately manage to return to urban life, but a large majority remained. In many places like in a commune in Liaoning province, the urban youths were settled in a separate living/housing arrangements with a separate farming unit. In talking with some of these urban youths, it was clear that many of them have not yet reconciled to the fact of permanent rural living. On the other hand, the local commune leaders often complained about the burden of these urban elements in terms of their behaviour pattern and working habits. There was no sign of getting their problems solved soon, neither was it expected, unless there is a complete reversal of the policies about transferring the urban youths to the communes. Such a drastic reversal in the policy seems to be a very remote possibility, if not impossible.

3 BIOGAS AND RURAL ENERGY SUPPLY

"Books are more useless than cowdung" -
MAO ZEDONG

"Contrary to general belief amongst some people outside China," said Mr. Tu, Deputy Director of the National Biogas Office, Beijing, "the sole aim of the biogas programme in China is not merely the production of good organic manure in order to solve fertilizer problem. In fact, one of the main objectives of this programme is to produce biogas as fuel energy for farmhouse cooking and lighting and even for internal combustion engines. It also ensures a hygienic environment by destroying eggs of parasites." Mr. Tu, then continued to explain how the biogas programme in China was essentially an integrated system of utilization of biogas technology for the benefit of private households, collectives (commune), and the State. Mr. Tu concluded saying, "It is the national policy of China to popularize biogas in the rural areas as a major source of energy."

Spectacular Achievement

At the time of our visit, there were 7.6 million biogas digesters in the rural areas of China covering 21 counties and this was achieved within the last 7-8 years. During this period, biogas construction in the rural areas had become one of the important agricultural capital construction programmes. The levels of achievement of the biogas programme, however, varied widely between regions. Almost half of the total 7.6 million biogas digesters were concentrated in Sichuan province. Even within Sichuan province, it was the city of Mianyang

which headed the list with 96,500 small household digesters and 449 big collective digesters. At the time of investigation about 20-30 per cent of these 7.6 million digesters were not in operation.

The significance of the Chinese achievement in the biogas programme can be fully understood only when we compare it with India's achievements. India was one of the pioneering countries in biogas technology. For more than thirty years our country has been involved in the development and implementation of gobar gas digester programme. India also has large cattle population of 240 million as compared to China's 71 million. However, in the last thirty years of her efforts, India could buil merely 70,000 gobar-gas digesters of which more than 20 per cent are either not in operating conditions or are non-functional. This comparisoi is interesting in the sense that it perhaps indicates the basic differenc in the operating principles of the two different socio-political systems. Whatever be the reason, it is interesting to follow the history of development of biogas technique in China and its popularization in the rural areas.

History

We first heard about the biogas development programme in China as a mass movement in the Great Leap Forward days of 1958. The Daquing oil field was then not explored and China's oil position was not very sound. Around this time an exhibition on the Great Leap Forward was held in Hunan province which Mao visited. He was shown a biogas digester and a stove in operation. He was impressed by its technology,

particularly in view of the oil shortage then in China. Mao asked the nation to popularize the biogas digester. In fact, even today, the photograph of Mao looking appreciatively at the biogas stove in operation in the Hunan exhibition is used as propaganda material. The biogas exhibition at the impressive Agricultural Exhibition Hall in Beijing began with the display of the same Mao photograph. Though, Mao's call was immediately translated into action, the movement did not run for more than a year. According to some the biogas programme had failed because Liu Shaoqui had sabotaged it, whereas Professor Chien of Zhejiang Agricultural University, who also participated in the programme of biogas development in 1958 explained, "At that time there were many problems in biogas technology which remained unsolved. In 1958, the idea of biogas as a source of fuel energy and its technology was borrowed from the USSR and East Germany. It was essentially the technology of a large size digester. The major emphasis in the 1958 programme was to save gasoline in the cities. Some temporary and irregular organizational units were formed, which generally comprised city-based institutions and organizations to experiment and promote biogas technology. Some technical institutes, agricultural universities and factories were assigned to experiment and find ways of using biogas in engines and motors to save gasoline. Thus, in 1958 biogas was, in general, used institutionally in the schools, colleges, factories, universities and other institutes. It was not a mass movement. All the biogas digesters including the one we experimented with at the University had a minimum size of 30 m^3. The major technological difficulty we faced then, in our experimental digester, was of removing digested

sludge after a few months. As a result, the digester was destroyed. By 1959 we stopped completely any further experimental work on biogas at our University. By 1962-63, the famous Daquing oil field was explored and it started producing oil. The incentive for biogas as an alternative source of fuel ebbed away in China."

Professor Chien perhaps gave as truthful an account as he could perceive. There was, however, reports that even in 1958 the emphasis of biogas programme as alternative fuel supply in the rural areas and that it was a mass movement in the Great Leap Forward which was sabotaged by Liu Shaoqi. Rewriting history is perhaps a more dominant political culture in China than in other countries. Just as Liu Shaoqi was blamed for the failure of 1958 programme, many more failures were presently explained away in the name of the 'gang of four'.

Whatever might be the reasons behind the failure of biogas programme in 1958, it was a great set back. It took more than a decade, until late 1970s, for its revival. In fact, the programme was revived by the masses in 1972 during the Dachai movement. The global oil crisis of 1970 was also a contributing factor. In addition, in the '70s the State wanted to cut down on the enormous transport cost for fuel delivery (coal and oil) to the vast rural areas. The Chinese policy makers found biogas to be a convenient technology to make the rural areas self-sufficient in fuel supply. Thus, by 1973-74 a nation-wide biogas popularization programme was started on a massive scale. Development of biogas programme since 1970 can best be judged by examining its success in Mianyang city of Sichuan province. The Director of the Biogas Development Bureau of Mianyang city recounted

its history briefly.

In 1971, thirteen years after the 1958 failure, some peasants of Chunchang and Youging counties became interested in biogas digester. They built some small biogas digesters with locally available building materials, the result of which was fairly good. In 1972, some experts from anti-scistosomiasis office of the province visited these digesters and an article was published in a Sichuan daily. Consequently, the Sichuan provincial government recognized the usefulness of the biogas programme and a meeting was organized in Yongzing county to launch the propaganda on biogas.

Following the propaganda, the Mianyang county authority (it was declared a city only in 1978), decided to launch a propaganda on biogas mainly because of the two reasons; first, 70 per cent of the peasants in the county were facing acute firewood and fuel shortage; and secondly, prevalence of severe scistomiasis in 21 communes in the county. A biogas development office was set up in Mianyang city in 1972 as part of the provincial agricultural department with three part-time staff. This office was eventually upgraded to Biogas Development Bureau in 1978 with 10 staff members. The provincial government instructed all the departments to emphasize biogas programme in their respective propaganda efforts. Some examples of the massive propaganda could still be seen on the main streets and roads in the Mianyang city area. A giant-size wall-painting of Chairman Hua propagating the usefulness of biogas to a group of peasants was displayed on the main street of the city.

In 1972, some interested peasants started building biogas digesters with local materials on experimental basis. The leaders of the county and the communes visited the Yongking county. A production team leader built a 9 m^3 digester rectangular in shape with locally available bricks and cement. It was a success in the sense that the digester could supply fuel for three meals for the team leader's household. A large number of peasants from various parts of Mianyang county visitec this successful digester and became interested.

It was at this stage the Mianyang county authority organized a biogas technical training course in a production team in Yongking county, in which 50 representatives from various communes participated. During the training programme five experimental digesters were built by the participants which operated successfully.

The trainee-participants continued building digesters in their respective communes and by the end of 1972 about 180 digesters were built as demonstration models in operation. A large mass of peasants became convinced about the benefits of the biogas digesters after seeing the results of these demonstration models. The Mianyang county authority then decided to speed up the popularization programme by putting forth their proposed plan to the State Planning Department. At the same time the county authority allocated 30,000 yuan in 1972 for propaganda and popularization programme of biogas in the communes.

In 1974, the coal group of the State Commodity Ministry came to Mianyang city from Beijing to investigate the usefulness of biogas digesters as

alternative source of fuel. The coal group lived with the farmers for about a week to validate their observations about the operational efficiencies of the digesters. They returned to Beijing convinced. Then came the most important event in the history of biogas development in China - the first national conference on biogas held in 1975 at Chengdu, the capital of Sichuan province. Following this national conference, biogas programme became a part of the national development programme blessed both by the Party and State authority.

With the increasing demand from the masses of the peasantry, the Biogas Development Bureau of Mianyang city organized several technician training programmes and by 1978 about 8000 peasant members were trained. Also, to augment supply of cement for biogas construction two more cement factories were established in 1974 specifically for the purpose with an annual production capacity of 4000 tons.

With all these concentrated propaganda efforts, there were 2,777 digesters built in 1973 in Mianyang city area and by 1979 the number of digesters in the Mianyang city area rose to 96,492 (small size for individual households). This means that more than 70 per cent of the peasant households in Mianyang city own biogas digesters. Apart from the private small digesters, there were 449 big size collective digesters which supplied fuel to 163 power stations. About 6 per cent of the production teams in the city area comprising 10,000 population were using electricity generated partly by biogas.

While the biogas digesters were becoming increasingly popular in the

rural areas of Sichuan province, a number of supporting organizational infrastructures came into force in China by 1978. A national level biogas office at Beijing was established in the Agricultural Ministry. Then at the provincial level a separate office of biogas development was established at the instance of the provincial Academy on Science and Technology. As mentioned earlier, the main function of these administrative organizational units were essentially to do propaganda, organize training programmes, and to prioritise and finance research and experiments at various scientific institutes in order to improve digester quality, develop biogas related equipments and to improve officiency of utilization of biogas digesters. Administrative units were organised with a minimum staff of 5-7 officials and therefore at a relatively low overhead cost. The City Biogas office of Luda Municipality, Liaoning province, for example, was established in 1978 with only 5 working staff. In 1979-80, this office had a total budget of 100,000 yuan, of which 65 per cent was spent on research, 15 per cent on propaganda materials and 30 per cent on training/travelling. The total wage bill of the five working staff was only 4200 yuan for the year, which was paid by the Municipality over and above the budgeted allocation of 100,000 yuan.

Following the second national biogas conference in 1978, some special task groups were formed drawing expertise from all over the country in order to look into various technological aspects of biogas digesters and exchange of experiences and knowledge. Thus, there were task groups with specific responsibilities to oversee the problems related to; instruction, fermentation, sanitation improvement, agricultural

mechanization, manure utilization, stove/equipments, and digester construction. As a forum for exchanging scientific knowledge, a national biogas journal, Zhaoqui was started in 1975-76 by the Chengdu Biology Research Institute Academy of Science, which became extremely popular to the extent that it was reported to be sold out within a fortnight of its publication. However, so far only four issues of Zhaoqui have appeared in the last five years. In addition, a large number of local and national newspaper carried reports, and articles on the subject. A wide coverage was given to the Chengdu Seminar in 1979 on "Biogas Technology and Utilization" and Technical Information Materials on Biogas (Sichuan)." Often a county or a commune printed small instruction manuals on the use of biogas for the housewives. These were generally hung on a string in the kitchen for ready reference.

Apart from the existing research institutes and universities a research unit - Nanhui Biogas Experiment Station — was established in late 1977 in the Shanghai Municipality area exclusively for research on problems related to biogas. There were in all 14 research-technicians working at this experimental station. It was financed jointly by the State, Shanghai city and the county Government with a total three-year-budget of 200,000 yuan. Like many other research institutes and universities in China, this experimental station consisted of a simple double-storey building with a conference room and laboratories. There were basically five problem areas on which the experimental station focused; 1) fermentation (microbiology), 2) design, structure and building materials, 3) fertility of biomanure, 4) digester equipments, and 5) waste-treatment.

Popularization

Given the gradual development of the supporting organizational infrastructure, the Chinese policy for popularizing biogas in the rural areas followed a stage-wise step-by-step process. Instead of diluting efforts and material resources over a large area, biogas was popularized to start with, as a deliberate strategy in some selected communes/teams/brigades having most favourable conditions. Another rationale for this strategy was to create maximum impact and demonstration effect. A project was considered to be successful or to have reached "basically popularized stage" in a commune/brigade/team only when 70 per cent of the households started using biogas. The criteria used by the provincial authority for selecting the team/brigade/commune for "basically popularizing" biogas were the following:

1) Requirement of the Masses

Mr. Fu, the director of the Deyang Horticultural Farm, Sichuan province said that biogas was popularized in the rural areas of China essentially to meet the cooking-fuel requirement of the masses, not as a source of manure. Thus, the criterion of mass requirement was assessed in relation to fuel shortage in the area. The basic cooking fuel used in rural China had been and still is, the agricultural wastes/stalks and firewood which were in severely short supply in many areas. It was reported that the shortage of cooking fuel became particularly acute in some areas because of the 'backyard steel manufacturing' policy during the Great Leap Forward of 1958, when large-scale deforestation occured in order to supply fuel to

these "backyard steel furnace." Thus, according to Mr. Yung, the Minister in-Charge of Science and Technology, Sichuan province, one of the main reasons for the success of biogas programme in Sichuan province was the extreme shortage of cooking fuel, especially during three months of winter. Mr. Yung narrated how people had started using wooden legs of the cots or beams of the houses for cooking. Often the rural women were found collecting leaves around the fields or ditches. In many communes the women reported having spent full 15 days in a month in merely collecting cooking fuel from the fields. Concluding his experiences of these days Mr. Yung reported, "When biogas was demonstrated in these areas, old men and women often carried by their grandchildren on their backs covered long distance to see the unbelievable magic of biogas. These old people were literally in tears with joy."

ii) Available Resources in the Area

The Chinese policy about biogas development programme has been a de-centralised self-sustaining action by the masses with minimum dependence on the hierarchy of organizational bureacracies. This meant, in operational terms, utilizing locally available building materials for biogas construction, raw materials to feed the digester, and technical skills to construct and maintain the operations of the digesters. The potentiality of a team/brigade/commune in relation to these locally available resources, both material and human skill, therefore assumed critical importance in selecting the area for popularizing biogas. Many teams/

brigades/communes did not produce enough building materials particularly, cemented lime, and therefore had to depend on the provincial government. Also, for manufacturing lime, cement and brick many of them had to depend on the State for coal supply. Consequently, the Chinese strategy was to implement the biogas popularization programme in a phased manner. Also considered in this criterion was the priorities in utilizing the material among the various competing activities.

iii) Local Leadership

Success or failure of any decentralized action programme depends largely on the capability and interest of the concerned local leaders. The innovativeness and risk-taking ability of the team/brigade leaders are often crucial factors in organizing masses to willingly participate in the programme. In many production teams or brigades where biogas was "basically popularized," the initiative to build biogas digester was first taken by the leaders. In fact, in most cases the first biogas digester in the team or brigade was built by the leader for his own household. On the other hand, the lack of initiative and risk-averse attitude of a leader could delay the process of popularization. For example, the sixth production team of Qunlian brigade in Shangtang commune, Zhejiang province, had only 10 digesters for its 65 households, while the fifth production team across the narrow canal had 38 digesters for 43 households. The popularization programme had started at the same time in 1979 in both the teams. The leader of the 6th team was not quite convinced about the benefits, utility and feasibility of biogas digester. He was afraid of failures. Added to his dilemma was the lack

of skilled manpower within his team for constructing digesters. The success of the neighbouring fifth team created a pressure on the sixth team leader. The leader was rather compelled to make a plan to cover the whole team with digesters in two years time. Already 45 of the 63 households in the sixth team registered themselves for biogas digesters. The assistance of the biogas technicians of the fifth team was sought to build five digesters in the sixth team. In the whole process, the leader of the sixth production team lost some of his popularity amongst the team members which, as one team member pointed out, might cost his leadership in the coming election. As against this, one might find a different situation in which a leader demonstrated an indomitable spirit of risk-taking and initiative even after repeated failures. The story of a production brigade near Shijiagzhuang city of Hebei province is an example. The biogas popularization started in this brigade of 178 households in 1974. But due to some fault in design or construction methods the digesters failed to perform satisfactorily twice in the period of three years. The brigade members became dissatisfied. The leader took the blame on himself, but did not loose heart. After a careful training of the technicians, he succeeded in his third attempt. 162 new digesters were subsequently built and 30 of the non-operating ones were repaired. The brigade continued to experiment with designs and construction of digesters.

(v) Financial Resources

The Chinese policy for biogas popularization was not to provide any

direct or indirect financial subsidy to the team/brigade/commune. This meant that the area concerned and the households were required to have sufficient financial resources of their own to invest in biogas digesters. Normally the households were required to pay the full cost of building materials, while the collective paid the cost of labour for construction of the digester. In other words, the popularization of biogas depended largely on the wealth of the team/brigade and the surplus discretionary income of the households. Thus, the financial resources of the team/brigade was considered to be an important criterion for selecting the area for popularization programme. Depending on the team/brigade, the households would either invest the money immediately or the collective would arrange for building materials and equipments for distribution, the cost of which was realized from individual households at the end of the year. In addition, bank loan facility for the poor household at the interest rate of 2.16 per cent per annum was available. This amount was advanced without any collateral. The Liaugzhu commune of Zhejiang province, for example, arranged a loan of 9000 yuan to 1000 households in 1978 towards the cost of building biogas digesters. By August 1980, more than 90 per cent of the households of this commune were using biogas as cooking fuel from the private digesters.

In the popularization programme, the Chinese strategy was initially to meet the private demand for fuel from the rural households through small biogas digesters. Only after this, the medium or large size digesters were introduced for collective use in industries and farm machineries. During the last three years about 10,000 small digesters

were built in China annually for the individual rural households. The projected future plan was to build 10,000-20,000 small digesters annuall depending on the supply position of building materials. Also, the plan was to concentrate popularization programme in Southern China, where the climatic condition (warmer climate) is more favourable.

Biogas Technology

The small size household digester is being popularized in China today keeping three important factors under consideration; 1) it should use easily available local building materials such as brick,stones, lime etc. 2) technology for constructing digesters should be commensurate with the locally available skills, 3) cost of construction should be low and maintenance easy. The major emphasis of experimentation and research has been on the economization of building materials and low cost of construction. The Chinese experts and officials were emphatic about the importance of the above mentioned factors considering the increasing demand for three principal building materials - steel, cement, and timber. Mr. Tu, the Deputy Director of the National Biogas Office, Beijing was surprised as to how India could afford so much steel for the construction of KVIC-designed 'gobar gas' digesters.

The cost of a small rural biogas digester of 6-8 m^3 was about 70 yuan which included materials, such as, cement, lime, sand, broken stones, bricks and pieces of rock. It was a hydraulic digester with semi-continuous fermentation process and was composed of six essential parts, namely, a fermentation chamber, a gas storage, an outlet chamber, a round

removable cover and a gas pipe line. The most popular design of the digester was circular, small and shallow in shape; and three-in-one in configuration, that is, the digester was connected to the latrine and the pigsty so that human and animal wastes could be continuously and automatically fed into the digester to ensure normal and continuous gas generation. In addition, the digester was periodically charged with pre-treated agricultural wastes like, weeds, stalks and leaves. Apart from periodical withdrawal of digested sludge for fertilizer, large amounts of sludge was withdrawn twice a year in tune with the cropping seasons. Under normal operating conditions the small household digester was reported to produce on an average 0.25 m^3 of biogas per 1 m^3 of digester volume in summer months (i.e. 22°-26°C) and 0.10 m^3 of biogas in winter months (i.e. 10°-15°C). This rate of gas production was more than sufficient to supply cooking fuel to an average rural household for 8-10 months in a year, and for the rest of the months only half of the fuel requirement of a household could be met. Apart from cooking fuel, a small digester of 8 m^3 was reported to produce about 5 tons of digested manure annually.

Political Umbrella

The development programme of biogas and its popularization in the rural areas of China was not as smooth as described in the foregoing narration. During 1972-76, the leaders of the biogas programme had to counter severe criticisms of helping the rich getting richer. In fact, biogas digester was even termed as "capitalist pit". This ideological contradictions and criticisms were countered by the argument

that it served the collective need of fertilizers in addition to other collective benefits. The biogas programme is now undertaken in China as an integrated system balancing the benefits of the State (in terms of saving fuel and transport cost), collective (in terms of supplying fertilizers, maintaining hygienic environment in the rural areas, increasing productivity and income, afforestation, increasing collective labour input and providing training in science and technology) and the private household (in terms of better living standards). Even with this prevalent counter-argument, a few leaders in the State bureaucracy were not yet fully convinced about the applicability of biogas in the rural areas of China. Consequently, it seemed that the success of biogas popularization programme in an area depended largely on the support and 'umbrella' - protection of some high level party and state leadership. Thus, biogas programme has been claiming support from widely diverse political leadership at the highest level starting from Mao Zedong, Hua Guofeng and Deng Xiaoping and finally with the favourable decision of the CCP. On the other hand, at the local provincial/municipality/city/county level often an individual leader or administrator provided the required support and protection. In Sichuan province, China's leading area in biogas, for example, it was said to be Mr. Yung, presently in-charge of Science and Technology Committee, who provided a strong political-administrative support for the biogas programme in the province. Similarly, in Mianyang county, - the leading county in Sichuan province, - the present Director of the Bureau of Biogas office of Mianyang city was the person who pushed the popularization programme. Likewise, it was reported that the Mayor of Luda City, Liaoning province took active interest in the

biogas programme in the area and even diverted addition 15000 tons of cement for biogas construction in 1979-80 almost defying the State directive. The support of these local level leaders was so pervasive and conspicuous that it was inevitably known to all the people concerned in the area.

