



Promoting Knowledge Exchange through Diaspora Networks (The Case of People's Republic of China)

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LIST OF ABBREVIATIONS

ADB	Asian Development Bank
CAS	Chinese Academy of Sciences
COMPAS	Centre on Migration, Policy and Society
CCCCP	Central Committee of the Chinese Communist Party
CCPAT	China Council for the Promotion of Applied Technology
CMA-UK	Chinese Materials Association UK
GATS	General Agreement on Trade in Services
IOM	International Organization for Migration
MIDA	Migration for Development in Africa
MoE	Ministry of Education
MoP	Ministry of Personnel
MoPS	Ministry of Public Security
MoST	Ministry of Science and Technology
Nasscom	National Association of Software and Service Companies of India
OCAO	State Council Overseas Chinese Affairs Office
OCPs	Overseas Chinese professionals
RMB	Renminbi (Chinese currency, RMB 8.2 = US\$ 1)
SFSC	Shanghai Foreign Services Company Ltd.
R&D	Research and development
TiE	The IndUS Entrepreneurs
TOKTEN	Transfer of Knowledge Through Expatriate Nationals
UN	United Nations
UNV	United Nations Volunteers
UNDP	United Nation Development Program

PREFACE

This project was funded by the Asian Development Bank, and was designed and carried out by the Centre on Migration, Policy and Society (COMPAS), University of Oxford, UK in close association with the Departments of Policy Research and of Economy and Technology of Overseas Chinese Affairs Office (OCAO), State Council, People's Republic of China, during February 2004–March 2005. As a ministry-level Office, OCAO is the focal point in the Chinese government machinery handling overseas Chinese affairs. While the Department of Policy Research is the think tank and information centre of the OCAO, the Department of Economy and Technology is directly charged with contacting overseas Chinese professionals (OCPs) and promoting technology exchange.

This project was originally titled “Promoting Knowledge Transfer through Diaspora Networks”. We replaced the word “transfer” with “exchange” because through the study we recognized that the most important role of OCPs is not to transfer particular technology *to* China, but to help build research and development (R&D) capacity *in* China, and subsequently to help China integrate into the global research community and high-tech industry. Besides, any sustainable development must be based on exchange and integration of different types of knowledge, including that based on local practices, rather than one-way transfer.

Many institutes and individuals offered us generous help during this project. Ms Zhao Jian at the Departments of Policy Research of OCAO acted as the liaison person tirelessly between ourselves and the OCAO; Mr Xia Fudong at the Department of Economy and Technology provided valuable insights regarding government activities related to OCPs. Dr Frank Pieke, head of the programme on “Sending Context” at COMPAS, Oxford, supervised this project throughout, and gave valuable comments on both the design and implementation of the research. Ms Huang Yuqin at the Department of Sociology, Beijing University participated in part of the field research and documentary study, and she was instrumental in producing the first Chinese draft of the report. Mr Wang Di from the same department carried out all the work of data analysis of our questionnaire surveys, translating the English version to Chinese, and did part of the copy editing. We are also grateful for all the individuals who shared with us their insights and information, whose names are listed in Appendix 1.

Xiang Biao

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Promoting Knowledge Exchange through Diaspora Networks

EXECUTIVE SUMMARY

It is estimated that there are approximately 1.1 million overseas Chinese professionals (OCPs), including 0.6 million who left China before 1978, and 0.52 million who emigrated after that. Among them a total of 0.8 million have completed education and therefore form a “mature” pool of professionals. The OCPs have become a special constituency of the Chinese government. A wide range of government and semi-government agencies have put in place nearly 200 policies specifically for this group and initiated numerous programs to facilitate their return, and to enable them to establish contacts with the motherland. A particularly significant policy development has been the introduction of a “transnational” perspective, as evidenced by the slogan *weiguo fuwu* (serve the motherland) of the late 1990s, as compared to the earlier notion of *huiguo fuwu* (return and serve the motherland), which indicates that physical return is no longer regarded as a determinant. A so-called “dumb bell model”, meaning that a professional has affiliations in both China and overseas and moves back and forth, has been advocated as an effective means to serve the motherland.

Compared to the impressive progress in practice, however, research lags far behind. There is almost no systematic information and analysis of either spontaneously developed knowledge networks, or of the government initiatives. In this context, this project aims to map out the current situation of knowledge exchange through migrant networks and recommend measures for improvement. Instead of focusing on formal policy design and the permanent return of OCPs—the two issues that most existing research has focused on, this study pays special attention to the dynamisms of network building and the *operational process* of government programs.