Integrated System of Benefits

Having analyzed the organizational thrust and historical evolution of biogas development programme in China, it would be worthwhile to examine the reactions of the receiving system, that is, the rural masses. Why and how the rural masses of China responded to the biogas programme?

Private Incentive

Let us first consider the private incentive for a rural household to have a digester. Depending on the building materials used and the design of the digester, a small household digester of 7-8 m^3 was reported to cost on an average 70 yuan, of which about 50 yuan was the cost of building materials and other accessory equipments (stoves, pipes etc.) and the rest 20 yuan was the labour cost for construction of the digester (small digester could be built by four labourers in 4-5 days, that is, 16-20 man days and at the wage rate of 1 yuan per man day, the labour cost was 16-20 yuan). Taking the normal pattern of cost sharing between the private household paying 2/3rd (mainly building materials and accessory equipments) and the collective paying 1/3rd (mainly the cost of labour and transportation of building materials), a rural household had to invest a sum of 50 yuan for a digester.

With a 50 yuan investment for a digester, a rural household could realize immediately a stream of direct cash income flow. Firstly, there was the saving on the cost of cooking fuel. On an average, a rural Chinese household was reported to consume annually 900-1000 kg of coal at a price of 0.04 yuan/kg, that is, 36-40 yuan. In addition, it also required about 1000 kg. of firewoods and agricultural stalks annually as cooking fuel at a price of 0.03 yuan/kg, that is, the annual cost of another 30 yuan. Thus, the total fuel cost of an average rural household was anywhere between 60-70 yuan. Using biogas as an alternative fuel, a rural household could save immediately a sum of 40-60 yuan depending on the prevalent climate in the area affecting biogas production. The rate of biogas production was reported to be sufficient to fully replace coal and agricultural stalks for 8-10 months of a year and half the requirement of the rest of 2-4 months. In other words, by using biogas, a rural household could save about 700 kg of coal and 8000 kg of agricultural stalks in a year. Considering the average annual saving of fuel cost of a rural household in the order of 50 yuan, the household's private investment for biogas digester was fully returned in the very first year.

Secondly, the rural households were paid by the collective for the human and pig waste fed into the digester. The digested sludge and slurry were essentially used as fertilizers in the collective field, apart from a very small quantity being used by the household for its own private plot of land free of cost. The prices paid by the collective to the digester-owning household were one work point per pig or sheep per day and 10 work points for 50 kg of human waste. Thus, for each

pig a household owned, it received 30 workpoints in a month which amounted to 3 yuan (@ one yuan for 10 work points). Taking an average of 3 pigs per household, the income it received from the collective for pig waste alone was 9 yuan per month, that is, 108 yuan annually. Similarly, for human waste it was reported that annual per capita income for a household was 15 yuan. Taking an average family size of four in the household, the annual income from human waste alone was 60 yuan. This means that a digester-owning rural household could earn an annual income of 168 yuan from its contribution of pig and human waste. Usually, this income was distributed to the households by the collective at the year end in terms of foodgrains or agricultural stalks.

The private incentive to individual households from biogas digesters had, in fact, stimulated feed and fodder production as well as development of animal husbandry. The impact was conspicuously visible in relation to pig raising both at private household level and at the collective level of team/brigade/commune. In the Liangzhu commune, Yuhang county, Zhejiang province, for example, the total number of swine being raised came to 19,091 in 1978, a 53 per cent increase over the previous year as a result of biogas popularization in the area. A production team of Shantang commune, Zhejiang province, where biogas was basically popularized in 1979, had 370 privately owned pigs and 30 collective owned pigs in 1980, an increase of more than 60 per cent in a year for a team comprising 43 households. After the popularization of biogas in Guojagon production brigade, Yingchengzi commune, Liaoning province in 1977-78, the number of swine owned by the private household increased four-times, that is, from 1 to 4. In fact, the incentive for pig raising became so strong that it

resulted into over-production in certain areas, particularly in Sichuan province creating problem of "pig-glut" in the market. A large part of this incentive for pig raising has been linked to the biogas digester popularization. Similar impact was expected in human production due to income generating incentive for human excreta, but there was a "shortage of housing space and a severe official disincentive measures to promote family planning", as reported by a commune leader in Sichuan province in answer to our queries.

Lastly, use of biogas as cooking fuel set free women-labour of the households for income-earning activities. Cooking a meal by biogas was reported to take only 20-30 minutes as against more than an hour on firewood/agricultural stalks. In addition, it saved time spent in cutting and collecting firewood and other agricultural wastes. In many communes about 15 days in a month were spent by a woman in this particular job. As a result many women in a team/brigade/commune could give only about 10 days of their labour to collective work or in other income-generating sideline occupations.

With the popularization of biogas, the labour input of women folk into collective activities increased substantially. In Mianyang, for example, a total of 9,600 mandays were now spent on cutting firewoods and collection of branches and trees as against 91,300 mandays spent before biogas popularization, a decrease of 89.4 per cent. The saved labour in this area were largely used for planting trees as a collective activity of the afforestation programme. Similarly, after the biogas popularization in 1974-75 in Baichigan production brigade, Helu county,

Hebei province, there was an increase of 150 women labour input into collective work out of 200 households in the brigade. The lady vice-president of a production team near Shanghai city reported that cent per cent women labour of the team was utilized into collective production work after the biogas was popularized in 1975-76 as against 70-80 per cent before biogas introduction. She also reported that there was also an increase of 20-30 per cent in sideline business done by the women members of the team over the years. Taking an average of 10 additional mandays of women labour input per month into income earning collective or private activities due to the use of biogas, a rural household with one working woman member could earn an additional income of 120 yuan annually at the wage rate of 1 yuan per day. However, not all the increase in women labour input into collective work was due to biogas, said the lady vice-president of the production team near Shanghai. "It was also due to better medical facilities and stricter birth control programmes," she remarked. A rural household could earn from a private biogas digester about 200-300 yuan annually, which essentially worked as a strong motivating force behind the spectacular progress of the popularization of small biogas digesters in rural China.

Collective Incentive

But, what were the benefits of the collective in popularizing biogas? One major objective of the biogas development programmes was to achieve better standard of living for the individual rural household, but in China it could not be achieved at the cost of collective good.

Rather, it could be achieved only through the process of enhancing collective benefits. Thus, the leaders of the commune system invariably pointed out the comprehensive nature of the impact of biogas programme i relation to four inter-related collective benefits:

i) Saving of fuel

Wherever biogas has been "basically popularized" in a team/brigade/commune, it resulted into a large quantity of savings on crop stalks which could be used as fodder, manure and paper-making. Before the introduction of biogas, more than 30 per cent of the total production of crop stalks in the Mianyang city area of Sichuan province was burnt as cooking fuel alone. As a result of popularization of biogas, the proportion of crop stalks used as cooking fuel came down to mere 8 per cent. The fifth production team of the seventh brigade in Mianyang city, for example, distributed only 100 kg of crop stalk per head per year to its member households as compared to 400 kg per head per year before 1974 when biogas had not yet been popularized in the team. Similarly, Liangzhu commune of Yuhang county, Zhejiang province, where biogas was basically popularized in 1978 among its 4,195 households after three years of hard work (having 3795 digesters in the commune) could save 7,590 tons of crop stalks every year. Of this total saving 3,500 tons were used as raw materials for paper making industry, 2500 tons for fodder and the rest 590 tons for manure produced through biogas digesters. A production brigade with 134 households near Hauzhow city of Zhejiang province, could use 250 tons of crop stalks and weeds in 1979 as feeding material for biogas manure which was 1.5 times more than

the last year (1978) simply due to the popularization of biogas in the brigade. The leader of the Qixian commune, Fengzian county, Shanghai city area, reported to save 15000 tons of rice straws in 1979 due to biogas, which was sold to nearby paper mills.

Apart from agricultural wastes and crop stalks, there was also saving of other commercial fuel energy, such as, coal, diesel and electricity. The Baichigan production brigade, Helu county, Hebei province, for example, was reported to save 200 tons of coal in 1979-80, due to use of biogas as cooking fuel. Similarly, Mr. Min, the Director of Yongzing commune, Sichuan province, reported to save about 400 tons of diesel annually, by using biogas for generating power for industrial uses. In fact, use of 100 per cent diesel to generate electricity in the rural areas of China where biogas had been popularized was reported to be forbidden by the State. In most of the teams/brigades/ communes where biogas had already been popularized electricity was generated by using 70 per cent biogas and 30 per cent diesel. The leader of a production team near Shanghai city, for example, reported to use only 30 per cent of the electricity supply from the State grid as compared to 100 per cent before biogas popularization in 1975-76.

In fact, almost all the teams/brigades/communes where biogas was basically popularized had medium to large size biogas digesters set up by the collective to generate electricity and motive power for running food processing industries, commune radio stations, lighting and for running farm machineries such as pumps, threshers, and sometimes even walking tractors. An example of this was the fifth

production team of the United Brigade, Zhejiang province. This team, based on a pig farm of a hundred, built a medium size digester of 148 m^3, with a productive capacity of 25 m^3 biogas per day. The biogas of this collectively owned digester was used to run a 12 hp engine and 8 kW generator in order to provide household lighting and to run grain threshers and feed/fodder grinders. It was found that a five hour operation per day was enough to meet the needs of the whole team consisting of 41 households. As a result, the diesel consumption of the team was reduced by 2500 kg a day.

In Mianyang city area alone, there were 163 power stations collectively owned and run by biogas. The fourth production brigade of Yong ing commune, Sichuan province, for example, built two 125 m^3 digesters in 1979 at a total cost of 2400 yuan. The biogas from these two digesters was used to run two generators of 1.75 kwH and 5.5 kwH and two engines of 10 and 12 hps. The rate of gas production from these two digesters was 0.12 m^3/m^3 in summer and 0.10 m^3/m^3 in winter. The power station run by these digesters was constructed with the help of Agricultural Machinery Institute of Sichuan province. The main use of the power station was to supply electricity to the households of the teams for lighting (2 lamps for 1 watt for 4 hours every day) and for running pumps, threshers, and food and fruit processing units. The same Yongzing commune had a big food processing unit run by the power generated by two biogas digesters of 357 m^3, which was built in 1975 at a cost of 7526 yuan. These two digesters were fed by the pig waste from a commune-owned piggery with 60 pigs and twice a year with 20,000 kg - 25,000 kg agricultural waste. The bidgas from these digesters

were used mainly to run two engines of 10 and 12 hps respectively for 4-5 hours a day. The food processing unit run by the biogas generated power gave an annual income of 7000 yuan to the commune. Each engine was reported to consume biogas at the rate of 4-4.5 m^3 per hour in addition to 0.25 kg. of diesel per hour.

2) Quality Fertilizer for Collective Production

One of the direct and immediate benefits from the biogas popularization programme was the increased production of high quality digested manure for collective use. Continuous use of increased rate of biomanure in the collective agricultural fields not only provided the soil nutrients but also markedly improved the soil structure and fertility. In some cases production of biomanure increased to the extent that it completely replaced the use of chemical fertilizers in the collective fields. A production team near Shanghai city, for example, was reported to spend annually about 2000 yuan towards the cost of chemical fertilizers for the collective agricultural land of 176 mu. After the biogas had been basically popularized in this team in 1975-76, no chemical fertilizers were used in the collective field. Instead, this area being a rapeseed area, the team used 1 rape seed cake at the rate of 25 kg pmu of wheat in addition to biomanure. On the other hand, the team had so much surplus production of biomanure that it was not possible to fully empty all the digesters in the team. In fact, the team leader said that the basic management problem faced by the collective at that time was to deal with the dissatisfaction of the households whose digesters were not fully emptied due to surplus production.

In all the rural areas where biogas was 'basically popularized' there has been substantial increase in the use of organic manure in the collective fields. Also, because of the improvement of soil structure and quality, the collectives were able to use more chemical fertilizers without the fear of damaging the soil quality and structure. Impact of biogas programme on fertilizer production and use in some area was conspicuously strong. The Liangzhou commune in Zhejiang province, for example, could use 20,000 tons of biomanure in 1979-80, - an increase of about 20 per cent over the previous year . Similarly, the Qixian commune in Feugzian county, Shanghai city area, was reported to use 250 kg more organic fertilizer per mu for its collective land since 1976-77. The 5th team of Qunlian production brigade, Zhejiang province, on the other hand, was reported to use about 5000 kg of chemical fertilizer annually in its collective land of 188 mu. The team leader hoped to reduce the use of chemical fertilizers by 5 kg per mu per crop from 1980-81 onwards due to biomanure production in its 38 small household digesters built in 1979 out of 143 households of the team.

The Wujatang production brigade of Zhejiang province could replace within a year after biogas popularization in 1979 about 15 per cent of chemical fertilizer requirement for collective fields with biomanure. A production team in Mianyang city area, Sichuan province reduced the annual cost of chemical fertilizers by almost 50 per cent due to increased use of organic fertilizers produced through biogas digesters in the team. The increase in use of organic fertilizers was almost 2-3 times more than the amount as used before popularizing biogas in the area in 1974-75.

In another production team in the same city, the increase in the availability of organic fertilizers reached 150 per cent within a year after biogas popularization. The Baichigan brigade of Liaoning province in northern China increased organic manure production through biogas system by 2000 m^3 per year.

3) Increase in Productivity and Income

The net result of increased use of bio-fertilizers was reduction of production cost (by reducing application of chemical fertilizers) and increase in agricultural production in the collective land. The biogas exhibition at the Agricultural Exhibition Hall, Beijing reported the following results on the basis of the data obtained from 21 counties covered by 7.6 million biogas digesters. Due to increased bio-fertilizer application the wheat yield increased by 47 per cent in 1976 and 53 per cent in 1977. However, in 1978, due to severe drought condition in China, the increase in wheat yield due to bio-fertilizer application was registered to be a mere 8.5 per cent.

These macro-level figures seemed to be too tall a claim to believe. According to Zhou Liangen, the Chairman of the Revolutionary Committee of the Evergreen commune, Zhejiang province, about 6 per cent of the total 34 per cent increase in vegetable yield (this was vegetable growing commune) in 1979 over 1978 could be attributed to bio-fertilizer "More land preparation, good weather and better seeds are other contributing factors for the increase in vegetable yield in the commune," said Zhou Liangen.

It seemed not more than 6-8 per cent of the increase in agricultural production in the area where biogas was popularized could be attributed to the increased dose of bio-fertilizer application. Whatever might be the actual figure, there was no doubt whatsoever that all these areas benefitted with a significant increase in agricultural productivity. The Liangzhu commune, Zhejiang province, for example, reported 1033 kg/mu of grain production in 1979 as compared to only 650 kg/mu in the area in 1978, - an increase of more than 50 per cent. Similarly, the Mianyang city area, recorded an increase in grain yield of about 51.4 per cent over the years since 1974 after biogas was basically popularized in the area. In northern China in Liaoning province, a production brigade in Luda city area recorded the grain yield of 445 kg/mu in 1979 as compared to 195 kg/mu in 1958, - an increase of more than 100 per cent. In Hebei province, the Baichigan production brigade of Helu county registered an increase of 90 per cent in grain yield per mu in 1979 as compared to earlier years. According to the brigade leaders, about 18 per cent of the increase in grain yield was due to use of bio-fertilizers.

Apart from increase in agricultural productivity, biogas was also an incentive in promoting several food processing units and agricultural machinery operations, - particularly pumps and threshers, - at the collective level. In addition, there developed a number of manufacturing units of biogas accessories, such as, biogas stove, lamps, plastic pipes and other plastic fittings. In Zhejiang province alone there were 10 such manufacturing units run by the collectives. In Mianyang city, there were even exclusive shops run by the collective for biogas

accessories.

All these economic activities had ultimately an effect on the level of household income.The representative of the provincial biogas office of Zhejiang province gave an estimate of 30-60 yuan annual increase in household income in the areas where biogas was 'basically popularized.' In fact, some of the teams/brigades/communes in Zhejiang, Shanghai city, Sichuan province, Liaoning province and Hebei province were reported to increase the per capita annual income of the average rural household by 20 per cent after biogas popularization in the area resulting from increased productivity in agricultural production and other forward linkage effects on industrial production.

4) Improvement of Environmental Quality

As a result of anaerobic digestion, all human, animal and organic wastes and effluent were detoxified killing all eggs and pathogenic bacteria in it. The biogas popularization, therefore, had immediate beneficial effect on the environmental quality of the area concerned. In fact, the teams/brigades/communes where biogas has been 'basically popularized', did seem to be conspicuously cleaner and in general had better look as compared to the collectives where biogas had not yet been popularized. In the areas where biogas was popularized, for example, no animal, human and organic wastes could be seen in the open, thus effectively preventing the spreading of infectious diseases. There were very few mosquito infested places and Scistosomiasis, the menacing disease of rural China, was not found anymore. Baichigan brigade of Hebei province had no tapeworm infection since 1979 as compared to at least 10 cases annually earlier.

Besides the impact on general hygiene of the area, biogas programme also had indirect effect on the micro climate of the area. In the teams/brigades/communes of Mianyang city area, Sichuan province alone, for example, 23 million quick growing trees were planted by the people after biogas was popularized. This was possible because of the saved labour time of the people for collecting firewood earlier. With this new planting of trees and by checking deforestation resulting from the use of biogas as cooking fuel, the forest coverage of the area increased to 20 per cent in 1979 as compared to mere 8 per cent in 1967. In fact, tree planting as collective work in response to Mao's call for covering the countryside with trees, became vigorous after biogas popularization. The result of such collective action was conspicuous to the extent that it strikes the eyes of even a casual visitor in these areas. The increase in forest coverage has improved the general climate of the area as it has also controlled soil erosion. The integrated system of biogas technology utilization in the rural areas of China today was best illustrated at De-Yang county Horticultural Farm, Sichuan province. In fact, the model of this State run farm could be observed in many of the teams/brigades/communes where biogas has so far been 'basically popularized.'

The De-yang farm was a small model farm of 50 hectare producing mainly milk and fruit. It had 167 milch cows and 21,000 fruit trees. Since 1974, the farm had been using cowdung as raw material to produce biogas. There were ten biogas digesters with a total volume of 1680 m^3 ranging from 60 to 300 m^3. The average rate of production of biogas had been 0.2 m^3 per m^3 of digester volume per day.

Taking the advantage of the hillside location of the farm, the digesters were centrally located. The milking sheds and water storage tanks were higherup on the hill than the digesters, which in turn were above the orchards on the lower slopes. As a result, the cowshed manure could be flushed with fresh water by gravity into a manure fed tank and then to the digesters. The digested slurry was made to flow along the hillside to irrigate and fertilizerthe orchards.

The electricity was generated by operating a small biogas generating station installed in 1976. Subsequently three diesel sets of 6 kw, 12 kw, and 50 kw were installed with a total engine rating of 118 hp. These diesel sets were operated largely by biogas (70 per cent) and partly by diesel (30 per cent) by using a simple biogas-air mixer designed by Sichuan Provincial Farm Machinery Scientific Institute. By 1979, the cumulative power generated through this process was 55,340 kwh, which was mainly used for water pumps and lighting.

The electricity was used to pump water into 1700 m^3 water storage tanks which was connected with a gravity fed sprinkler irrigation system to provide controlled irrigation to 100 mu of orchard.

Biogas from the digesters was also supplied through iron pipes to a dining hall generator and to an ice factory. All the milk sheds and the three collective dining halls feeding 340 people were supplied with biogas as cooking fuel and lighting. Coal as cooking fuel had been completely replaced saving 120 tons of annual coal requirement of the farm costing 4200 yuan. Also saved was the coal-transportation labour of 700 mandays per year.

In fact, this farm was reported to meet 70 per cent of its domestic (cooking and heating) and electricity-generating needs by biogas alone. The electricity generation cost per kwh at the farm was only 40 per cent of the cost of electricity from the State network supply. Over the past three years, the savings on electricity had been 12000 yuan. The farm also saved during the last three years 16,610 kg of diesel oil, - a saving of about 95 per cent of the total diesel requirement of the farm.

By using gravity discharge of digested effluent the farm could save an estimated 30,000 mandays of labour since 1975. With this saved labour it was possible for the farm to diversify and put up ice and battery factories. Thus, through the integrated system of biogas utilization, the farm production base was developed manifold. In fact, the total production value of the farm in 1979 was 123 per cent more than that of 1978 and over twice that of 1973. In short, while the farm was reported to be a loosing concern in 1973, it showed profits of 6000 yuan and 37,000 yuan in 1978 and 1979 respectively.

There was a sense of achievement and confidence amongst the workers of the farm, particularly in Mr. Fu, the director of the farm. In fact, Mr. Fu had already worked out a future development plan. "Over the next two years the number of milch cows will increase and we plan to build an 800 m^3 biogas digester," said Mr. Fu. He also expected to raise the farm's level of self-sufficiency for electricity to 80-90 per cent and also to diversify into fish-hatchery as sideline business by utilising digester residues for feeding fish.

Collective Action

How did the collective implement the popularization programme? To a large extent the initiative for taking action lay in the hands of the decentralized local leadership of the collectives. Also there were the widespreadу apprehensions among the rural people in general about the biogas technology and its uses. Contrary to popular impression in many parts of the world, the director of Biogas Bureau of Mianyang City, Sichuan province, pointed out that the popularization programme has not been a smooth affair. "As late as in 1973", the director remarked, "the rural people in many parts of the country were far not convinced about the utility of biogas technology. They took a policy of wait and watch. At that time some people even strongly believed that the food cooked with biogas would bring disease and the bio-fertilizer would have no nutrient value because of energy lost in the process of digestion in the biogas digester."

It was, therefore, the major responsibility of the collective leaders to propagate the scientific basis of the biogas technology in order to educate the masses. Director of the Biogas Bureau of the Mianyang city area, enumerated four clearly delineated stages of action in the popularization programme at the collective level; 1) local experiments with local materials and designs suitable to local conditions in the first year, 2) enlarge gradually the number of experimental digesters within the collective in the second year, 3) peak year of popularization through a concerted collective planning and action, and 4) "basically popularized" in the fourth year.

In this whole process of action there were three crucial factors which were particularly emphasized. Firstly, continuous propaganda on the scientific basis of the technology. This was mainly done by organizing visits to successfully operating biogas digesters and sharing experiences with actual users in small-group meetings. In this process, Sichuan province, being the most successful area seemed to attract people from different parts of the country. In fact, even the commune members from as far as Luda city area of Liaoning province in northern China were found to have visited Sichuan province in order to learn about biogas technology. Of late, however, there were many areas in all parts of the country where biogas has been successfully popularized, which attracted such visitors from nearby areas. In some cases even technical assistance was sought to start with from the nearby successful areas. The fifth production team of Shantang commune, Zhejiang province, for example, invited a group of members from a nearby team in 1979, where biogas had already been popularized to share experiences and learn.

The second most important factor was the local experiments. A detailed account of such local experiments and its organization in the collectives of rural China has been recorded in the next chapter. Some critical features of these local experiments may be mentioned here. Firstly, it seemed to be a continuous process institutionally legitimised by the collectives and carried out solely by the local people living in the area. Secondly, it has been a deliberate strategy to actively involve the masses in scientific experimentation and therefore no professionalization/standardization of the technology was promoted.

Lastly, these experiments were used to generate locally relevant data for education and training of the masses. In many teams/brigades/communes weekly training-cum-exhibition programme for the masses were organized weekly, particularly at the initial stages of the popularization programme. The data generated from these local experiments were extensively used in such training-cum-exhibition programme.

As mentioned earlier, the first experiment was found to be initiated by the collective leader. Mr. Zhou Liangen, the Chairman of the Evergreen commune, Zhejiang province, for example, started the process in the following manner. Mr. Zhou was a leader of a production team in the same commune when he was selected by the brigade to attend a meeting on rural energy (solar and biogas technology) organised by the Haugzhon Municipality office in 1974. He was then trained by the Municipality office on biogas technology in 1974 and in 1975 he along with a group of veteran members (skilled in masonary and house-building) of the team built two small experimental digesters of 7 m^3. Of the two, one failed due to loose soil down below. In September 1975, Mr. Zhou was sent by the brigade at the suggestion of the Municipality office to a Shanghai county where the soil conditions were same as in his team. He identified a particular kind of digester design in this Shanghai county suitable for the local conditions in the area. Meanwhile the failed digester was repaired by the municipality. On his return from a Shanghai county after five days, the team decided to set up several small experimental digesters. The job of construction was assigned to a group of local veteran team members with experience in house-building.

Within two years, biogas was 'basically popularized' in the team covering 36 of the 40 households. The process seemed to be almost same in all the rural areas where biogas has been popularized or is being popularized.

What was noteworthy, however, was the fact that the local experiments continued with various designs, building materials and use of biogas and bio-fertilizers. Interestingly, in many places they have started experimenting with the Indian KVIC design with cement gas holders, either separate or floating type. The third important aspect in the popularization programme was to build up a core of technical manpower within the collective. As a matter of fact, lack of adequate technical manpower was reported to be one of the major constraints to rapid expansion of biogas popularization programme in China today. Unlike in Indian villages, there were production teams (equivalent to a village) without any skilled mason or housebuilder.

The construction of biogas digester required certain amount of technical skill. Thus a programme of technical training was one of the important facets of the biogas popularization movement in China. Presently, there were teams or brigades having only one properly trained technician. The Beishu production brigade, Liaoning province, for example, had only two trained biogas technicians to serve 135 households. With about 140,000 rural households in Mianyang city area, the most successful area in Sichuan province, had so far only 8000 trainees who participated in the training programme organized by the Biogas Bureau of the city. The director of the Biogas Bureau, Mianyang city area considered lack of

adequate supply of trained technicians as the major problem faced by his office. The Yongking commune, of the Mianyang city area, for example, had only 30 trained technicians to serve 3,331 households. According to the director of the commune, it needed at least 100 trained technicians immediately, which they planned to have by the next one year.

The biogas technician-training programme of varying durations were organized at the provincial, county, municipality, city, district or the commune levels. It was the responsibility of the teams or brigade to select a specified number of members to participate in the training programme. The Liangzhon commune, Zhejiang province, for example, was reported to organize four training programmes in the last three years, in which 300 trainees participated. In some areas, selection of the trainee by the collective has been developed into a rigorous planned process over the years. This became necessary because of the competition among the collective members for the biogas technician training programme. The competition was observed to be particularly intense in those areas where an incentive wage rate was 10 per cent higher than the average rate given to the technicians. The selection procedure adopted by the Yongking commune, Mianyang city area, Sichuan province, for example, was to administer a selection test by the communes' administfation committee to the eligible candidates with minimum qualification of junior or middle school graduate and those who had shown some aptitude and interest in biogas and house-building technology. The trainee thus selected on the basis of the test results were sent to the training programme held usually at the district and commune level by the city Biogas Bureau.

The total period of technical training for a biogas technician training for a biogas technician was around one year spread over a period. Thus, the biogas technician of Yongking commune had attended five short-term training courses, - three times at the district level and twice at the commune level. The instructors of these training programmes were experts usually from the local University, or technical institutes. As a final test of the training programme, the trainee had to actually plan and build a digester in the field which must operate properly for about a week. Also the trainee should be able to make burners, stoves and other biogas accessories. Only after successful completion of the final test, the trainee was given a certificate by the Mianyang city Biogas Bureau. All along the training programme, the collective was reported to bear the travelling and maintenance cost of the trainee. In fact, the trainee continued to receive the average work points during the training period. The cost of organizing the training programme was borne by the provincial or city biogas office.

At the collective level, a biogas administration committee or group was formed with the biogas technicians and a veteran collective member as a leader. Usually, the leader of the team/brigade/commune (who was most often a training technician) and one or two biogas technicians were the members of the biogas administration group of the collective.

It was the responsibility of the biogas administration group to supervise and actually construct the biogas digesters in the collective. Following the collectively decided plan, the technicians were given a target number of digesters to be constructed within a specified period of time.

If the technicians could surpass the target, they were given extra work points as incentives. On the other hand, if there was faulty construction of the digester and if the digester did not operate properly for atleast a week, the technician responsible for construction was given less work-points as disincentive. It was the responsibility of the technician concerned to repair the faulty digester for which no extra work-points were given to him. If the digester failed due to lack of proper maintenance, it was the job of the technician to supervise and repair for which he was paid the usual work points. The households of a collective were reported to contribute 0.60 yuan per year to the collective fund towards the cost of repair and maintenance of biogas digesters.

However, the programme as discussed above was not found to be practised in all the areas. In fact, for most of the collectives, the financial risk of failure was still borne by the private rural households. The Chinese officials, however, asserted that the system has already been contemplated as a national policy in order to cover the financial risk of failures.

Problems and Prospects

There was no doubt that China has made remarkable progress in biogas development programme and its mass level utilization within a very short span of five to six years. Presently, however, the Chinese programme of biogas popularization is plagued with two critical problems, first, technological and second, ideological. The technological problem arose basically from the climatic conditions in China. The present biogas technology as found in China today is not sufficient to meet the fuel needs of the rural households fully in the winter months when the

anacrobic fermentation process is slower. This problem is more acute in the cooler region of northern China. Hence, the thrust of the biogas popularization programme has so far been far more impressive in the warmer regions of southern China. In fact, a small household digester in northern China could presently meet the annual fuel needs only for 6-7 months, while in Southern China it could meet for 8-10 months. One way to solve this problem, as some of the progressive and rich collectives were planning, was to build two small digesters per household. The Yongking commune, in Mianyang city area, for example, have already planned to cover all households (3,331 households) by installing an additional digester in the coming two years. Already 400 households of the commune have built the second digester. Apparently, the second digester was built by those teams/brigades of the commune and for those households which were relatively richer than the others.

The decision about the second digester, however, adds to the already existing problems of ideological contradictions in relation to rich versus poor discrimination. The general pattern of biogas popularization programme in China has so far been from areas nearer the cities to the hinterland. In other words, as Professor Wagner aptly puts it in his paper presented to the Chinese experts during our visit, "This (the devolution pattern of biogas use) corresponds to patterns of income, accessibility, education and direct access to city leadership. Thus at present biogas very explicitly increases rather than decreases the large differences between different areas. Thus it is both fact and policy at present that biogas is the result and not the reason for the increased incomes of the popularized collectives." This will inevitably

create tensions and political problems, especially since the recent substantial state support have been mainly flowing into the richer areas.

The response of the Chinese experts, officials and political leaders to this criticism about rich poor differences was surprisingly vague. All of them, however, maintained that the strategy of popularization had to be a "step-by-step" process due to resource constraints. The Director of the Biogas Bureau of Mianyang city seemed to avoid the question by simply saying that the present strategy was to enlarge and diversify agriculture and other business in the poorer areas and there was a "special emphasis to popularize modern technologies in the poorer areas." "The Director said, I do not think that the poorer households will slide back and the gap between rich and poor will increase. I think the poorer areas will catch up over time." The Chinese response to this critical problem was not quite convincing. It clearly showed that they had not yet been able to find an answer to this ideological contradiction. They seemed to strongly believe that the answer lay in the leadership qualities of the collective leaders and the people, perhaps following the example of Dachai. Nevertheless, they seemed to appreciate the suggested strategy of more concentrated efforts with larger state fund flow into the poorer areas. How much of this appreciation would be translated into action was not known. Till such time, the problem of rich-poor differentiation would continue to plague the biogas development programme in China.

4 PEASANTS' PARTICIPATION IN SCIENCE AND TECHNOLOGY

> "Correct ideas come from social practice, and from it alone, and from the three practices of class struggle, struggle for production, and scientific experimentation" -
>
> MAO ZEDONG

Local Experiments: The Kingpin

During our month-long visit to different communes, production brigades and production teams we were intrigued to find scientific experiments being conducted and managed by the local people almost as a routine. At a meeting organized in Shijiagshuang to clarify certain doubts a German economist of our team put forward the question, "What is meant by these experiments and who controls them? Where are the published data of these experiments? Why are there no modern gadget to measure the results?" For him, with his background of Western tradition, a scientific experiment is essentially an institutionally organized effort by suitably qualified people. The Chinese experts seemed puzzled and then tried to explain their position in the following words:

> These experiments are not the kind of basic scientific researches as you are thinking of. These are mainly field experiments to solve local problems with the help of local resources. We do not think it is necessary and proper to control these experiments. Rather, we encourage it as a mass movement in scientific pursuit, the results of which are used as collective experiences. The experiments are basically problem solving in nature with direct relationship to action or implementation providing mass experiences in science and technologies. In these experiments, it is not always necessary to invest in sophisticated mechanical gadgets. Wherever it is absolutely necessary, it is being used, as you have seen the gas-flow-meter of the biogas digester. The important thing for us is the process through which the masses gain scientific knowledge collectively, not the correct measurement to the last decimal point.

The German Professor was not convinced. To understand the Chinese attitude one has to know the meaning attached to "scientific" socialism in today's China.

Technology Orientation

The Chinese farmers are known to be hard working, ingenuous in agricultural technologies, particularly, in relation to utilization of organic manure, labour intensity and various farming practices by upgrading local techniques. Elaborate accounts of these unique and perhaps in many ways distinct characteristics of the Chinese farmers can be found in various scientific and travellers' documents published in the 16th/17th centuries. In fact, the reverence and respect of Chinese peasants for agricultural technology is deeply entrenched in their tradition. To illustrate, about 2000 years ago, a high royal official designed a canal-irrigation system by criss-crossing the rivers originating from the mountains in Kwansien county of Sichuan province. After his death, his son, also a high royal official, continued his father's work in building the canals. Apart from building canals, they also wrote books and scriptures detailing rules of thumb on irrigation technologies which was passed down from one generation to another. Even today the farmers of this area are well versed in irrigation technology. These men eventually became mythical figures and the peasants built a temple in their memory in Kwansien county. Looking at this temple today we cannot escape feeling the tremendous social importance attached to agricultural technology in China. What is interesting to observe is the way in which this inexhaustible wisdom of masses are channelized into modern scientific knowledge.

One of the most striking things one observes while talking to a Chinese farmer today is their level of scientific and technological knowledge of modern agricultural practices. We observed this everywhere, whether it was the rich agricultural regions of Southern China like Zhejiang, Jiangsu and Shanghai, or the Eastern province of Sichuan, or the agriculturally poor areas in Northern China like Liaoning or Hebei provinces. Also, the same trend was observed in areas infrastructurally well-connected around the cities or in the interior mountainous areas. Whenever a Chinese farmer, for example, was asked about doses of fertiliser used, he never answered in generic term like "vilayti khad" as is most often used by even the most progressive Indian farmers. He would talk in terms of N,P,K and would clearly differentiate between different kinds of fertilizers, such as, di-ammonium phosphate, urea, superphosphate. He would talk about the substitution ratio between organic manure and chemical fertilizers and the reasons thereof, as well as, the reasons for varying doses of manure and fertilizers for different crops.

A very ordinary looking old farmer in the fourth production brigade in Mianyang county explained in detail to the German soil-scientist in our team why only sludge of biogas digester was used in groundnut cultivation and not the slurry. A young farmer of Hebei province explained the difference between humic acid and humus, and described the process of making humus as manure in order to save the cost of buying superphosphate. The most interesting experience was, when a middle-aged farm-woman in a village in Sichuan province explained the nutrient value of ash obtained after burning agricultural wastes and confidently argued with us the

possibility of completely replacing chemical fertilizers with organic manures without loosing yield potentials. All mentioned above were educated upto the primary level and only the young farmer had undergone formal education.

The Local Experiments

Most of these technological and scientific knowledge was generated through local experiments conducted by local people. There was practically no outside interventions or control by any organised research institutions or development organization as is commonly found in most developing countries. But the fact that there were local experiments conducted by local people was not so important (since it can be observed in almost all societies) as the regularity with which these experiments were conducted and then the results were integrated with practice at the mass level. The whole process of this integration was institutionalized as a collective action. Some examples of these experiments observed during our visits in the rural areas may be cited here to clarify the point.

a) A research team was set up along with a production team (usually a village forms a production team)in the fourth production brigade of Mianyang city. In 1973-74, there was dissatisfaction amongst the team members about the quality of grain seeds received from the commune. Three team members were given the responsibility for controlled seed production. These members had 12 years of schooling, that is, they had studied upto the senior level. They were given two Mu* of land

* 1 Mu = 1/15 hectare = 0.16 acre.

to do experiments on seed production. Thus, a research group was formed within the team. Subsequently, the team members heard about biogas digester, but most of them did not believe in the benefits of digested manure of biogas plants. The research group took the initiative to do experiments on the effects of digested manure application on crop yield.* At the time of our visit, the research group had completed two years' experiments with varying doses of fertilizers and digested manure from biogas plants on rice and wheat. They had planned to conduct these experiments for five years. However, after two years, the experimental data on the affects of biomanure on soil nutrients and crop yield provided them enough material which was then published by the Mianyang city office. The experimental results on the two Mu. land gradually came to be known to all team members and thus the biogas plant came to be established.

To a trained soil scientist and agronomist, these experiments might seem to be not perfectly laid out. But German soil-scientist of our team agreed that even with these imperfections, results were convincing.

b) A production team in Sichuan province had set up a small research laboratory in the corner of its conference hall. An old man of this team, a trained veterinarian was asked to experiment on the fermentation process of various locally available organic matter for gas and manure production.

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*During our investigation we were told that initially there were some objection raised by team members about giving same working points to these three youngmen for the research work which they considered lighter than the regular farm work. However, after realizing the value of their experiments, no objections were raised. It became a collective responsibility.

He was paid by the team for his research work. The laboratory had very simple equipments - a few large glass jars, plastic pipes and corks, and a graduated water-column glass tube. One side of the wall was laid out neatly with plotted graphs and charts showing data about gas yields from various fermenting organic matters in the laboratory conditions as well as in the field conditions. Also plotted in the graphs/charts were the 6 large fermenting pits of waterhyacinth. On one side of the laboratory there was the bed of the researcher strewn with books. The whole set-up was too simplistic to impress us until we were told that because of the oldman's work for last 2-3 years the production team was able to produce surplus of high quality organic manure and were able to replace completely chemical fertilizers as well as save 30 per cent of the total cost on electricity supplied by the State.

c) All the production team/brigades/communes visited by us had set up experiments on the optimal doses of fertilisers and manures to maximize yield under local condition. On actual field inspection of the experimental fields and on enquiries from the local farmers managing these experiments the data on experimental results were given:

1) A production team in Zhejiang province did experiments to find out the effect of biomanure on wheat yield. It was found that 2500 kg of biomanure as basal dose plus 1500 kg of biomanure as top dressing plus 15 kg of liquid ammonia water, the wheat yield obtained was 250 kg per mu; as against 180 kg per mu of wheat yield obtained by using same doses of biomanure as top dressing and liquid ammonia plus 2500 kg of sheep dropping as basal dose.

2) Similar field experiments were found to be conducted by four different production teams in Sichuan province. In one case, the soil analysis was done after using sludge as manure for a year and it was found that organic matter (content) increased from 3.6 to 6.6 per cent total nitrogen increased from 2.8 to 6.5 per cent, total phosphorous increased from 3.3 to 4.7 per cent and total potash increased by 3.7 per cent. Another production team found that after three years of application of sludge, the volume of the soil increased by 0.12 gm per cubic meter. In the third experiment by another team, it was observed that sludge application increased maize yield by 28 per cent and paddy field by 5.2 per cent. Lastly, a team reported that their experiments with sludge application resulted in an increase of 9.1 per cent in paddy yield and 13.2 per cent in maize yield.

3) In an agricultural implement workshop of a production brigade of Liaoning province in northern China, varieties of handtools like hoes plows, and threshing equipments were observed which were quite different in angles and shapes from those found in the southern provinces. On enquiry it was reported that field experiments were conducted with these implements to find out their suitability under local soil and weather conditions and whether they could be manufactured locally. The data were generated in a simple time-motion studies during actual field operations by the team members. The tools with greater efficiencies were selected for popularization. The workshop even conducted experiments on optimal use of tractor for various field operations. All these ideas of experiments were generated locally according to local problems and the experiments were conducted with

local initiative and designs. Similarly, during our visits to the commune run brick, cement and food-processing factories, we often came across experiments being conducted on building materials, machineries and processing techniques.

4) In all the production teams we found nurseries of quick growing trees maintained by the team for man-made forestry programme. Plant materials of different varieties were collected both locally and from other parts of the country for experimenting their suitability under local conditions. Almost all villagers could tell the names of the trees planted along the roads and their maturity period. No forest department officials were involved in the whole process.

The Rationale

Lastly, let me mention an experiment on biogas digester in a production brigade which led to a very animated dialectical arguments about professionalization, standardization and economic efficiency. The Chungchang brigade of Hebei province of northern China started building small-size household biogas digester in 1974. There had been two failures due to faults in designs and construction, which resulted in losses to private households who had invested in it. After the first failure, the brigade members rejected the idea of building digesters for one year. Another set of experimental models were built and popularized in the brigade, which again failed, but the ratio of failures was less than in the first lot. The brigade leaders decided to go ahead with further experiments and popularization. Some brigade members visited Sichuan province

of southern China where the digesters were popularized successfully. Two brigade members undertook training as biogas-technicians at the commune and provincial level training programmes. The brigade did not stop experimenting. At the time of our visit, the brigade had 162 new digesters for a total population of 178 households. We were shown an experimental digester under construction, by a household, which to my technician colleagues seemed to be doomed for failure.

The whole thing seemed to many of us fruitless and uneconomic. There seemed to be an un-necessary emphasis on localism (the experiment was basically on using locally available building materials like lime and clay instead of usual brick and cement-concrete). Consequently, we questioned the local leaders and experts accompanying us about the experimental design. Who bears the risk of failure? Why do not they standardize the design? Why do not they professionalize the technicians? Why do not they conduct some basic research to evolve a full-proof standard design? A West German engineer colleague even remarked: "I have so far heard and read that in a socialist system there is no fixed responsibility for action. Now I know what it means. This experiment is a glorious example to confirm the hypothesis."