In terms of network building, this study calls attention to the career development trajectory of OCPs, and the synergy between formal programs and informal networks. One of the key factors that shape OCPs’ knowledge exchange and network-building activities is the stage of their career development. For example, while the OCPs who left China before the mid-1990s have more tangible connections with China and are more willing to return on a short-term basis, younger ones have more information channels through which to follow the situation in China, but less networks. OCPs of the junior and senior levels are the keenest to develop connections with China, while the middle rank are preoccupied with establishing their careers overseas. Network building and knowledge exchange must serve OCPs’ career development strategies in order to be more effective and sustainable.

A combination of formal programs and informal networks are crucial for knowledge exchange. A China-based institute needs to know not only the latest development in science

and technology, but also *how* the progress was achieved and what it *means* for future development, which can only be conveyed through person-to-person communication. In general, OCPs have fairly diverse and deep connections with China. Differing from our original hypothesis, overseas associations remain an important part of OCPs' life, and more importantly a key means for transnational network building. But how formal programs can lead to more informal networks needs to be explored further.

In terms of government initiatives, given the high level of awareness of the importance of OCPs and knowledge exchange, and the large amount of resources devoted by the government, in principle we do not recommend expansion of existing programs. Instead, we emphasize the need to improve coordination between the programs and agencies. This study identifies "state-led (commercial) project-oriented" as the key feature of the current government programs in this field. The state remains the central player, and the programs are increasingly aimed at leading to commercial projects (for instance joint ventures between OCPs and China-based enterprises). This feature is not surprising given the nature of the overall socio-economic transformation of China and the business-driven process of globalization, but may be at odd with the basic fact that knowledge exchange is by definition a long-term and multifaceted process. Our key recommendations thus focus on two aspects: how to improve government management and how to better synergize state activities and market mechanisms. More specifically:

- Cooperation between government agencies across levels (particularly between central and local level) and between different agencies at the sub-national level is satisfactory. But duplication and a lack of coordination between ministries at the central level are clear. Given the unusual complexity of inter-ministry relationship, we recommend moderate mechanisms for achieving a better division of labor, specifically through the inter-ministry consultation put in place by the central government has, and evaluation research, which helps each department identify its advantage and focus. As a first step, ministries can work together to improve the data-collecting system on OCPs. One scenario that we can work towards is one in which different departments focus on "policy", "project", and "people" respectively.
- Despite the enthusiasm for profitable projects, the actual economic contribution made by OCPs through government programs remains unclear. Thus far the outflow of OCPs (mainly as students), the return of OCPs, and the high-tech industry in China are separate processes. In comparison, India's experience in its IT industry and mobility of IT professionals suggests that mobility can itself become an integral part of the high-tech industry. Facilitated by firms that combine technology development and labor supply, professionals migrate as part of trade in services, rather than as individual

behavior. Mobility of this type helps small firms accumulate capital and foster global business connections. To achieve this, the Chinese government should link its OCP work more closely to its overall strategy for science and technology development and international trade in services.

To summarize, the government should, on the one hand, move away from the narrow focus on commercial projects, and at the same time make the mobility of OCPs truly embedded in the dynamism of the global economy.

CHAPTER I

INTRODUCTION:

A SALIENT KNOWLEDGE GAP AND OUR APPROACH

Since the topic of the “brain drain” was introduced to United Nations debates in the late 1960s, there have been two significant shifts in policy thinking on development and the migration of the highly skilled. Researchers and policy makers in the 1970s focused on how to discourage the “brain drain” and on how to compensate the countries that the highly skilled were migrating from. Bhagwati (1976), for example, proposed that the countries of origin should impose “brain drain taxes”. Although attracting certain attention in debates, these proposals were proved unpractical. A new thinking with the focus on permanent return emerged slightly later. A series of UN documents at the late 1970s identified the return of professionals to their developing home countries as an important strategy for development.¹ The International Organization for Migration (IOM) launched a program to assist educated migrants return to their home countries in Latin America in the 1970s, and initiated a similar program in Africa in the 1980s.

Since the late 1990s, a “transnational” thinking gained popularity. The thinking recognizes that, in the current era of globalization, global links may be more important than human capital “stock” in a particular country. A professional thus may contribute more to the home country by residing overseas than by returning permanently. The Transfer of Knowledge Through Expatriate Nationals (TOKTEN)² program initiated by the United Nation Development Program (UNDP) in 1977 was

¹ These documents include: the Buenos Aires Plan of Action adopted by the United Nations Conference on Technical Co-operation among Developing Countries in 1978, documents of the second Latin American Regional Preparatory Meeting for the United Nations Conference on Science and Technology for Development, held in Montevideo in December 1978, and the Vienna Program of Action: United Nations Conference on Science and Technology for Development in 1979 (see Pires 1992).