The team member building the experimental digester, however, was confident that the experiment would eventually succeed. During hour-long discussion between us and the Chinese experts and local leaders, following points emerged which would help to clarify the praxis in today's China:

1) For technology development and popularization in China, the foremost emphasis was on mass mobilization and action. In their scheme, basic scientific research took a second place to applied problem-solving experiments under local conditions. Thus, unlike West Germany and India, they did not start with selling up big research institutes manned by highly trained professional researchers. Their starting point was mass experiments under local conditions with a technology which was at least minimally functional and useful.

2) They strongly believed that scientific innovations and ideas could be generated by the working peasants and workers, not necessarily always by the intellectual and highly trained professionals. Therefore, they relied mostly on the initiative, creativity, and experiences of masses of peasants and workers. The collectives and the State helped the process by financing propaganda and technical training, while the households, financed themselves. The experiments were done by the private households.

3) It was absolutely essential that the communes be self-reliant as far as possible. So the technologies would have to be locally manufacturable with locally available materials and also should be locally repairable. Standardization and professionalization of the system would bring dependence and block local initiative and creativity. In addition, it would prevent the learning value through mass-experiences in developing proper attitudes towards and confidence in modern scientific and technological principles.

4) The social objective of China differed from other countries. They wanted the workers and peasants to acquire knowledge and confidence in modern technologies through continuous practice and discussions. The state was willing to invest resources or money in this process, even if it was uneconomical in the short run. For example, though the experiment of backyard steel making during the Great Leap Forward in 1958 was economically and technologically a failure, socially China was not a loser. It instilled a new confidence amongst her people regarding modern technology and science. Different kinds of experiments that were being conducted today in rural China grew out of the confidence gained during the Great Leap Forward.

The whole argument of our Chinese friends can be understood in the light of Mao's thought on science and technology, which still seemed to influence today's changed political scene. Such Mao citations as, "the lowly are the most intelligent, while the elite are the most ignorant;" "correct ideas come from social practice, and from it alone," "the origin and development of the sciences has been determined by production from the very beginning," are aptly relevant in this context.

In spite of the fact that our Chinese friends made much ado about scientific experiments by ordinary workers and peasants, many scientific ideas and innovations originated from professional experts or institutions. I happened to get hold of a 1974 issue of a monthly journal on science called K'o-hsueh Shih-yin (Scientific Experiments), which was published with the aim to popularize science and technology amongst the workers, peasants and soldiers. The 1974 issue of this journal published 226 articles on scientific topics, of which 72 were on agricultural experimentation.

Out of these 72 articles, 58 were on popularization of basic scientific knowledge, 7 reported innovations by experts and 7 dealt with worker innovations. Thirty out of 72 articles were written by members of either a commune, brigade, or by a production team. A provincial level official informed that for last three years the Provincial Science and Technology Committee, - the administrative body overseeing all research activities in the province, - was spending more than 50 per cent of its annual budget on research through professional scientific institutions and many of these research problems were fairly basic in character. There is, thus, some contradictions and perhaps a mixture, so far as R & D on science and technology is concerned in today's China. In this connection, a very interesting information was given by a senior professor of an Agricultural University in Southern China. According to him, a large part of the basic research was done in the defence department. In fact, most of the scientists were employed in the defence department. The Universities, on the other hand, were mostly engaged in practical problem solving researches, which were mostly gathered from field experiences by the concerned departments and passed on to the universities for research through Provincial Science and Technology Committee. He also mentioned that the trends have been changing now in China, particularly, during the last 2 to 3 years. It was possible for many universities to do some basic research on problems of their own choice.

It is true that this emphasis on developing scientific attitude amongst the working masses has reduced "science" to a large extent to the level of "popular science." One may argue about the desirability of such a

policy in today's China. Many Chinese experts and commune leaders were confident about the validity of continuing the "mass science" policy in view of the traditional socio-economic milieu in pre-liberation China. What is, however, most interesting are the methods employed in China for science popularization and technological mobilization.

Popularization Methods

Technology mobilization and popularization programme in China follow a certain well-coordinated stages of action in which propaganda and research/experiments are closely integrated. In the whole process, there is a deliberate emphasis on local leadership, local creativity, and local resources with minimum of external interventions from either party or bureaucracy. There are no voluntary agencies or extension agents or functionaries of various departments of bureaucracy trying to popularize science and technologies, as we find in India. Instead, the responsibility for popularization and mobilization clearly lies on the shoulder of the local masses and their leaders in the commune/brigade/team levels. The masses and their leaders themselves are the change agents. During our month-long visit, we never came across any external agents, - official or non-official, - who was stationed or working in the rural areas. This does not, however, mean that external experts from official departments or institutes do not visit the rural areas. The experts from universities, technical institutes, research stations, provincial, county, municipality or city bureaucracies, for example, were invited as instructors in various training programmes. These programmes were organized at the district, county, commune or brigade levels as a part of the popularization programme.

A production team in Mianyang county of Sichuan province reported that a researcher from the fertilizer producing Municipal Agricultural Production Unit visited the team every year to test soil and recommend fertilizer doses as a part of a sale promotion campaign of his unit.

Propaganda

Technology mobilization programme apparently starts with a propaganda campaign using all possible media and methods mainly focussing on the scientific basis of the technology and its benefits. Articles appear in the national or local newspapers and journals, and also in the party hand-outs, visits are organized to places where the technology is successfully used, meetings are held to share experiences between users and non-users, mobile pictures shows and exhibitions are held, and the party cadres holding leadership positions in the communes, brigades, or teams are briefed in the meetings, conferences or seminars.

Interest of Local Leaders

Beyond this basic propaganda stage, all other following stages are left to the local leaders. The interest of the local leaders in promoting a particular technology depends upon the level of requirement of the masses, local availability of resources in terms of money, raw materials and skilled manpower. However, it is these local leaders (mostly party cadres) who take the responsibility of convincing the masses and arriving at a collective decision in favour of trying the technology.

Technician Training

It is at this stage, depending upon the complexity of the technology, the collective decides to send one or two members for technician training programme organized usually at a higher level (mostly at the commune/district/city/municipality/provincial levels). The members selected for technician training programme should have some basic minimum formal qualifications stipulated by the collective, show interest in the technique and in some cases must successfully compete in the test specially administered by the collective. The cost of getting the members trained as technicians are borne by the collective.

Local Experiments

The next stage in the popularization process is to set up a model experiment of the technology in the local area with the help of the trained technician (wherever necessary). In accordance with the experiences gained by the masses in the model experiment, the scale of local experiments are enlarged in terms of numbers and varieties.

Mass Popularization

The experiences and data on the local experiments are shared by the mass which forms the peak thrust for popularization. It is an intensive process in which local experimental data are analysed and pros and cons are debated locally. It is relevant to mention here that all production teams (in a village) had a kind of conference hall (usually ex-landlords house) which were used for exhibition-cum-technology popularization

meetings. During the peak period of popularization programme, demonstration-cum-discussion meetings were held in the hall almost every evening with the local masses to share experiences of local experiments. In Chinese parlance, a household level technology was said to be basically popularized if 70 per cent of the households of a team, brigade, or commune practice or adopt it.

Comparison with India

It would be worthwhile to analyse some of the key elements in the Chinese methods of technology mobilization as discussed above vis-a-vis Indian situation. There are not much difference in this stage of action. The key differences lie mainly in the content, emphasis and organization of actions. Firstly, in the Chinese system there is hardly any direct subsidy from the nation or state. Apart from the cost of basic propaganda, organising the training programme and part of the first model experiment, which are borne by the State, the whole process is managed and financed by the individual households and the collectives. Secondly, as mentioned before, there is a total dependence on local initiative and leadership rather than dependence on external interventions and assistance either in the form of official or non-official agencies as in India. Thirdly, there is a continuous emphasis in the Chinese system to link the technology with mass experiences and organizations (collectives) under local conditions through institutionalised local experiments. In comparison, India emphases transfer of technological knowhow from external system (e.g. research institutes, experimental stations) to the

beneficiaries again through a network of official-non-official agencies which are basically external to the beneficiaries. Fourthly, unlike in India there is always an attempt in China to emphasize professionalization and standardization in the whole process. However, in recent years there is some amount of professionalization in the system. The technicians training programmes, the rigorous and competitive way of selecting members for training and more importantly giving higher incentives to trained technicians (10-20 per cent more wage rate than the ordinary workers/peasants), are some of the indication of the trend towards professionalization. It should be noted, however, that this tendency of professionalization by differentiating incentive patterns was not universal in all communes and regions visited by us. It seemed that the relatively richer communes or regions offered better incentives to the trained technicians. On the other hand, all the collectives at different levels had small special management groups composed of technicians and other team members related to a particular technology to oversee the administrative-technical aspects of the technology mobilization. Lastly, unlike in India, the whole process of mobilization in China is based on positive valuation of every unit of labour giving full consideration to the opportunity cost of labour. What it means in practice is giving working points by the collective to all the members putting their labour in the effort of starting for example, from organizing meetings to actually working on an experiment. In other words, no labour input is asked for or expected to be free and voluntary.

There is, however, a similarity between Indian and Chinese systems, which is perhaps universal in all kinds of societies. It is the protection from an 'umbrella' of hierarchies of political leadership. Chairman Mao's championing publicly the Dazhai experiment of commune system and presently Chairman Hua's championing the biogas digesters are certainly a great support for the people concerned just as Indias' Prime Minister's public endorsement for a particular kind of technology could be. This does not mean that the umbrella protection is evenly distributed to the same degree throughout the political hierarchies. There are and could be differences in conviction in the hierarchies resulting uneven local support and therefore unevenness in popularization of technologies in different regions. But the point made here is the fact that just as in India, the concerned technicians and administrators in China would inevitably know the persons in the politico-administrative hierarchy who supported the particular technology.

Technology Policy and Practice

What is then the technology acquisition and technology promotion policy in today's China? In spite of emphatic pronouncements by the party leaders in the fifth National Peoples' Congress on Four Modernizations last September, the scene is not yet very clear. On the one hand, there is Deng's open-door policy towards foreign technology and foreign experts. On the other, there is a very judicious and pragmatic approach towards importing foreign technologies emphasising self-reliance. To many foreigners these conflict and contradictions seem too large to reconcile and are often exasperating. To the Chinese, however, the whole thing

seems to be natural and perhaps has made them open for discussion. To most Chinese, "Westernization" in terms of science and technology has been a historical movement leading to Mao's emphasis on "learning from other countries" in his article On the Ten Relationships (1956). The underlying political and economic philosophy in this movement has been extremely pragmatic in the sense that it emphasises using modern, i.e., "Western" technologies to strengthen the core of Chinese tradition and social system. Thus, the Chinese officials and leaders with whom we discussed this issue were not confused with Deng's 'open-door policy' to achieve four Modernizations. Neither, did they think that the new policy was too far away from Mao's thought. But there was no denying the fact that the highest level political 'umbrella' provided for the 'open-door' policy had several implications for the attitudes and practices at various levels.

For one thing, this 'open-door' policy and the political 'umbrella' have cleared the confusion about the choice between soft and hard technologies, which is still not settled in India and in many other developing countries harnessed by 'Schumachers' of the industrialized world. The Chinese took a very pragmatic and comprehensive view regarding the choice of technologies. In a meeting, for example, with a group of national and provincial level rural energy experts at Shijiagzhuang, Hebei province, one of my West German colleagues presented a paper on 'Energy Debate' in Germany for discussion. The paper essentially contained Schumachsian philosophy of "small is beautiful", decrying the pernicious effects of industrialization

and "hard" technologies on human societies. With beautifully coined jargons and slogans, the paper criticised the nuclear energy and other hard industrial technologies and pleaded for soft (intermediate/appropriate) approach towards choice of technologies.

The Chinese reaction during the presentation of this paper was skeptical. The reason became clear in the debate that followed the paper. The Chinese experts unequivocally stated that as far as their country was concerned they would welcome any modern sophsticated technology in order to achieve four modernizations particularly, industrialization which in turn would improve the standard of living of the masses. In their scheme of choice, as they reported, nuclear energy technology was not excluded. According to them the choice of technology was determined by the availability of resources, skilled manpower, and the existing objective conditions of the society. To them, it was not the technology which was to be blamed for all the evils that prevailed today in the industrialized countries. What needed to be blamed was the capitalist socio-political system which used these technologies in a particular way. This point was clarified by citing example of the way motor car technology was used by China as against the Western countries. There was no private ownership of motorcars in China which made the cities in China less dangerous to masses and far less polluted than any Western city.

Comprehensive View

What did the Chinese mean by comprehensive or integrated view of technology within prevailing objective conditions? Basically, they meant

what we call systems approach. To illustrate, I would discuss their views on rural energy and farm mechanization (tractorization) which I specifically investigated.

On rural energy technology, the present national policy is very clear. There are basically two kinds of technologies, - hydel power and biogas digester. The choice of hydel power technology was made for obvious reasons of exploiting natural river system. China is blessed with a network of riverine system. Hydel power could be generated by controlling the river system which would not only provide energy, but also better irrigation system and control of flood for agricultural production. More importantly, hydel power was considered to be a technology in which masses of rural manpower could be mobilized for both collective and private household benefits and experiences.

Similarly, biogas technology was not chosen for the emotional love of "small is beautiful." Biogas technology happened to be the easily available technology which could be utilized and linked with several private and collective benefits. Apart from solving the problems of cooking fuel, it served the purpose of controlling the menacing disease of scistosomiasis, increasing manure production for collective agricultural production, saving labour, agricultural water for paper manufacture, increasing forest resources and lastly for the purpose of providing incentives for pig raising.*

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*Detailed account of biogas as a source of rural energy in China, is dealt by this author in a separate article.

But the Chinese experts insisted that even in biogas technology they were not only interested in, as proposed by some West German Experts, in the small household digesters, but also in big size modern digesters for sewage and water treatment and for industrial uses. Thus, they were as keen to know the details of the technology of a modern 1200 m^3 digester in Bremen, West Germany, as in the Indian technology of small household "gobar gas plants."

On farm mechanization, particularly tractorization, the Chinese policy of "go-slow" was not because they did not want to mechanize agriculture, but it arose from their simple assessment of the prevailing objective conditions. The necessity and benefits of tractorization was clearly understood and desired. But at the same time the impact of tractorization in creating surplus labour in China's labour-intensive agricultural system was fully considered. Thus, the present policy was first to create a ring of small and medium sized industries servicing agriculture around the communes to absorb the surplus labour expected to be generated in the event of tractorization. In consequence, what was observed today in China was, on the one hand, a renewed emphasis and budgetory allocations on small and medium size industries in spite of "open-door" policy of four modernizations, and on the other, a simultaneous but cautious approach towards large industries and modern technologies. For example, while work on design and manufacturing of tractors in the Agricultural Machinery Department of Zhijang Agricultural University was suspended, at another national level organization the work was already in progress on improvement and standardization of tractor technology for mass production. Also the process of collecting data about the estimation of surplus labour in the

event of tractorization was on in which the commune members themselves were involved in collecting data.

Apart from the integrated view of the backward and forward linkage-effects of a technology, the Chinese emphasized another kind of comprehensive view. This was in relation to benefits of a technology in achieving a balance of interests between state, collective, and private individual households. A technology was assessed in terms of its inherent characteristics which could be harnessed to integrate the interests of three above mentioned levels. In other words, every level should be able to enjoy certain benefits in a way that the interests of all the levels were matched by their participation. In this delicate balance the collective was designed to play the role of a facilitator and promoter. The most interesting thing to observe in China was not the two-fold comprehensive approach towards technology policy, which is said to be followed in India and other countries, but the process of actually implementing this approach by involving the masses in the planning and implementation. It was not only the government bureaucracies at various levels who were conscious and involved in the planning, the individual farm households and collective leaders were also found to be consciously planning for maximizing the linkage-effects and sharing of benefits.

There were other visible impact of Deng's open door policy in today's China with some long term implications on science and technology. Firstly, there seemed to be a technology fix in the minds of the Chinese experts and technicians in the sense that they gave the impression

of being overtly preoccupied with hardcore technology questions with a total lack of interest in socio-economic aspects of foreign countries, at least, in the formal discussions. This could be interpreted as a single minded approach of the Chinese to the purpose in a formal set up of basically a technology-exchange mission like ours. But even in the informal discussions with the students, teachers, bureaucrats, commune leaders and common farmers there were number of queries on technology. Secondly, it was clear that the present Chinese policy was to get more and more Western-trained Chinese technicians. In fact, during the last 2/3 years many Chinese students were sent to Western Universities for training. Characteristically, all these Chinese students studying abroad were reported to be in the stream of basic sciences, none in social sciences. When it was pointed out that the Chinese students abroad lacked interest in other than their subject of study, the Chinese were not surprised. To them, it was expected and it should be like that. They even proudly remarked that it was because of the diligence and hardwork that the Chinese students abroad were doing well in their results, which was surprisingly well-known to even a commoner. Neither they seemed to be very much disturbed if some of these Chinese students stayed back abroad. In fact, this often happened. A Chinese professor explained that in a way this was good for the country, since the Chinese could do better with better research facilities abroad, which in turn they would transfer to China. With their strong attachment to their country, these foreign-living Chinese scholars and experts were reported to have volunteered to spend some time in China in a teaching assignment. There seemed to be no ideological

or bureaucratic bottleneck for the overseas Chinese experts to come to China. On the contrary, it seems to be a tacit encouragement from the present government.

The pragmatic approach of China's technology policy has made out the Chinese experts to be very hard bargainers in the negotiations for acquisition of foreign technology. This view was confirmed by a member of foreign technology experts who met informally during our visit in China. It was their common experience, that the Chinese were extremely demanding in detailed data on technologies. On the other hand, the Chinese often failed to reciprocate with their own data either deliberately or simply due to lack of analyzed and consolidated data. The Provincial Minister Sichuan, in-charge of the provincial Science and Technology Committee readily agreed that China lacked in comprehensive data on various aspects of her own system. Much of the data were locally generated and locally published without being consolidated at any apex level. Some of these locally published material were merely meant for internal circulation and therefore presumably kept out of public view.

It was interesting to observe the Chinese insistence for accuracy of scientific data. Due to lack of anavailable data one of our West German team members gave some guesestimate figures about the Chinese biogas technology. The Chinese experts present in the meeting were visibly upset. More my colleague insisted that he could not change his guesestimate without some solid proof of data, more the Chinese looked disturbed. It was quite apparent that my colleague's guesestimate was quite off the mark and that was what disturbed the

Chinese. Perhaps, my colleague used these figures deliberately to provoke the Chinese and to enforce them to supply the data which he thought they were keeping to themselves. It could be partly true or totally wrong assumption of my colleague. Whatever might be the truth, a national level Chinese official countered my colleague with a typical Chinese smile and a firm look in his eyes telling a Chinese proverb meaning: "If you judge by guess, it will bring disaster." The basic argument of the Chinese official was that the lack of data should not lead to wrong guess, but more search until the truth was found. It must be said that the Chinese experts proved this point in presenting their own observations. They did not give any guesestimate.

Mass Attitudes

But the problem of data apart, the technology policy of a country and its promotion depend largely on the scientific attitude and temperament of the masses. One of the important attitudinal elements in this regard is the admission of failures and learning from it.

To the Chinese masses, continuous learning from failure, criticisms and debates with a determined searching process have become a part of their life pattern. Whoever we met, whether it was a factory worker, a student, a salesgirl, a train conductor, an ordinary farmer, a bureaucrat, a professor, a party leader or a commune leader - all of them explicitly discussed their failures and shortcomings, saying they had a "long way to go." They all noted down meticulously whatever criticisms, suggestions and information we could give.

I asked Tu, "Why are these people noting down details of our discussions?" His reply was: "Unless we make notes, how can we share our experiences amongst ourselves? After your visit is over, we shall have to organise a meeting of all concerned to evaluate and assess your suggestions and remarks."

To conclude, it is evident that there are many contradictions and conflicts in today's China regarding the policy and practice of science and technology. Much of these seem to be foreigners' perceptions based essentially on the media talk about a movement away from the Maoist line of thinking in the new political atmosphere of China. In essence, however, the proverbial Chinese pragmatism and concreteness in action prevail.

Given the shortage of skilled technical manpower on the one hand and the national aspiration for modernisation on the other, the Chinese seem to be less concerned about the source of technology, be it capitalist or socialist countries, so long as it does not disturb the basic strength of their social and political structure. And, with their confidence in the basic social system, the Chinese are today more eager than ever to experiment with acquisition and promotion of modern science and technology.

5 THE WINDS OF CHANGE : PART I

> "Our country at present practices a commodity system; the wage system is unequal too, as in the eight-grade wage scale, and so forth. Under the dictatorship of the proletariat such things can only be restricted" -
>
> MAO ZEDONG

What is life like in China after Mao? Has the new look leadership of Hua Guofeng, Deng Xiaoping and now the newly appointed Premier Zhao Ziyang made all the difference? How complete is the break with Mao Zedong Thought? And if there is any such break, how does the de-Maoization process influence or affect the common man? What is the common man's attitude to the "gang of four" and the cultural revolution? What does the "open door" policy towards foreign nations and greater participation in world affairs mean to the people? Will the meshing up of free market and communist economic system, as has been prophesied by the new look leaders as the national policy, be smooth and successful? And how free are the people under the new economic policy to make money and spend on consumer goods like colour TVs and tape-recorders? What about education, employment and population growth? Has the absence of Mao created or intensified the class contradictions in China?

All these questions have been worrying China-watchers and have been repeatedly discussed and analysed in innumerable scholarly journals and mass media. Yet the enigma continues! Every new visitor to China like me tries to answer some of these enigmatic questions. Much of this enigma, however, is due to China's long years of virtual isolation behind the "bamboo curtain." Added to this is the absence of Mao Zedong. Legitimately, therefore, China after Mao attracts more attention and curiosity.

Class Contradictions

Class struggle and eradication of class disctinctions are the two social manifestations expected of a socialist country like China. How much of the class contradictions have been resolved within the Chinese social system in her long march from pre-capitalist feudal system to socialist system? There has been various official and non-official reports that even after thirty years of socialist transformation there still remained pockets of semi-feudal relationships in the Chinese socio-political system. In what form and to what extent do they exist? Thirty years is not a long time in a nation's history to achieve the complete transformation of a society as big and complicated as China. On the other hand, there were reports that Chinese society had been transformed into a monolithic monotonous mass dressed in the drab Mao suit and conditioned with the same socio-political views and attitudes. It seemed both claims were true only in parts. It was, for example, not very surprising to observe the persistence of old feudal perceptions and attitudes towards various class categories even among some of the educated elites in China. Even today it is not too difficult for a Chinese to distinguish on the one hand between a factory worker and a peasant and on the other hand between an urban intellectual or a white colour worker and a factory worker or a peasant. Surprisingly, the readily identified distinguishing features between the categories were physical in nature in terms of dress or skin colour or some other apparent physical feature. This was clear from a conversation I had with a Chinese colleague, Mrs. Li of International Liaison Department,

while passing by a garment factory in Beijing. Seeing a large number of grey-uniformed cycle-riding men and women on the road, we enquired from our Chinese colleagues whether these people were factory workers.

- "No. Factory workers should be more dark-skinned than these people," Mrs. Li promptly replied.
- "Dark skin like me?" I asked jokingly.
- "Yes. But you have glasses," she smiled.
- "What do you mean? Factory workers will also need glasses if their eyes are bad," my perplexed query.
- "Peasants and factory workers usually do not have glasses, since they do not have to do much reading and writing as the intellectuals do," she replied without any hesitation.

Mrs. Li was perhaps correct in her perception of physical distinctions between different class categories. In fact, the assessment was confirmed in general, during our month-long visit in China. So much so that it was not even difficult for us to distinguish different classes of people towards the end of our trip. Perhaps these class-distinctions in terms of physical features were, in general, universal in almost all societies due to its direct relationship with the nature of work. The interesting point here was not the existence of such distinguishing features between class categories but the emphatic way an educated Chinese official made the distinctions. It simply revealed the pervasiveness of such class perceptions among the people of modern China.

Whatever might be the prevalent attitudes and perceptions about class distinctions, there was no denying the fact that there still existed in China socio-economic differences in real terms between rural and urban

people, between regions and between ethnic groups. Some of these distinctions will be discussed later. For the present let me mention the conspicuous way physical distinctions are made between different ethnic groups in China.

About 94 per cent of the Chinese population are Hans. The rest (6%) are composed of 55 different ethnic groups like Manchus, Tibetans, Mongolians, Miao, Yi, Korean etc. The presence of so many minority ethnic groups had been one of the major concerns of the Chinese leaders since liberation. In fact, Mao Zedong had been consistent in telling the Hans (Mao himself was a Han) to be sympathetic and respectful to the minority groups in order to create a harmonious and integrated society. As a deliberate strategy regional autonomy has been practised where the minority groups live in compact communities. Thus, there were 5 autonomous regions in China today equivalent to province, 29 autonomous prefectures and 69 autonomous counties. In spite of all these, there seemed to be a conscious and deliberate efforts to play up the socio-economic and physical distinctions between the dominant Hans and other minority ethnic groups. The classic example of such distinction was the wall-paintings in the Beijing airport restaurant for foreign visitors. The entire wall of this restaurant was covered with the paintings of big-breasted, dark-skinned and almost-nude Chinese women. The Hans are neither big-breasted nor dark-skinned. A stream of local Chinese were seen to stalthily enter the restaurant only to see these unusual paintings. On enquiry from the accompanying Chinese officials it was revealed that these characters were actually depicting some small

minority ethnic groups in China having dark skin and big-breasted women. What was more surprising was the fact that the paintings did not seem to be particularly of high artistic quality in spite of the traditional fame of the Chinese art. Apparently, these paintings were not done by any famous Chinese artist. On the other hand, it was clearly a deliberate attempt, as remarked by a Chinese official, to cater to the tastes of foreign visitors. Whatever might be the official motive, it was a purposive choice. One wondered what would be the reactions of this particular ethnic group if they happened to see the public display of their physical characteristics in such detail.

Be that as it may, the formal official policy and even practice in China today was not to encourage class-based privileges. This includes even foreign dignitories. Thus, a newly appointed deputy premier of China had to travel by the State-run ordinary bus for 4½ hours along with other common passengers in order to reach a remote village for some specific field investigations. At a Peking Opera show in Haugzhou Threatre, Zhejiang province, State guest Nordom Sihanouk and his wife had to sit on similar wooden seats like any of us in the audience all through the 3-hour show. The only difference was the customary welcome applause by the Chinese audience at the entry of Mr. Sihanouk into the auditorium. President Moi of Kenya had a similar experience at an acrobatic show in a Shanghai Theatre.

This does not mean that the class based privileges and discriminations have been completely wiped out in modern China. Mandarin culture seems

to be still prevalent. Family relationships, regional identities and hierarchy in party or bureaucracy were reported to matter quite a bit in all spheres of life. As Mrs. Li, who had to work in a commune for 5 years during the cultural revolution said, "The high-up bureaucrats and party officials could avoid sending their young children to commune or factory during the cultural revolution by somehow enrolling them into military service. You must have heard about the arrogant show-off of previleges enjoyed by some of the young sons of Chinese military generals."

In spite of all these prevalent symptoms of class contradictions and class-based previleges there seemed to be no pervasive corruption. As an University student at Shijiaguang, Hebei province, put it, "You may not get all the previleges of a military general's son if your father does not happen to be a military general, but you will get everything that most common Chinese people are entitled to get as a matter of right without any bribing or influence. Corruption in the form of bribing is simply not there in China."

Despite such positive views, one finds in China today a serious concern about the continuation of the influence of feudal ideas in many areas of Chinese society. By feudal ideas, the Chinese meant class-based previleges, such as guaranteeing officials life long posts, the personality cult, nepotism, seeking special previleges for family members and relatives in such matters as enrolment in schools or colleges, in employment, promotions and in going abroad, and lastly the undemocratic practices of "one person alone having the final say in a leading body."

These unhealthy tendencies must have been found increasing which alarmed the Central Commission of the Chinese Communist Party for Inspecting Discipline. In a recent meeting called by this Commission in Beijing and addressed by no less a person than Hu Yaobang, General Secretary of the Party Central Committee, it was emphasized that "untiring efforts should be made to wipe out feudal ideology and practices in order to carry out the "Guiding Principles for Inner-Party Political Life' in government organization" (Beijing Review, No. 14, 1980, p. 11.).

Rural-Urban Disparity

China still remains basically a rural society with more than 70 per cent population in the rural areas. Over 31 years of socialism, there has been a substantial growth both in agricultural and industrial sectors of the economy raising the standard of living quite tangibly. At the recently held Fifth National People's Congress the Vice-Premier Yao Yilin announced the target increase of growth rates for 1981 for agriculture by 4 per cent and for industry by 6 per cent. With these growth rates, the peasants' income was estimated to increase by approximately 10,000 million yuan in 1981 as compared to an increase by 4,000 million for the urban inhabitants.

SOME ECONOMIC GROWTH INDICATORS
(Production by Volume

	1981*	1980*	1979	1978
Coal (in million tonnes)	620	610	635	618
Oil (in million tonnes)	106	106	106	104
Steel (in million tonnes)	35	35	34	31
Foodgrain(in million tonnes)	342	332	332	304
Electricity (in kW)	312	300	282	256

*Planned

Source: Compiled from official Chinese news releases.

The contribution of industry to the national economy of China has grown manifold since liberation in 1949. At the time of liberation, the contribution of industrial sector to the country's GNP was a mere 30 per cent. In 1978 it had risen to 70 per cent. True that not all this industrial expansion was concentrated in the urban centres. There were about 2 million small and medium scale industrial units in the communes contributing significantly to China's total industrial output. But the fact remained that there still existed a conspicuous disparity between the incomes of industrial workers - be they located in the communes or in the urban centres - and the peasants.

According to the State Statistical Bureau, presently the per capita income in China was 370 yuan. According to Yao Yilin, head of the State Planning Commission, the per capita peasant income from the

collective economy was 83.4 yuan, that is, excluding earnings from private sideline production. Including the average per capita income of 20 yuan from sideline production, the per capita annual income of a peasant was a little more than 100 yuan. As against this, the per capita income for the urban workers was reported to be about 700 yuan.

Thus the disparity in income figures between the peasants and urban workers was conspicuously large. These figures took into account increased State payment for farm produce and the wage increases granted to 40 per cent of the industrial work force last year. In addition to wage rises for China's urban work force, there was also a newly introduced production bonus system on a sliding scale which could boost a worker's wage by as much as 20 per cent plus a monthly subsidy to cover the increased price of non-staple foods such as eggs, fish and meat.

Besides income disparity, the urban workers were also reported to enjoy several concomitant urban facilities such as subsidized canteens, recreational facilities, child care centres (creches), educational facilities (schools and workers universities), and old age pensions. Lastly, the peasants in the communes had to put in longer hours of work than the city-based workers. In fact, a brigade leader near Shanghai city area supported his argument by mentioning the recently introduced (1979) shift system in 120 cotton mills in which the mill workers got several nights in a row free allowing more rest, recreation and time for participating in spare-time schooling.

The difference in the standards of living between the peasants and the urban workers can be easily seen by comparing income and expenditure of the respective households. Let us first take the case of a rural household in a fairly rich fifth production team of the Seventh brigade, Yongking commune, Sichuan province. This particular household consisted of five members of whom three were full-time workers and two were school-going children. Of the three working members, two (parents) were peasants and one (the young son) was working in a cement factory in the commune. Last year the three working members of the household earned 14,000work points, the equivalent of 1400 yuan. The household had sideline occupation of pig and poultry raising and vegetable production in the private plot of 0.04 mu. From these sideline production, the household earned an additional 350 yuan. This brought the household's total income to 1750 yuan in 1979.

The major expenditure of the household during the last year were: 550 yuan for foodgrain, 160 yuan for meat, 25 yuan for cooking oil, 260 yuan for fodder and feeds for poultry and pigs respectively. All these were deducted from their yearly income by the production team. Other outlays were 80 yuan for clothes and festivals, 15 yuan for electricity, 7 yuan towards contribution to the co-operative medical care fund, 30 yuan for grain processing, 40 yuan as tuition fees for the two children's schooling, and 140 yuan for other miscellaneous purposes including a gift to their married daughter. All these expenditures totalled 1307 yuan, leaving a surplus of 443 yuan.

When asked whether this household was one of the best in the team, the team leader said that it was certainly better than the average mainly because of the son's wage from the cement factory.

The comparative case was an industrial worker's household in Chengdu city, Sichuan province, with four members - parents, a school-going child and the retired pension-holding mother. The head of the household, the man, was a skilled technician working in an electronics factory earning 80 yuan per month. The man's wife worked in a government department earning 46 yuan per month and the retired mother was reported to receive a pension of 70 yuan per month. Thus, the total monthly income of this urban family was 196 yuan, that is, an annual income of 2352 yuan.

Now, the annual expenditure of this urban household was: 1000 yuan for food, 60 yuan as house rent, 48 yuan for electricity and water, 120 yuan as tuition fees for the schooling of the child, 70 yuan for clothes, 130 yuan for gifts and festivals, and 200 yuan for other miscellaneous purposes such as travel, special food for the sick mother, recreation, etc. Thus, the total annual expenditure of this household was about 1628 yuan. This meant that the annual savings of this urban household was about 724 yuan, a little more than one and a half times that of the rural household mentioned earlier.

Given the rural-urban disparity in income, one of the major aims of the newlook leaders, as stated by Den Xiaoping early in 1980, was to increase the per capita income in China to 1500 yuan by the year 2000 as against

370 yuan presently. In order to achieve what appeared to be the official target, there was an attempt to readjust and restructure the economy. The essence of the readjustment was to cut down capital construction and freeze steel and machinery output, and invest more in agriculture and light industry which would benefit the consumer. Thus, along with this readjustment, there was the last year's higher payments to the peasants for their produce, the new freedom to grow crops of their choice and expand private sideline occupations, and lastly, accompanying all these, was the opening up of free markets. Yet the net result of higher payments to the peasants and wages to the city-based workers on the rural-urban disparity was perhaps minimal.

As a result, like in any other society, in the modern time, there was a strong pull and push towards urban centres in China. This was clearly demonstrated by the young Chinese school and university students, be it in the rural areas or in the cities, who emphatically gave their preferences to city-based work either in the factory or in some government departments as their future goal or ambition of life. That there has been a slow drift and relative lack of mobility of work force in China towards urban centres was merely the result of the enforcement of strict official policy to prevent it. How long could it be continued within the framework of new economic freedom would largely depend upon how soon the gap between the two classes of people, rural and urban, is bridged or narrowed down.

New Consumerism

China has not yet become a consumer society. But looking at the buying sprees in cities like Shanghai, Beijing, Shanyang, Chengdu, Haugzhow and others, one could not miss the trend. The shops were flooded beyond capacity with all kinds of consumer goods as never before. The varieties of goods starting from electrical appliances to packed powdered soaps were getting equally serious attention by a continuous surging crowd of Chinese customers. "You now have a choice between different brands of the same item," remarked Miss Li, a charming girl interpreter while going around a departmental store in Beijing. The colourful fashion clothes, electrical appliances, or name any consumer item including leather belts, were indeed carrying famous brand names. Even the busy roads of Shanghai and Beijing had big colourful advertisement boards for consumer items like TV or radio or washing machines, or lady's garment, replacing perhaps the slogans of Great Leap Forward or the Cultural Revolution. The glittering Seiko advertisement on the top of the Seiko shop in Beijing could not miss the attention of any visitor. Long queues outside shops were often a common scene.

"Never before we had so many consumer items to buy and in so many varieties," said a busy Chinese, rushing to a departmental store in Haugzhow city before its closing time. It symbolized a new Chinese consumerism. Encouraged by the newlook leaders with the promises of higher standard of living and economic freedom, the Chinese seemed to be satisfying their long deprived consumer expectations with full gusto.

The output of light industries producing consumer items like radio, watches, TVs, fans, sewing machines, and cameras was boosted substantially, a rise of 10% in 1979 as compared to 1978. The rocketing light industry outputs helped to mop up the savings accumulated of the Chinese households during these long years of deprivation. As a result, the retail sales was, reported to increase last year by nearly 15 per cent, a quantum jump.

To many Chinese a TV or a radio was their life long dream, which came true at last. The care and utmost dignity with which a TV or a radio was found to be kept in the bedroom of a Chinese household clearly indicated their feelings about the prized possession. A housewife of a production brigade in Luda city area said with an apparent contented smile: "for a long time we wanted to have our own TV set. I am old now. I cannot go everyday in the cold winter evening to see TV programmes in the collective-owned set. We bought this TV only last month. We can now see TV programme sitting at home every day."

It was difficult for the Chinese authorities to meet the surging consumer demand. The American CIA described in a recent paper entitled, "China: The continuing search for a modernisation strategy," the Chinese policies of the newlook leaders as an unparalleled appeal to the individual private interests of the Chinese consumers. According to this paper, the rising consumer expectations were a problem of "the first magnitude for the Government."

The problem it was creating was not merely one of supply and demand, but of a different nature. First, there was perceptible shift in the use of household savings, particularly, in the rural areas. Earlier, the most preferred way to spend the household savings in the rural areas was reported to be on house construction, bicycles for transport, handtools for agricultural operations, other economic productive purposes and in children's marriages. Housing has been one of the serious problems in both rural and urban China. A double-storied house in the rural areas was estimated to cost about 3500 yuan, which in most cases needed 6-8 years rigorous savings by an average rural household. Much of these savings were now diverted in acquiring various durable and non-durable consumer goods of unproductive nature. Consequently, there has been an added pressure on the financial resources of the collectives and financial institutions such as banks in meeting the demands for house construction and productive activities.

The second problem was the result of aninsatiable appetite for imported or indigenously produced export quality consumer goods, which so far remained beyond the reach of the common Chinese people. There were Friendship Departmental Stores in most of the big cities in China, which were specifically meant for foreign visitors and tourists. These stores stocked imported foreign goods along with export-quality Chinese products. Unless accompanying foreign tourists or visitors, these stores were not open to resident Chinese people. There was apparent pining in the eyes of many Chinese people to get a chance to look at these 'forbidden stores'

In fact, many of our Chinese colleagues, bureaucrats and university teachers, accompanying us during the whole trip had not had a chance so far to visit these stores. They were conspicuously eager not to miss the opportunity to accompany us to the Shanghai Friendship Store. In fact, one of the Chinese colleagues, an university teacher from Zhejiang Agricultural University, took this opportunity to buy a 4-band big Phillips radio-set from this store. When asked whether such radio sets were not available outside the friendship store, his reply was, "yes, they are available, but not such good quality ones."

The net result of this new consumerism in China was an increase in the premium value of Renminbi, the basic unit of China's currency, available only to foreign visitors in exchange for hard foreign currency. While the foreigners could only use this currency in China, the local Chinese had their own currency notes in equivalent value for their use. In other words, the special Renminbi issued to the foreigners were as good as hard foreign currencies. The premium obtainable in local Chinese currencies in exchange of the Special Renminbi could be as high as 20 per cent or more. That the special Renminbi currency had assumed prime value in the market was not so surprising as the fact that these were openly exchanged. Just outside the gate of a hotel in Chengdu, Sichuan province, one of the hotels meant exclusively for foreign visitors, a group of 10-15 youngmen were found to solicit any foreign visitor going in or coming out of the hotel for exchange of Special Renminbi with local currency at 20 per cent higher rate. On enquiry it was found that some of these Renminbi were used in buying imported

consumer items from the Friendship Stores, which were sold in the local market at a premium. Another way of using these Renminbi was to sell it to a local Chinese visiting abroad on some purpose or the other, who were reported to be keen to buy Renminbi at a higher price in order to have more foreign exchange than what was officially allowed. The basic purpose to acquire Renminbi in this way was to have enough foreign exchange for buying various consumer goods while abroad. It is not known how widespread this practice is in China. But the openness with which it was found to operate near the Chengdu hotel gave the impression that the same would perhaps be true of major cities like Beijing, Shanghai, and Canton, and perhaps on a far more larger scale.

Transport and Mobility

The most important private transport vehicle in China today is the bicycle. All other transport systems such as railways, buses, taxis, motor cars and airlines are state-owned. The absence of criss-crossing screeching motor cars on the roads of China's cities is one of the most striking features for the foreigners, particularly, esterners. Instead what could be found on the roads of Chinese cities were large number of people men, women and children, riding bicycles. Thus, the bicycle, being the only private means of transport over a short distance, appeared to be a prized possession of the Chinese both in cities and in rural areas. There were different makes of bicycles mainly manufactured in Shanghai costing around 140-200 yuan depending on the makes. It was always possible to buy a biclcle right from the shop unless somebody was particular about a specific make for which

there could be a few month's waiting period. Like the motor car in other countries, all privately owned bicycles were registered with the concerned provincial government department with an annual registration fee of 0.50 yuan. To find a Chinese family either in the cities or in the rural areas without a bicycle is rare. Many rural households in the communes were found to have more than one bicycle. Seeing a row of 6 bicycles neatly kept inside a house of a production team member in Mianyang city area, Sichuan province, an Indian colleague remarked, "He must be a landlord." The Chinese present there simply smiled. This particular household was reported to repair bicycles of the team as a sideline occupation.

The state-run buses and trains were the common means of transport in the cities and for long distance travel. In big cities like Beijing and Shanghai most of the buses were trolly-buses run by electricity. The trains were usually run by coal. There seemed to be two distinct classes in the long-distance trams, a common peoples' class and a kind of first class coupe or chair-car meant specifically but not exclusively for tourists. The coupes were luxurious in the sense that they were beautifully decorated with fresh flowers, neatly laid out with thick bed, curtains, carpets and with piped-in music. The railway stations had the similar clean and decorated look with hanging flower pots and a big carpeted lounge-cum-restaurant at the entrance. There was always a great rush of Chinese people travelling by trains or buses. In the mid-day scorching sun a slowly moving long queue of Chinese people were found to wait outside the Haugzhow railway station to catch

a train towards Shanghai. Seeing the plight of her fellow people under the scorching sun, Miss Li remarked, "There should be some kind of shade!" A similar scene could be found outside Beijing and Shanghai railway stations. Surprisingly, a large number of Chinese people were found to sleep on the pavement at the entry of Beijing railway station - a familiar scene of the railway stations in Calcutta. A railway official at Beijing station explained, "These people are mostly from surrounding rural areas who came to see Beijing or for some other purpose. It is very difficult and costly to get accommodation in Beijing hotels. In summer months, these people sleep outside the station at night waiting for the train, while in winter they are taken inside the station. There are arrangements to supply quilt or blankets in the winter free of charge."

Taxis were rarely used by the local Chinese people. Apart from the taxis, the only other motor cars seen on the roads were the black or grey official cars. Mr. Zhang of the Building and Architecture Institute, Sichuan province, explained: "If we want to use the state-owned official car, we need to send our request for booking a car at least a week earlier giving details of the purpose. Unless it is absolutely essential such as the visit of your study team, we hardly book the official car." The model of the motor cars appeared to be the same without much variations. Except in Beijing no foreign-made motor cars could be seen on the roads of China.

China looked to be fairly well-connected domestic flights, for which the old Russian-made aircrafts were still in use. The domestic flights

between Shanghai and Chengdu, capital of Sichuan province and Chengdu and Beijing were fully booked and majority of the passengers were local Chinese people. On the other hand, there seemed to be very few Chinese passengers in the international flights from or to China. Interestingly, the Chinese were reported to be forbidden to directly contact any international airlines. Even for foreigners all international booking had to be done through China Airlines, the only travel agency for international flights.

Quite a large proportion of goods were transported in China by boats taking the full advantage of the river and canal system. Rows of fully-loaded boats plying on the river were a very common scene. Like the agricultural communes in the rural areas, all the traditional boatmen and boat-owners were organized into boat-transport communes in China. But the most striking feature of the transport system in the present-day China was the reappearance of private cycle rickshaws. It was reported to be a recent phenomenon. In the busy shopping areas of Haugzhow city, Zhejiang province and Beijing, there were scores of cycle-rickshaws patiently waiting in a corner for prospective passengers. On enquiry, Mr. Zhang and Mrs. Li explained: "The private cycle-rickshaws were allowed to operate recently due to shortage of transport vehicles, specially, because of the rush of foreign tourists." The local population were also found to hire these rickshaws.

Given the transport facilities how free were the local population and the foreigners to move around in China? If the rush in trains, buses and flights was any indication, it was easy to surmise that the Chinese

were quite mobile and free to move around inside China. Many Chinese people, like the young man in the train from Beijing to Shijiagzhuang, Hebei province, going on 2 days leave from his Foreign Trade Office to meet his friends and relatives in Shijiagzhuang, were reported to travel around the country on holidays for sightseeing or for meeting relatives/friends or for some other purposes. However, all these movements were temporary in nature unless otherwise officially permitted to shift permanently from rural to urban centres, from one city to another or from one province to another province. There was certainly official restrictions on free movement of the labour force, particularly, from the rural areas to the cities. As mentioned earlier, the Land Development Ministry exercised a strict control on the movement of commune workers in order to maintain the stability in the labour force for the extremely labour-intensive agricultural operations and also to prevent over-crowding in urban centres. Thus, even for a temporary movement outside a province, a common Chinese man would have to inform the concerned authority. The permission for such temporary travel are usually given without any problem or delay, said a Chinese official from the Foreign Relations Office at Chengdu, Sichuan province.

For the foreign visitors, however, it required official permission at every stage to move around in China. But contrary to general belief, the restriction on movements of foreign visitors in China seemed to be limited to the ritual of obtaining official permission. As our interpreter told us at Beijing airport on our arrival: "You can move around freely except in those areas where it is written 'prohibited area'."

Any change in the pre-planned programme has to be approved by the Chinese officials. What it meant operationally was to make a request to the Chinese officials a day or two beforehand. Thus, it was not difficult for us to even drastically change the official preplanned programme sometimes at the cost of apparent inconvenience to the Chinese officials. At our request and insistence, for example, we could go to relatively poorer villages and even stay overnight in the communes, none of which was officially planned. On the other hand, our movement within a team or brigade or in a city was never ever slightly restricted even till late at night. It was, however, true that the Chinese officials accompanying us in the trip around China appeared to be over-protective in the sense that someone would always like to be with us unless specifically told otherwise. Mr. Ren, a Chinese official, explained the reasons for their over-protectiveness: "You may get lost, particularly because you do not know the local language."

Whatever might be the reasons, on many occasions it was possible for us to go around the villages or cities without any protective guidance from the Chinese officials. There was not even a flicker of suspicion in the neighbourhood when we stopped suddenly in front of a worker's house in a narrow lane opposite Beijing railway station only to listen to a melodious flute-playing at around midnight. Neither were we prevented or apprehended, as feared by a German Professor, when we went inside the University campus at Shijiagzhuang, Hebei province, one evening and spent long hours with a group of students and teachers

in a classroom and even visited the students' dormitories late at night. In fact, these University students were quite insistent that we should visit them in their dormitories every night during our stay in Shijiazhuang. On the other hand, it was reported that a private Chinese citizen was required to seek official permission from the local party leadership if he wanted to invite a foreigner to his residence or if he wanted to visit a foreigner's residence in response to an invitation, - a rule which since has been largely relaxed.

Law and Order

China did not appear to be a police state. Neither did it seem to be without dissent about politico-economic affairs in our private conversations. Contrary to our expectations, however, police or red guards were rarely seen even in a busy and populous city like Shanghai. Unless they were in civil clothes or in disguise, uniformed police were seen only at busy junctions of a city controlling traffic. It was only at late night some police patrols could be observed in cities like Shanghai and Beijing.

In our month-long tour around 6 provinces in China, we did not come across a single scene of altercations or overt clashes or angry exchanges among the Chinese except in one instance when the driver of our bus forcibly tried to enter through a 'no-entry' gate of the Haugzhow Botanical Garden. The young girl guarding this gate was uncompromisingly angry at the driver for not listening to her repeated warning whistles. There were only two kinds of expressions observed in otherwise expressionless appearances of multitudes of Chinese people - an expression of

seriousness in whatever jobs they were involved in at the time and an expression of happiness with smiling faces. Mr. Patel, an Indian colleague in our team, was unable to check his tempotation to ask one of our Chinese colleagues, Mr. Zhang: "Don't the Chinese ever get angry?." Mr. Zhang simply smiled in reply.

Are there no theft, robbery, rape or other crimes in China? In the hotels we stayed, the doors of the hotel-rooms were never locked, to the extent that in some hotels there were not even locking arrangements. Mr. Patel once forgot his foreign-made camera in Mianyang city guest house, Sichuan province. This was brought to him by the police, driving 50 miles away from the guest house. When Miss. Li, the 22-year old young interpreter girl from Beijing was asked whether she could walk around, Beijing city alone at night without fear, her puzzled counter question was: "Fear for what?." "Fear about some crime?" was our explanation. Miss Li still could not follow what we meant by crime until we explained it in terms of theft, robbery, molestation, or rape. She replied: "These things happen once in a while. You must have heard a recent story of a general's son raping a number of girls in Hunan province. Not that thefts, robbery or other crimes do not happen in China at all, but it happens very rarely. There is no general fear for these. In any case, there is no question of my walking aimlessly alone in Beijing streets in late nights."

The most intriguing thing about this whole affair of law and order was the absence of apparent and continuous surveillance. In the state-owned department stores the sales girl was often found to receive cash at the counter itself without writing in registers or giving a

cash receipt to the customer. Surprised, we asked a sales girl: "How does your boss know how much have you sold against what items?" She could not readily follow the intent of our question. We explained that she could easily make some money since no written records of the day's sale was kept. The sales girl simply smiled and said: "We don't do it."

A Delhi-based Indian businessman, Mr. Saigal, was once narrating his experiences in dealing with the Chinese: "The Chinese are hard bargainers. But once they commit themselves there is no going back on that. I have been importing various Chinese products for the last 2 years. About 2 years ago I made a deal for importing some forest-based gums from China. By the time I returned to Delhi the world market price of the gum shot up 5 times. My friends in India told me to forget about the deal. But, to our utter surprise, the consignment from China reached Calcutta port right on time as stipulated in the deal and the price charged was the same as negotiated in the original deal. What was more, the quality of gum in the consignment was the same as shown in the sample. No country can beat the honesty of the Chinese businessmen." Mr. Saigal was obviously extremely impressed with the honesty and truthfulness of Chinese businessmen.

There might not be overwhelming fear for general crimes in the minds of the common man, but there certainly was an undercurrent of awe about openly voicing political dissent against current political trends. This does not mean that the Chinese were not inclined to give their own private views about their country's socio-political situation. Surpri-

singly, they often did so in a very open manner without much prodding and probing in private conversations. But whenever their private views were extremely critical of the present trend, they seemed to be somewhat restrained. One of the interpreters, for example, after freely expressing criticisms about China's politico-economic system, pleaded: "Whatever I told you now was my way of thinking. Please do not tell this to our Chinese boss of the study-mission, who may tell my departmental boss. This may create problem for me."

Whatitho interpretor was afraid of was the open publicity of political dissent, who was not particularly afraid so long the dissenting views remained within the limit of private conversations. This was not a unique case. This was the general tendency. The history of "Hundred Flowers" and the Cultural Revolution was too recent to forget. It was not difficult for the Chinese to follow what happened to the outbreak of critical wallposters and free speaking crowd during the so-called 'democracy movement' in 1978. What was surprising was the existence and persistence of 'secret societies' following the long traditions of China and almost regular appearances of underground journals in spite of the fear of public expression of political dissent. A Chinese colleague explained the phenomenon as one of China's traditions of "reformers and counterpoints." It seemed there were pervasive uncertainty and confusion in the minds of many Chinese, particularly, those party cadres, bureaucrats and elite intellectuals who were presently rehabilitated in their old positions since the Cultural Revolutions. They were not sure how long the present euphoria of liberalism would continue or how soon would it be purged. In short,

they could not yet take the present position as reality. To many of them it was merely a temporary phase.

Education

Mr. Yung, the minister in-charge of Science and Technology, Sichuan province, remarked in his conversation over dinner table: "If we had the same technologically skilled manpower as you have in India, we could have modernized our country long before. We would not have gone to the Western countries."

The same feelings were voiced in a recent editorial in the People's Daily saying that the shortage of skilled manpower was the most serious constraint in China's 'four modernization' programme. This was in spite of the fact that China's literacy rate increased from 20 per cent to 95 per cent during the First Plan Period itself. Much of this problem of skilled manpower in China was explained by the continuous ideological struggle between the radicals denouncing elitism and emphasizing self-reliance and the moderates favouring pragmatic attitudes towards importing modern technologies and economic efficiency. In this struggle a large number of technically educated manpower was wasted. During the Cultural Revolution, it was estimated that China lost more than a million college graduates and about 20,000 post graduates.

The new leaders of China seemed to be keen to repair the damage by giving up the policy of isolation and by promoting a trust on higher education, even on foreign training. The 8-year draft plan on (1978-85) on science and technology had announced a goal of increasing the number of professionals and scientific researchers to 800,000. This technically

skilled manpower was to be raised from China's 210 million students, of which only 0.9 million were in the post-secondary institutes. Surprisingly, however, there was no corresponding increase in the enrolment of new students in institutions of higher learning in China. In the recent Fifth National People's Congress, Vice-Premier Yao Yilin, announced the 1981 budget of 270,000 new students in institutions of higher learning, the same as in 1978 and 1979.

Yet, there is no denying the fact that there has been phenomenal growth of educational facilities in China since her liberation. In 1949, China had about 200 higher educational institutions, 4000 secondary schools, 289000 primary schools and 1300 kindergartens with a total number of enrolled students of 24 million and a mere 130000 children in the kindergartens. By 1978, there were about 600 universities and colleges, over 160000 secondary schools, 950000 primary schools and 164000 kindergartens and nurseries enrolling 85000 college students, 65.5 million secondary students, 146.2 million primary students and about 8 million children in kindergartens. During the last 30 years, about 3 million students graduated from the full-time higher educational institutions in China, about 18 times more than the pre-liberation stage.

Apart from these educational institutions, a number of different forms of higher educational facilities have been put into practice in China. These included work-part study agricultural colleges, workers' universities run by factories, and an open university in television. Of the 600 higher educational institutions in China, 89 were classified as key institutes for research and training. In all about 820 subjects were offered by these higher educational institutions of which more than 65% were

connected with science and engineering. Emphasis on science and engineering in China's higher educational system was also reflected in the overwhelming predominance of these subjects undertaken by the Chinese students sent abroad for training.

Starting from primary school it took 14-15 years of formal education to graduate from an University. In addition, there was 3 years of kindergarten training beginning from 3-4 years of age of a child. Children under 3 years of age were usually taken care of by the nurseries. Thus, a child would normally enter primary school at the age of 6 for a length of 5 years of study. The secondary education was divided into 2 grades: 3 years for junior secondary and 2 years for senior secondary education. By the time a student was eligible to enrol himself/herself in the university, he/she would be 16 years old. An average university course would last 4 years - it varied between 3 and 5 years depending on the subject - which would make a university graduate at the completion of the study 21 years old. Post-graduate study varied from 2 to 4 years in length after which it was reported to take a minimum of 4-5 years to complete Ph.D. Thus it was very rare that a student could obtain a Ph.D. before he/she was about 30 years old. Given the lengthy formal education system in China, it was not surprising that the secondary education was considered in general a fairly high level education. A student with senior secondary level education was employed by the State at quite a responsible position comparable to the university/college graduates in India. Many top bureaucrats and party cadres we met during our visit either had primary or secondary level education.

Primary education in China today has been 'basically popularized' throughout the country, that is, it covered more than 70% of the school going children. In the communes, that is, the rural areas of China, pre-school education at the nursery and kindergarten levels were free, while in the cities the monthly fees varied between 2.5 yuan for day-timers and 5 yuan for boarders. The fees for primary and secondary school education varied between 5-10 yuan per month, while the higher level education at the universities was free of charge.

Most university students with economic difficulties were provided with financial grants by the State. As reported by some groups of university students at Shijiagzhuang, Hebei province, Haugzhow, Zhejiang province and Chengdu, Sichuan province, there was no private expenditure required during university education except the occasional buying of books or cigarettes, sweets or cinema-tickets, which amounted to maximum of 5-6 yuan per month. The cost of clothing was nominal on an average a girl student would have 4 dresses and a boy student only 2. When asked whether this was enough, they replied with a counter question: "why not? What is the point in spending money on fashionable clothes?."

University education in China was necessarily a residential programme providing boarding and lodging facilities to the students. All the universities were reported to have dormitory facilities for the students, where 7-9 students were required to share a room. The students were provided with food in a common canteen thrice a day, breakfast, lunch and dinner.

Obviously, not all the secondary school students could go on to universities because of lack of facilities and limited seats. Almost all the university students whom we met during our stay in China would invariably ask: "Is it very difficult to enter into university education in India? It is extremely difficult and highly competitive in China." The enrolment of students in universities/colleges in China was done on the basis of results in all-round entrance tests. The overall planning and setting examination questions were decided upon by the State while the actual organizing the examination and correction of the papers were done by the educational authorities in each province, autonomous regions and municipality, under the Central Government. The country's key universities were given the previlege to select their students first, while the universities/colleges in a province would select exclusively from the list of students resident in the province concerned. Thus, unless a student did exceptionally good in the entrance test, he or she had no chance to get admitted in universities/colleges in other than the province in which his/her parents were resident.

However, there seemed to be a quota-system followed in selecting new students in the universities. The quota was based on family background. There appeared to be a deliberate attempt to represent students from various family backgrounds. Also in the mixture there were students coming straight from secondary schools without any break along with those having few years of work experience before entering the university. The majority seemed to be from the last mentioned category.

In any university campus a sizeable proportion of the students was found to be girls. In fact, in certain special subjects such as foreign language classes, or teachers training classes, the proportion of girl students could be as high as 70 per cent. At Shijiagzhuang teachers training college, for example, of the 300 strong in foreign language class, 67 per cent were girl students. In the course of study period in the universities, many girls and boys were reported to develop close relationship resulting into marriages later. There was no restrictions in free mixing between girls and boys except that, as told by a final year university student at Shijiagzhuang, Hebei province, "They cannot go too far in their relationship. They are not allowed to marry during the study period. Any physical intimate-relationship between girls and boys resulting into pregnancy are looked down upon and punished."

One of the most common early-morning scenes in any university campus or in any university-town was the university students learning their lessons loudly from an open book while walking with brisk steps on a footpath covering a specified distance. Usually the classes in the university/college was to start at 8 a.m. in the morning and continued till 12 0' clock noon everyday excluding Sunday. In these 4 hours time there were normally 2-3 class of various subjects. Apart from these regular classes, there was a weekly political class in which the history of China's communist party, and the philosophy of Marx and Lenin was discussed. The students were free to do whatever they liked after 12 0' clock noon, which was mostly sports and library reading until dinner at 7 p.m.

Because of the crowding in the dormitory, most university students were found to use their own classroom for after-dinner study. The classrooms were kept open 24 hours for the same purpose. A classroom for a section of the foreign language students of the Shijiagzhuang teachers training college was a mere 30' x 15' room accommodating not more than 30 students It had a simple table and a chair in front of the blackboard for the instructor and for each of the students there were separate chair-cum-writing desk. In one corner of the classroom was kept a hot-water flask for drinking water. At the time of one of our unexpected visit to the classrooms around 9 p.m. at night a group of 10-12 students, (including some girls), were found to study their English lessons in the classrooms.

It appeared that learning English language has become a craze among the young Chinese students at both school and university levels. At any hotel in the Chinese towns, which were exclusively meant for foreigners to stay, a group of young girls and boys could be found to anxiously hover around at the entrance gate in the early morning or in the evenings. There would be hardly any foreign visitor in China who was not once approached by some of these young Chinese people with a request. "Can I converse with you in English, Sir?" This was so common occurence in China today that a foreigner in China could come in contact with a large number of young Chinese people without any conscious effort.

Peculiar it might appear, these young Chinese seemed to be genuinely serious in this endeavour. Some of them would even carry with them a small Chinese-English dictionary. It was through these contacts we were often invited by the Chinese University students to visit their

campus and give talks on India. About us Indians the Chinese were intrigued by our English-speaking ability. They would innocently ask: "How did you learn to speak in English so fluently? Could you suggest how could we learn English like you?"

It was in one such occasion, after finishing a long talk on India in a classroom of foreign language students at Shijiagzhuang University, the group of Chinese students wanted to discuss mainly how could they improve their English language. On the blackboard of the classroom was written that day's English lesson: "I fell down 20 feet. Did you get hurt?" A student wanted to know the difference between 'almost' and 'nearby'. In fact, it became an informal English-language session for about 2-3 hours. At the end a student-leader even asked whether I would be interested to join the University as a visiting faculty for a year. Later on I was told by a University professor that the students' suggestion about visiting faculty position for a foreigner had considerable weight in the final decision-making. In fact, foreign teachers were increasingly appreciated in today's China. Most of the Chinese universities were reported to have one or more visiting foreigner teachers, mostly American or Japanese.

At the suggestion that in order to improve their English language proficiency, the Chinese students should read English language books, novels, stories etc. they complain that these books coming to the library were mostly reserved for the faculty. The access to foreign language books must be extremely restricted in China and this included basic books like English grammar and dictionary. Thus, when insisted

that I should send some presents from India, Mrs. Li, the interpreter girl, suggested that "If you want to could you send a good English grammar and an English-to-English dictionary?"

It seemed, however, that there were much relaxed flow of English language books in China today. A sprinkling of English novels and story books could be found in the foreign language book stalls in Shanghai and in almost all the hotels meant exclusively for foreigners. Even the usual comic books were not excluded. A small primary school boy in a production team in Zhejiang province was found to carry an English language pocket book with the pictures from a French film on 'zoro's' heroic deeds. Might be the flow of foreign language books in China was still restricted and selective, but it was certainly at an increased rate than in the past.

On the other hand, there has been deliberate attempts to emphasize science and technology and natural environment even in English-language text books right from the primary school to the University level. The contents of these text books were composed mainly with subject matters like natural environment, electricity, engines, plant life etc. There was hardly any literary pieces such as poetry, stories or essays except small excerpts of Edgar Show's interview with Mao or similar such things.

It was obvious that the craze to learn English language was closely linked with the spectacularly abrupt turn of China's political friendship with America and its subsequent open-door policy towards the Western World. Whether it was a school student or an university

student, one of their dominant aspirations expressed by them was to go to study in the Western countries, particularly, America. An university student at Chengdu, Sichuan province, gave the explanation for such dominant aspiration: "America is rich country and the Americans are our friends." Coming from the mouth of a young Chinese student of Cultural Revolution fame, it was indeed shocking."

Was this about-turn in the Chinese attitudes towards America a result of official propaganda or coercion? It was difficult to find the answer in such a short visit. However, one could not miss the prevalent pro-American attitudes in China today. A full-house of audience in an auditorium of Mianyang city guest house, Sichuan province, showing a Chinese documentary film, shouted in Chorus identifying the 'villa' where President Nixon stayed during his visit. How did they know that? A Chinese colleague said: "Nixon's visit is even now shown often in the Chinese TV."

The pro-American attitude among the Chinese was so conspicuously pervasive that they were visibly upset to hear any anti-American views. Some of our West German colleagues in the study-team were often quite vocal in expressing their deep-seated anti-American feelings. A Chinese expert accompanying us could not endure it any more. He asked: "Why are you so much anti-American? Isn't it true that America saved you from fascism?" To a Chinese today it was not possible to understand the feelings of a German young man or post-Hitler era!

Neither was it comprehensible for them when I said that the "dangerous aspect of life in China today was the American influence." This was in response to a request by the Chinese officials to tell my frank impression about China during a night-long train journey from Dalian, Liaoning province, to Beijing. The Chinese listened to any explanation patiently, but did not comment anything. Later, one of the Chinese officials said, "you are correct to some extent. There is more American influence among the young Chinese. It may develop into a conflict between the young and the old. Nevertheless, we need to be friendly with America."

The part acceptance by an elderly Chinese about my views about American influence perhaps indicated the continuing ideological conflicts manifested even at the highest political level in China today. Meanwhile, the process of pro-American attitudes appeared to be getting spread all over the body politic of China, particularly among the young students.

Employment

"True that there are no beggars in China today, but there are lot of unemployed young people," said a young university student at Shijiazhuang, Hebei province. Yet in China formal education and employment have been closely linked and controlled by the State bureaucracy. Normally upon completion of their education students were assigned jobs by the government. The school leavers were in general sent to work in the rural communes. Even the wage structureswere closely related to the levels of formal education. The monthly wage of a medical doctor at the entry point of employment for example, was about 60 yuan, whereas a secondary-school-pass young boy/girl would get around 40-45 yuan per

month in an urban job, a trained technician's wage in an industrial unit would be about 60 yuan and a trained teacher after secondary school could get about 40-45 yuan per month.

Since the employment was directly controlled by the State, there was no free choice about the kinds of job or the location of posting. Depending upon the manpower requirement in various regions and sectors of economy, the young people were assigned jobs by the State. However, the employees were usually posted within their home province. It was only under special circumstances and on request their locations of postings were changed depending on the availability of vacancies. A husband and a wife were generally posted in the same place in order to prevent disruption in the family life. There seemed to be some discontent about the rigid control of employment by the State. A young electrical engineer working in an electronics industry at Chengdu, Sichuan province, for example, expressed his bitterness: "Only high party official's children can advance in this career according to their choice. I am a highly skilled technician. I want to do my job according to my choice. But I cannot do that in China. I have to do whatever the State assigns me to do. I am stay-put in it. I can't advance in my career. We need another revolution to change the system."

How pervasive was the feelings of dissatisfaction about the State's employment policy was difficult to assess in our short visit. There was, however, some signals of shift in policy in recent time. The first time ever in China, a furniture company in north-east China advertised six managerial posts in a newspaper. The managers were

recruited on a three-year contract basis.

Whatever might be the shift in employment policy, one of the most disquieting problem in China today was the level of unemployment, particularly, among the young people. It was estimated to be in the order of 6-8 million out of the total of 20 million unemployed people in the cities. The problem became acute since the Cultural Revolution. Since 1968, any young people were sent to the countryside to settle down in rural communes after graduation from middle school. Many of these youngsters returned to their homes and refused to go back to the communes. In protest, these unemployed youngsters were found to demonstrate in Shanghai and even held up the trains. In addition, a whole generation of youngsters who passed out of schools and universities during the Cultural Revolution were found to be far below the standard in their level of knowledge and therefore were being rejected or fired by the employing organisations or factories. As an young industrial worker in Shanghai explained: "Many of these youngsters were not even upto the mark to get entry into secondary schools and universities. They got into the educational system during the Cultural Revolution purely on political consideration. Moreover, the standard of education in the schools and universities during the Cultural Revolution was severely disrupted and deteriorated. As a result we are now stuck with a whole generation of young people with marked low standard of education who cannot be employed in suitable jobs."

In response to the newlook leaders of China had instituted several measures in spite of ideological contradictions between state ownership of enterprises and co-operatively or individually-owned enterprises. Shaking off the

ideological hesitancy, youth collectives and individually owned craftsmen or other service shops were organised to mop up some of the employed. A number of temporary shelters could be observed now in Beijing, Shanghai and other cities where young people were found to sell cheap consumer goods, run tea-snack shops in front of the cinema house, run tailoring and bicycle repair shops.

In Beijing, many neighbourhood production groups, started in the days of the Great Leap Forward in 1958, were reorganized in 1979. The Garment Factory No.3 outside Qianmen Gate in Beijing was an example of such neighbourhood production group, which was rejuvenated recently. As a result, the factory could employ 92 additional young people, operating second shift and increased its output from 7,000 to 16,000 pieces per month. Still another way, the problem of unemployment being tackled now in China was, by introducing new shift system in the factories. As briefly mentioned earlier, it was essentially a system of working a three-days-on-one-day-off programme. This new shift system was introduced in 120 cotton mills since April last year covering 300,000 workers. As a result of this new system 50,000 new workers could be employed in these cotton mills who could work in the extra-shifts introduced simultaneously with the new shift system.

With all these measures, the Chinese leaders seemed to be able to contain the unemployment problem with a manageable limit. In last year itself, it was reported that China could manage to provide job for about 10 million people in the cities and towns. According to Vice Premier Yao Yilin's plan, 6 million additional people would be

employed in cities and towns of China in 1981. In spite of all these efforts and given the population growth, the problem of unemployment or underemployment would haunt the Chinese leaders for sometime to come, commented a senior Chinese official.

Unemployment or not, one of the most striking features in the workforce of China was the participation of women. Whether in the communes or in the cities and towns, all able bodied Chinese women were supposed to be employed in the State's workforce. The participation of women labour in the industrial units was reported to vary between 30 and 60 per cent. In a cement factory of a commune in Shanghai city area, there were as high as 65% women labour in its total workforce. Neither was there any wage difference between women and men labour. It was impossible for a young Chinese woman today to think of a purely housewife's life. The girl students at Shijiagzhuang University were visibly surprised to learn that even many educated Indian women remained purely housewives on their own volition and preferences. When I asked Miss Li, the young unmarried girl interpreter, as to what would she do if her would-be husband did not like her to work, she said: "This is not possible in China. He cannot tell that. Every man and woman in China have to work. This is known to everyone of us. The question of my working will be settled before I marry my would-be husband. It is, however, not necessary at all, because he cannot and would not tell that."

The confidence and freedom, as seen among the women of China, whether in the communes or in the cities, could not be observed in many western countries even after the women's lib movement. I did not, however, know of any women's lib movement in China. Yet this was a country where women

were perhaps worst exploited in their rights in pre-liberation years.

Along with the employment, there were streams of facilities provided by the State to the workers. For example, as soon as a person was employed, he or she was to be provided with housing accommodation however small it might be. Housing construction has therefore been a major developmental activities in China, particularly, in cities and towns. One of the serious problems in China today was housing shortages. No cities or towns could be found in China today where some new complex of housing constructions were not going on throughout the day and night.

The other two significant aspects of employment conditions were: no personal tax on wage earnings and pension. All employees were entitled for pension after retirement to the extent of 90 per cent of the last pay after 30 years of service and a minimum of 75 per cent below 30 years of services.

Health and Population Control

Like the recent technology fix, there has been traditionally a kind of 'health fix' among the Chinese people. One of the most common early morning scenes in the roads of cities and towns of China was scores of people, mostly middle aged and old men and women, doing their traditional daily exercises (shadow boxing) oblivious of the surroundings. One evening at Haugzhow, Zhejiang province, we were suddenly held up on a road by a group of 50 to 60 old men jogging. We were told by our Chinese friends that this was an old tradition in China for the old

people to organize a weekly jogging programme. During our month long stay in China, we never came across an unhealthy fat pot-bellied Chinese man or woman. A German colleague, Mr. Sasse, described this aptly:

> "They know what to do with their bodies. Most of them are fit. Gymnastics everywhere. Alone or in groups, I have seen fantastic acrobatic performances. And I have seen our translator-girl dancing with me. I was to fall on my knees staring at her. Never before I danced with a woman of such grace. I was like a clumsy bear beside an elf or I don't know what. I saw a man jogging. That means jogging, - he was flying. A beautiful body with no gravity."

But it was not merely personal hygiene and health that the Chinese people were concerned, they were equally, if not more, conscious about the community and environment in which they lived. Coming from India, the first thing that struck was the cleanliness of the cities and villages. There were mudwalled houses, thatched roof and 'kutcha' roads, but they were spotlessly clean and aesthetically maintained. It often reminded the tribal houses of Santhal Parganas of Bihar, There were no corner-walls or open spaces in the villages and towns stinking with urines and human wastes. Neither were there heaps of garbage. Even the pigsty was relatively free of flies. Not that there were no mosquitoes or flies, but even during the wet rainy seasons as it happened to be in some places in Southern China, they were too few to scare us.

Like the environmental hygiene, there was a collective concern for

people's health. It was difficult to the point of torture to quench our thirst for cold, drinking water during the whole period of our stay in China. At the instance of Mao Zedong, as told by the Chinese, the Chinese only used hot boiled water for drinking purposes. Whether in the hotels or in the communes or in a private village household, it was always hot boiled water. In fact, the big flask with hot boiled water was perhaps the most conspicuous consumer durable item in the whole of China. Even in the hottest months of summer days the Chinese were reported to drink the same hot boiled water or green tea made with the hot water. Similarly, no men and women including small school going children could be found without gum-boots during the rainy season. Gum-boots were supplied by the collective for each individual in the team/brigade. On our visit to a team in Shanghai city area in a rainy day, all 21 of us were promptly supplied with a pair of gum-boots each and an umbrella to walk a kilometer of muddy road across the paddy fields to reach the households. The promptness with which these things were organized without any forewarning since it was a sudden downpour prompted a German colleague to remark: "They seem to be far better organized than even the Germans!" Organized or not, it certainly spoke about the collectives concern about the people's health.

It was based on this collective strength of the Chinese peasants that the health and medical infrastructure was built in China. The medical and health service in the rural areas of China was basically a three-level network with a hospital at the commune centre, a co-operative medical station with 'barefoot' doctors and midwives in every production brigade, and one or two health workers in every production team. In

this three-tier system, the commune hospital was the basic-level administrative organ linking between the county hospital and the co-operative medical stations in production brigades. Most of the medical workers were assigned to the commune or county hospitals by the State after graduating from medical schools. The commune hospital mainly served the peasants as most of the in-patients were referred by 'barefoot' doctors from the brigades. Apart from treating patients, it was the responsibility of the commune hospital to train 'barefoot' doctors and health workers from the brigades and the teams. It also organized doctors to go by turns to the countryside in order to treat patients and carry out preventive measures alongside the local 'barefoot' doctors and even to conduct regular seminars on specialized subjects so as to teach them skills. All the barefoot doctors had at least one hospital training course on basic principles of diagnosis, prescription, injection, midwifery and the preparation of Chinese herbal medicines.

Who were these famous character 'barefoot' doctors? How did they function? A young 'barefoot' doctor following us all through our week-long trip around Sichuan province explained the whole history of evolution of the system in China. A 'barefoot' doctor was basically a peasant who did part-time medical work. This type of paramedical worker first appeared in the rice-growing areas of eastern China. With their medical kits slung over their shoulders, they called on patients in their houses, and when not occupied with medical tasks, they worked barefoot in the paddy fields. This innovative system was subsequently popularized all over rural China with

two 'barefoot' doctors and one midwife in each co-operative medical station of the brigades. In the station, these 'barefoot' doctors usually worked in shifts, assisted by health workers of the teams, who in turn learnt the skills as they served. Whenever a team/brigade member needed medical attention, he or she could always find the 'barefoot' doctor, if not at the station, but surely in the fields or other work site, where the doctor was reported to work like any other member, carrying along the medical kit. Most often the 'barefoot' doctors were women who would start their medical tasks after a 3-month training course at the county/commune hospitals.

Given this health and medical infrastructure, a system of co-operative medicine was instituted in the rural areas. In this co-operative system, 3 yuan per member per year was set aside in a medical fund administered by the brigade medical station, the member paying half and the production team contributing the other half. Medicines were free of charge upto 10 yuan, excess of which was again borne on 50:50 basis between the member and the team. With this system, a member had to pay only a 0.05 yuan registration fee for each all including treatment and the doctor's services.

One of the most striking features of the Chinese health and medical system was the extensive use of Chinese traditional medicines along with the Western ones. Ignoring the strong pre-liberation movement by the Medical Association of China composed mainly of the doctors trained in Western medicines to ban the Chinese traditional medicines,

there was equal official importance given to the traditional system. Almost equal number of doctors were trained in Chinese medicines in the same medical colleges with same rigour and training period as the doctors in Western medicines. Similarly, all hospitals at all levels including the co-operative medical stations in the brigades and the medical kits of barefoot doctors and the health workers would have Chinese traditional medicines. A county hospital in Shanghai city area, for example, was manned by 24 trained doctors of which 15 were trained in Chinese medicines who were reported to draw the same salary as the 9 doctors trained in western medicines. There were 360 beds in the hospital and an average of 600 outpatients per day. About half of these patients were under the exclusive treatment of Chinese medicines including accupuncture.

The Director of this county hospital showed keen interest to the fact that the hospital doctors in India could do private practice. So far, the doctors in China were not allowed to do private practice, but they had to respond to occasional home-call in emergency cases for which the patients were charged a nominal fee by the hospital. However, private practice with a pre-determined range of fees is expected to be approved soon by the State, said the Director with a tinge of hopefulness.

Central to the medical services in China today was the promotion of family planning. In fact, it was considered to be an essential part of the medical work. The concern for population control was so pervasive among the common Chinese people today that even a common peasant would amost inevitably task us Indians the question: "Your country also

has big population like us. What are you doing about population control?" When we asked the reasons for their overwhelming interest in population control they mostly mentioned two factors: one, lack of housing facilities and second, lowering living standards. It seemed that the State's propaganda work as usual was quite effective.

For the Chinese leadership, there was sufficient reason to be alarmed about the country's population growth with her population base of one billion. According to a recent 'open letter' from the Central Committee, at the present rate of 2.2 children per couple, China's population could top 1,500 million by 2020. "Such a population would be impossible to feed adequately", warned the 'open letter.' Thus Chairman, Hua, in his address to the recently concluded Fifth National People's Congress, firmly placed family planning in China's 'long-term programme' linking it with the nation's other central concern for material growth. In the same Congress, the target announced for 1981 was to hold the population growth at 1 per cent.

The official strategy to achieve this target of 1 per cent growth rate was clearly enunciated in the new rogulations approved by the Congress. In short, the new regulation raised the marriage age from 20 to 22 for men and from 18 to 20 for women, continued with the policy of one child per couple, banned marriage between cousins, and made the divorce law more tedious. The most significant legal aspect in the new regulations was the stipulation that 'husband and wife have the duty to practice family planning.' In order to promote the one-child-per couple policy, the Central Committee even added in its open letter

that "baby girls are as valuable as boys." Interestingly the Central Committee's document did not mention the removal of State benefits to those with two or more children. It seemed that the couples producing more than one offspring would find themselves in less official disfavour as in the past.

It would be interesting to follow the implementation programme of the official policy on family planning. About 65% of the Chinese population were now under 30 years of age and about 20 million Chinese were said to approach child-bearing age every year. There was hardly any Chinese man or woman who remained unmarried throughout their lives unless "one is physically or mentally deformed," said Miss Li, the girl interpreter. In the cities the girls and boys were reported to marry on their free choice, mostly from among the working mates or school/university mates, while in the rural areas marriages were still often arranged through negotiations by the parents. There was no dowry except the usual marriage party which were ordinarily a simple affair as compared to Indian marriage feasts. When the elderly Mr. Patel, an Indian colleague in the team, boastfully reported that he had to feed 3000 guests in one of his daughter's marriage, the Chinese members accompanying us were literally astounded. Miss Li said that she had to organize a small tea party with a handful of her relatives and work-mates at her marriage.

Marriages in China were accomplished by simple registration, a very inoccaceous affair. There were no other large expenses since the Chinese women married or unmarried, were reported to use barely any ornament

or cosmetics except a small container of ointment to prevent cracking of skins. A chinese couple, after marriage, was usually found to live separate from their parents, that is, a chinese family was normally a nuclear family. This does not mean that the Chinese had started opening the inhuman Western system of 'Homes' for the old parents. In fact, the oriental family-ties were kept maintained with same intensity of emotional feelings as before. The retired old parents were supported by their children and in most cases if found necessary, 6 were found to live with their young children. In response to our questions, a group of university students including girls at Shijiagzhuang, Hebei province, promptly replied: "when we get jobs, we will certainly send money to our parents if they require it and when the parents grow old, they are welcome to stay with us even after marriage." In other words, the Chinese family structure and ties remained strong even under communism. "Building a happy home is vital, noted a recent Peoples' Daily editorial.

However, a Chinese couple today had to plan their family really hard mainly because of the incentives and disincentives linked with the official family planning programme. They were, for example, required to plan the timing of their first child-birth sufficiently ahead in order to get it approved by the neighbourhood community leaders. It was with this approval, they could plan their use of birth-control measures. As soon as the child was born, the birth had to be registered in the local police station. For a specified period, the childing mother would be given maternity leave with full pay, free medical care for the child and the mother and also a required quota of baby food and sugar. If a child was born without prior approval, there would be criticisms in the community or the neighbourhood, which could often be much

more than mere show of community's disapproval. However, as Miss Li told, the benefits of maternity leave and others were not denied to the couple upto the second child. "Beyond the second child, not only these benefits are denied, but also it becomes difficult to register the birth, which in turn creates problem for getting medicines, baby food etc. for the new-born baby even on payment."

Miss Li's remarks indicated perhaps the strictness with which the population control policy was implemented in China. There were stories of blood feuds and murder from villages where abortion policies were brutally enforced. The director of the county hospital in Shanghai city area, as referred to earlier, was apparently reluctant to give us the data about abortions being performed in his hospital except saying that the hospital performed on an average 60 family planning operations. According to him, "the most popular methods of family planning in China is pill." It was quite likely, however, that the Director of the countyhospital would not have the data on family planning, particularly on abortions since they were done at the commune and brigade levels.

Whatever might be the repercussions about the strict implementation of the official population control programme, it was clear to the Chinese leaders that the effects of rising production would soon be dissipated by the rise in population. Quite possible that the Chinese leaders learnt a lesson from Mrs. Gandhi's fall on this issue. This could be the reason for more persuasive approach in the Central Committee's 'open letter.' Only future could tell how persuasive was this persuasive approach in actual practice.

6 THE WINDS OF CHANGE : PART II

"Practice Marxism-Leninism and not revisionism, unite and don't split, be open and above board and don't intrigue and conspire" -

Mao Zedong

Religion and Recreation

Nothing of religious manifestations were expected to be found in Communist China. Nevertheless, a group of Chinese Muslims with typical Islamic dresses was found to travel to Pakistan to participate in some Islamic Conference. Apart from this, the only thing related to religion which we could see were a few pagodas and some Buddhist temples. All these religious places, particularly, the Buddhist temples, which had once tremendous socio-political influence in China until the 16th century, were maintained simply as sight-seeing spots for tourists and local people. Although these temples had still a few monks with shaven heads and the usual robes who were essentially employed by the state as watch and ward for these historical relics. For, there would be very few in China today who could be found to follow a particular religious faith and rituals unless Marxism-Leninism was considered a kind of religion. But even Marxism-Leninism was not the absolute faith of the majority of Chinese population. There were only about 40 million party cadres in China out of 1 billion population, of which about 15 million were supposed to be enrolled into the party spuriously during the Cultural Revolution. Most of these 15 million were reportedly in the process of being purged or screened out.

It was not so much of a surprise to see the absence of religious manifestations in China as the complete ignorance of the religious history of China particularly among the young. For the youth, it was not merely ignorance but a complete lack of interest also. Mrs. Li most casually remarked about religion:

> "Temple-going was completely stopped during the Cultural Revolution. Now, of course, there is no restriction. Mostly old people go to the temples and sometimes merely as a habit burn incence at the altar, while the younger generation go there for sight-seeing. I, for example, do not yet know the difference between a Buddhist and a Taoist temple. Neither can I understand why Buddha in China often would have image of a woman when he was man."

These temples and pagodas were certainly a great attraction for the tourists as well as for the Chinese, for sight seeing purposes. What was most interesting for us Indians to observe was a scene in front of a Buddhist temple in Sichuan province, built during 9th Century, which had a strong similarity with any Indian religious places. There were a group of Chinese fortune-tellers sitting under the umbrellas catering their services mostly to the curious tourists on payment. On enquiry, Miss Li reported: "There are many old men and women in China who believe in fortune-telling and they often become a prey to these fortune-tellers."

Observing the lack of any religious manifestations and rituals among the Chinese the Indian businessman Mr. Saigal, whom we met unexpectedly at Shijiagzhuang hotel, hypothesized: "A Chinese hospital doctor at Shanghai once told me that there was an increasing trend in brain ailment among the Chinese people. It must be because of their lack of faith in any religion and God."

The Chinese officials accompanying us, however, stoutly refuted Mr. Saigal's hypothesis.

What our Chinese colleagues could not refute was the conspicuous symptoms of a strong wind of change in the Chinese recreational media, or such as the opera and cinema. Apart from acrobatics, opera and cinema were perhaps the most popular recreational media in China today. In both these media there were sea of changes. Not only were there large inflow of foreign movies including dubbed Hindi movies in China, but the content of these movies were also varied to the extent that some of them were even the most common boy-meets-girl type of movies or simply a documentary of Western pop-singers. In other words, whether in opera or in movies, what was clearly missing was the expected revolutionary propaganda or thought.

Take the case of a famous Peking Opera which we saw at Haugzhow theatre, Zhejiang province. The whole enactments of the opera was done in songs supported by a loud instrumental music, almost the same as a Bengali Jatra. The theme of this particular Opera was based on a classic Chinese novel about an Emperor of a particular dynasty. This evil-character Emperor got infatuated by the beauty of his official's daughter whom he forcibly made his concubine. Subsequently, at the evil influence of this concubine, the Emperor continued to neglect the State affairs and all those who advised the Emperor to leave the concubine were punished, including his queen and the two princes. On the other hand, the Emperor was always

surrounded by two sycophant officials whose advice was followed by the Emperor without questioning. The story of Opera ended with the killings or punishment of all the evil people including the Emperor and reinstating the elder princein the gaddi.

Whether the opera was enlogising the evile role of the "Gang of Four" fame Jiang Qing, wife of Mao Zedong, was not known. What was surprising, however, was the reinstatement of the Prince in the gaddi, the symbol of feudalism. When asked about it, Mrs. Li said: "Yes, such an ending of the opera story was impossible a few years back, particularly during the cultural Revolution. Then the most likely end would have been the people organising themselves to administer the state." But, if this opera was an indication of new liberalism in China today, the Chinese moview we saw entitled 'Love' in Mianyang city, Sichuan province was liberalism par excellence. It was a typical girl-meets-the boy type film made recently after the Cultural Revolution. Apart from the low grade movie technique, the film had a very simple school-boyish story without any message. Or, the message was quite 'banal', as one of our German colleagues put it. The story went as follows:

> "An overseas Chinese girl met a handsome Chinese boy during her tour in China and they fell in love. The fathers of the two young people were old friends in the Chinese army fighting against Japanese occupation in China in pre-liberation days. The girl's father joined the Knomintang and left China to settle down in America. The boy's father joined the Communist Party and stayed back in China. The boy, the hero and the gril, the heroine were shown in the film roaming around in a breathtaking beautiful landscape merely as young adolescent lovers without any relationship with the society in terms of work place, politics or any other social reality. It was, as if, endless and timeless holidays for the two young lovers.

> After 2½ hours screening of roaming around, some adolescent acts and misunderstandings the hero and the heroine were settled in marriage with the blessings of their parents. In the end, the girl's parents, the overseas Chinese, were heartily welcome and embraced by the boy's parents in China after long years of their separation."

What was interesting to note in the whole film was not the aimless simplicity of the story, but the way it was presented. There were bathing scenes with brief swimming suits on the heroine's young body for apparent base purpose. There was also a bedroom scene with sexual emotions of the young lovers ending in simple picking and a hurried kiss. These were bold enough scenes in China today, but not to many of our German colleagues who were openly amused about the oriental round-about way of showing sexual emotions without actually showing the consummation in full nakedness. There also were some shots in which the hero was shown practising his English Language parroting a sentence! "I love my motherland, I love the morning of my motherland." Consciously or unconsciously, perhaps the director of the film was indicating the present ambition of the young Chinese to learn English language to be able to go to the Western countries. Whatever might be the film-director's aim, one of our Indian colleagues was naive enough to caricature that English sentence as: " I love the money of my motherland, " perhaps unconsciously he revealed the difference between the contemporary India and China! On the other hand, it was clear that the director of the film needed a character role of an overseas Chinese girl as heroine to be bold enough to show a young woman's body in brief

swimming suits or a kiss or modern levi jeans with bright coloured matching tops. "All these were something unbelievable in a Chinese movie a few years back," was all that the Chinese officials accompanying us in the film show would comment. However, late in a private discussion with Mrs. Li and some university girl students at Shijiazhuang, Hebei province, a Chinese evaluation of the present trends in Chinese movies could be obtained. According to these young Chinese girls: "This is the trend now after the Cultural Revolution. The trend is to depict emotional love per se without mixing up with any political propaganda. The Chinese are still very immature in techniques, but we are learning fast from the Western film. The dresses of the girl, the opulance and extravagance as shown in this film are certainly going to influence the Chinese youth. But it is also good for the Chinese youth to learn how to mix with each other and even how to make love. There is nothing wrong about it. In fact, the movies can and should be as bold as the American movies. This is what the Chinese youth want."

How far these young educated urban Chinese girls were representative of the present day youth was not known. But there were ample indications to suggest a possible predominance of the same views among the Chinese youth today. The winds of change could not be mistaken, it was there in many facets of today's Chinese life including common recreational forms. It probably did not matter whether there was any political propaganda or ideological debate. Thus whenever our German colleagues would start the hip-swinging Western dance-session

in the hotel bars in late nights, the two girl interpreters, the attending bar girls and most of our Chinese men colleagues would join them most willingly even if they were not yet skilled in the modern Wester dance-acrobatics. There was almost an excited plea in their eyes to get an opportunity to learn the modern Western dance from the real Westerners!

DeMaoization

There has been consistent reports, particularly in the Western mass-media, that Mao Zedong's portraits are brought down all over China as a process of de-Maoization. Yet, the physical presence of Mao in China today was so conspicuous and overwhelming that all these reports seemed to be self-fulfilling prophecy. All the rural households visited by us covering more than 30 teams/brigades/communes in 5 provinces had very prominently displayed the usual large-size Mao portrait on the walls of the living rooms. Once when asked about the reasons for such display of Mao's portrait, an old peasant of Sichuan province replied: "He was the man who gave us so much and made us what we are today. But for him, all these were impossible. We respect him. His portrait is now our inspiration." So solemnly and with utter reverence were these words muttered by the old man that it was not difficult for us to understand the depth of emotional feelings of the Chinese peasantry for the founding father of modern China, Mao Zedong. Neither did it appear a mere ritual and propaganda when the commune leaders often concluded the discussions by saying: "It was all because of the socialist path of Mao Zedong that we could achieve so much."

But it was not only in the rural areas of China that the physical presence of Mao Zedong was felt. There was hardly any major city or town visited by us where there was no huge big Mao Statue in a central square standing with the familiar revolutionary posture. All the public halls and hotels including the main entrance-gate of the famous Tuina men Square had the Mao portrait. Because of the huge rush of Chinese people from all over the country visiting in Mao Mausoleum in Beijing, it was reported to take 15-days advance booking. In Shanghai city, even in a busy working day, one could find a long queue of Chinese visitors patiently waiting outside a two-storey brick house at No. 106 Wangzhe Road. It was here in a small rented room in the French Concession area the Chinese Communist Party was officially born in 1921, in which 13 delegates including Mao Zedong participated. This house was preserved with a photography exhibition of Mao's life history.

All these perhaps indicated the impossibility of dislodging Mao completely from his position of founding father of modern China, a great Helensman and revolutionary. Yet, there was no denying the fact that there were many conspicuous signs of deMaoization process in China today, perhaps in a very cautious and unsure way. For, even today Mao Zedong is China's Marx, Lenin and Stalin rolled into one. As a result, Mao was still revered by the Chinese people and his revolution was still found to command great popularity. This fact alone has posed a serious problem and dilemma for the newlook leaders of China today. Some of Mao's actions and policies were rejected and criticised, but the basic validity and relevance of "Mao Zedong thought" were not

questioned. Most of the attacks and criticisms were aimed at the Cultural Revolution and the "Gang of Four", especially on Mao's widow Jiang Qing. In fact, the criticisms were so orchestrated through intensive official propaganda the people were conditioned to believe that all the present shortcomings of Chinese socio-economic system was due to the excesses of the Gang of Four and the Cultural Revolution. There was also a widespread view that from 1956 onwards nothing went right in China with the implicit suggestion that Mao Zedong somehow lost control of the situations in the last years of his life. In other words, if not directly, there has been and still is a consistent criticisms against Mao's actions and policies. Yet, the strong man of China, Deng Xiaoping was reported to offer a spirited defence of Mao in an interview with the Italian journalist, Miss Oriana Fallaci saying, "The contribution he (Mao) gave to the Chinese revolution cannot be obliterated and the Chinese people will always cherish his memory." According to Deng, Mao failed to 'institutionalize' his own good principles which Deng claimed China was now trying to rectify. Deng even told the Chinese Peoples Political Consultative Conference on August 28 that, "it should encourage people in all walks of life to study Marxism-Leninism-Mao Zedong Thought." How since was Deng in making this comment was anybody's guess. What was true perhaps was the pervasive caution among the newlook leaders to denounce Mao Zedong outright. Thus, while reading the detailed accounts of the Chinese leaders' pronouncements in the ongoing 5th Peoples National Congress in the Peoples' Daily, a Chinese official accompanying us commented: "Almost all these pronouncements are as if directly quoted from Mao's writings. There is no difference except that Mao's name

is not mentioned."

To an outsider the whole process of de-Maoization seemed to be a muddled and confused political affair. The trial of the Gang of Four, the denunciation of the Cultural Revolution and the departure from some of Maoist policies appeared to be a form of national catharsis. But even in this process of catharsis, some consistency and caution was maintained in order to inspire confidence among the Chinese people about the ongoing socio-political system. Hence the cat and mouse game between Hua Guofeng and Deng Xiaoping in relation to Maoism. It was for the same reason, as told by a Chinese colleague, that "There has been delays in the trial of the Gang of Four and a 'often-hard-often-soft' criticisms about Mao Zedong. There is no pure black-and-white situations as before."

The net result of such political atmosphere appeared to be a confusion for many common people in China, which perhaps made them unsure of their views. For it must be understood that not everybody in China was communist. There were only about 40 million party cadres out of one billion population. Not every Chinese believed in communist philosophy, but an overwhelming majority of the Chinese seemed to believe that the post-liberation socialist system brought them many benefits which otherwise would have been denied to them. A Chinese colleague, put it categorically: "1950 was the growth period of the China's socialist economy when every Chinese enjoyed the prosperity. This was also the period of political stability. Since then there has been several U-turns in the policies resulting confusion."

Confusion or not, there appeared to be some contradictory trends in public views about the present political atmosphere in China. This was revealed in our interviews with a large cross section of common Chinese people in different walks of life. Firstly, there was hardly any Chinese, irrespective of his or her background, who did not despise the Gang of Four. For example, Mrs. Li who was sent to work in a commune in a mountain-village for 3 years and then 2 years in a factory during the Cultural Revolution was extremely bitter in narrating her experiences. "The Gang of Four stiffled all criticisms, about the party line even if they were right, in the name of fight against reactions and capitalist roaders. Many got killed and lost their positions. Many got into the party, or University, and military even though they did not qualify. I hate the Gang of Four, particularly this lady Jiang Qing and all the people I know hate her. It was silly to ask the intellectuals and university students to go to settle in the communes and think like the peasants. The Gang of Four used to say, 'Running train in time means going against the preletarian needs.' In the name of class war, they deliberately sacrificed efficiency and productivity. They even appointed people in important positions without any suitable qualifications. Their only qualification was their allegience to the Gang of Four."

Mrs. Li's comment was just an example. What she told clearly resembles the present party line. Since their arrest in 1976, there have been almost continuous propaganda blaming the Gang of Four for all the mistakes or shortcomings in China. In an interview with the Italian journalist Miss Oriana Fallaci, remarked:

"She is a very, very evil woman. She is so evil that any evil thing you say about her isn't evil enough, and if you ask me to judge her with the grades as we do in China, I answer that this is impossible, there are no grades for Jiang Qing, that Jiang Qing is a thousand times a thousand below Zero."

Given this kind of intense propaganda, for whatever reasons, the comments of Mrs. Li and many more like her in China was quite understandable. What was however interesting to note was when some of these Chinese people readily confessed that there must be some strong base of support for the Gang of Four still around, who were presently keeping low as a strategy pending the results of the trials. On the other hand, the havoc created by the Gang of Four (the official death toll being recently put forward at 34,000) particularly, among a sections of party cadres, urban intellectuals, technicians and bureaucrats, that it was quite plausible to find a pervasive anti-Gang of Four feelings among these sections of population in China today.

Blaming the Gang of Four was also in a way criticizing Mao. Surprisingly, the Chinese vainly tried to differentiate between the two conceding, of course, that it was Mao's mistake to trust the Gang of Four. And this was a mistake for the Great Helensman, Mao Zedong which the Chinese found a rationalization in the isolation of a sick old man that Mao was in the last years of his life. This was also the cautious official view of the new leaders. A university student explained: "In China whatever the contemporary party line, one has to follow. The Cultural Revolution is said to be a mistake and we must learn from the mistake not to repeat it."

However, peoples' reaction and attitudes towards the Cultural Revolution were not as equivocal and clear-cut as they were towards the Gang of Four. All along our month-long travel around rural China, we could find a serious official attempt to obliterate the memories of the Cultural Revolution. Unlike Great-Leap-Forward-slogans which still remained in their faded appearance on the walls of village homes and public places, the slogans of the Cultural Revolution were marred by white or black patches.

No outsider could miss this stupendous official attempt to physically banish all signs of the Cultural Revolution. On the other hand, almost invariably we were told how productivity and efficiency in the industries and the State farms went down during the Cultural Revolution. Mr. Fu, the director of the Deyang State Horticultural farm, Sichuan province, for example, was forthright to point out that it was due to the young student activists who were sent as workers in the farm during the Cultural Revolution, the farm went into 'red'. "These workers were busy in creating revolution and poster writing at the cost of farm work" was Mr. Fu's assessment. Professor Chiou of Zhejiang Agricultural University, Zhejiang province was still more categorical about his experiences of the Cultural Revolution. He said:

> "Intellectuals and professors are following the present party line. They did not like the Cultural Revolution. During the GPCR (Great Proletariate Cultural Revolution), the University was closed for three years from 1966 to 1969, and reopened only in 1969-70. Some factories stopped production almost completely. Almost all intellectuals, professors, many bureaucrats and technicians were sent to the communes to work and they had to attend daily political classes on Mao's teachings.

> Students did not study anything but Mao's teachings, politics and history of the Communist Party of China. The youth all over the country went around in public buses and trains without paying fares. It was difficult for a common citizen to travel in public buses and trains. Although agricultural production was not hampered, normal industrial productivity and city affairs did certainly get hampered."

But the angriest outburst against the GPCR came from a university student at Shijiagzhuang, Hebei province. Most of these university students whom we met at Shijiagzhuang, including this particular angry youngman, were teenagers during the GPCR (1966-1976). They were reported to be hardly affected by the GPCR except the closure of schools and disturbance in their studies in the initial period of 2-3 years. However, among them was this particular youngman who was vehement in his denounciation of the GPCR. The father of this youngman was a photography reporter of the Xinhua news agency in Beijing and his mother was the director of the Kindergarten of the Xinhua news agency's housing estate in Beijing itself. Both the parents were a long-time party cadres at a fairly high level and were settled down in Beijing for a long time. The father was one of those reporters who dared to take a shot of the popular demonstration and riot at Tuinanmen Square after the death of premier Zhou Enlai in 1976. The mother demanded a fuller discussion and clarification about the policies of the GPCR during a meeting of the local party cadres of the housing estate. "These were sufficient reasons for the family to be persecuted and victimized," explained the young son, "they were sent out without a job to our ancestral home in Sichuan province and then after a year we

were sent to a remote commune in the province, where we had to live for 11 long years as a peasant family. We were purely urban people knowing nothing about agriculture. My mother developed tuberculosis and died. I missed my education. It was only by the end of 1976, my father was rehabilitated in his original post at Xinhua news agency and posted at Shijiagzhuang, Hebei province." The boy concluded his story, young parroting the present party line: "The GPCR is a costly mistake for the nation. We must learn from the mistakes."

Mistake it was even for those who, in their hindsight, assessed the experiences of the GPCR positively. There are no dearth of examples of the positive views of the Chinese people about the GPCR as some of their GPCR views mentioned above. In fact, the commune leaders by and large seemed to feel that the GPCR greatly helped them increase agricultural productivity and accomplish many developmental activities such as road and house construction due mainly to the increase in cheap labour force. Very rarely they found these urban people unacceptable except in some odd cases when these educated urban elite could not adjust to the rural culture and tried to impose their superiority over the rural people. On the other hand, there were innumerable cases when these urban elites developed enduring family relationship with the rural families which still continued even after they left the rural areas after the GPCR. A good example of such case was Miss Li, our girl interpreter.

Miss Li was one of these young educated urban youth who was sent to the communes during the GPCR. She was the only daughter of her parents

living in the provincial capital Chengdu, Sichuan province, an upper middle class family. At the time of the GPCR, she just finished juni secondary school when she was sent to a production team in Sichuan province itself. Her story about her experiences in the production ran as follows:

> "We were ten of us, young urban educated people, sent to this particular production team. I lived in this team for 3 years. I was living with a peasant family. I worked just like a young peasant worker in the team on transplanting rice, ploughing, harvesting, threshing etc. In the first year state paid us a salary and afterwards we had to earn our work points as any other commune worker. It was a very hard work, harder than city life we were used to. The most difficult job for me was to cook my food with agricultural stalks as fuel. However, it was a very good experience. I have learnt a lot. But it was too long. The idea of the GPCR was to settle us permanently in the villages. I almost accepted the fate. Luckily, I got through the entrance test for the foreign language course in the University and thus could leave the team. The peasant family with whom I was living became our family friend. Even now I visit the peasant family whenever they come to Chengdu. I write to this peasant family regularly as they do."

Miss Li concluded her story with a rider and saying: "Not all urban youth were friendly with the peasants. Some of these urban youth often behaved badly with the peasants and they were obviously not liked by the villagers."

Miss Li was not an exception. Mr. Zhang, a highly qualified technician bureaucrat, for example, had almost a similar attitude towards his experiences in the GPCR. Mr. Zhang was sent to a production team in a mountaineous area in northern China during the GPCR.

He said:

> "I enjoyed it. I built my own house there with the help of the villagers. We built road, ploughed land, and did all agricultural operations. It was a very hard work. Peasants have thousand times harder working life than the urban workers like us. I was born and brought up in a city. I would have never known how our 75% population live in the rural areas. It was a great learning experience. It was during my stay in this team that I learnt various skills which I could now use myself at my home, such as carpentry, gardening, repairing etc. But some Chinese people might say that it was a waste of skilled manpower by putting them in wrong kind of work. For, they could have contributed more in the job for which they had the skills. But I felt that this experience was necessary and extremely useful at least for some period, if not for the whole life time."

Mr. Zhang concluded by saying: "Originally Mao's idea of the GPCR was to send people like us to the communes for a short period of 2-4 years. Later on, Mao lost control and the Gang of Four tried to make it for life-time."

With some variations in their expressions and personalized experiences, the views expressed by the multitude of Chinese People about the Gang of Four and the GPCR were similar to what were mentioned in the above examples. What was striking in all these expressions was the caution and hesitancy with which they were told. It seemed that the common Chinese people were still in a state of confusion and uncertainty. How far and how long the de-Maoization process would continue was not known to them for sure. A Beijing-based Chinese bureaucrat confided this confusion in a very characteristic manner. "Anything can happen in China. During the thirty years we had so many turns in the political processes such as the Great Leap Forward, let the Hundred

Flowers Bloom and the GPCR, but with Mao Zedong at the helms of affairs there was a continuity. Whatever might be his mistakes, it was Mao's policy which could make China a powerful nation. May be, in the process, we failed to achieve the socialist goal of having decision making power with the workers and peasants."

In all such comments, there was an apparent attempt among the many Chinese people to seek some continuity in the political processes as an anchorage. The dilemma and the difficulty of the newlook leaders of China in the process of deMaoization was precisely to provide this anchorage of continuity. The trial of the Gang of Four, the open-door policy towards Western technologies, that is, to walk on borrowed legs, the free markets, private enterprises and many more new policies such as these were still rationalized by many articulate Chinese people in terms of Maoist thoughts. That is how they were seeking anchorage. It looked very reasonable in the context of China today and her people. It was equally clear that only the Chinese people themselves could clear the political confusion. A German colleague aptly remarked. "China does not need us good willing Westerners. But to run this kind of socialist society I think you need a lot of Chinese. Chinese characters."