² The TOKTEN program was first introduced in Turkey in 1977. Since 1994, the TOKTEN program has been operated by the United Nations Volunteers (UNV). The TOKTEN program is currently implemented in 25 developing countries, and has been particularly successful in Turkey, India, China, the Philippines, Poland and Palestine. Source: <http://www.tokten-vn.org.vn/introduction.html>

one of the pioneering programs along this line. TOKTEN assists expatriates living abroad to work for short periods in their country of origin. IOM replaced its earlier program on permanent return in Africa with a new program, “Migration for Development in Africa” (MIDA, Migrations pour le Développement en Afrique, in French) in 2000. While the earlier permanent-return oriented programs saw “reintegration” of the returnees to their home countries as a key component and the “re-emigration” of returnees as a failure, the MIDA program emphasizes the importance of temporary, periodic returns or even “virtual” returns (tele-working and tele-teaching).

The transnational approach was more a result of the recognition by government and international agencies of the new economic and technology reality than led by theories. Although in the past few years, some researchers have attempted to conceptualize these practices under the rubric of “transnationalism” (for example, Ammassari and Black 2001; Meyer 2001; Vertovec 2002) and some have proposed the notions of “scientific diaspora” (Meyer and Brown 1999) and “brain circulation” (Saxenian 2000), detailed analysis of these initiatives are limited. Many questions remain explored; for example, how exactly are these programs implemented? Do they work? What can we learn from existing experiences? Indeed, Chinese researchers and policy makers have little information about comparable experiences of other countries and international agencies when devising their policies.

This knowledge gap—where research lags behind practice—also stands out as salient in the Chinese case. The Chinese government has put in place various programs to attract both the long-term and short-term return of overseas professionals. The initiative of encouraging temporary return and transnational connections, as opposed to permanent return, can be traced to 1985 with the introduction of post-doctoral programs, at the suggestion of the Nobel prize winner, Dr Li Zhengdao (Tsung-Dao Lee), to Deng Xiaoping.³ In 1987, Zhao Ziyang, then the general secretary of Chinese Communist Party (CCP), argued that the brain drain should be regarded as a case of “storing brainpower overseas” that would be used in the future (see Zweig and Chen 1995: 17).

Similarly, the State Commission for Science and Technology suggested in 1988 that OPCs should be regarded as an overseas reservoir (Zweig and Chen 1995). The phrase “temporary return” (*duanqi huiguo*) probably made its way into government policy in the 1994 document, “Provisional Methods of Sponsoring Overseas Students to Return to China to Work in Non-Education Sectors Temporarily” issued by the Ministry of Personnel (MoP).

The Chinese government’s emphasis on temporary return and transnational networks is probably most clearly evidenced by the slogan, *weiguo fuwu* (serve the motherland), proposed in the late 1990s, as compared to the earlier notion of *huiguo fuwu* (return and serve the motherland), which indicates that physical return is no longer regarded as a determinant. The term *weiguo fuwu* was formally articulated for the first time in the document, “Suggestions on Encouraging Overseas Students to Serve Countries by Various Means” issued by five ministries jointly on 14 May 2001. Following this, government and other agencies have advocated a so-called “dumb bell model”, which means that a professional has affiliations in both China and overseas, and thus moves back and forth to serve the motherland. Terms such as “flexible mobility” (*rouxing liudong*) meaning that an Overseas Chinese professional (OCP) can come and go according to his/her convenience and the need of China-based institutes and “only seek to utilise, not to possess” (*danqiu suoyong, buqiu suoyou*), referring to Chinese employers’ strategy of benefiting from OCPs without forming formal employment relationships—which are very commonly used—reflect the fact that the *weiguo fuwu* policy has been widely practised.

Short-term return and network building by OCPs are not only pushed by government, but are also encouraged by knowledge-user institutes. First of all, the increase in the long-term rate of return (13% a year since 2000, see Chapter II) is not expected to be sustained for long. According to the “Shanghai Research Team on the Motivations and Rules of the Return of Overseas Talents and the Strategies to Encourage the Return” (2003), the return wave of OCPs to Shanghai will level out by 2010 or so with the saturation of the labor market for the highly skilled. Short-term

return and transnational network will thus become an important means for knowledge exchange. Second, institutes often need the knowledge of the latest development in research more than they need another researcher working there on a long-term basis. Third, and most importantly, the most-needed OCPs are those who have deep understanding of the trend of a specific research field and have the vision for the future development, who often have secured positions overseas and are preoccupied by their own work; and periodic visits and exchanges through networks are thus a more appropriate means to engage them.

Despite the impressive progress in practice and the demand on the ground for network building and short-term return, existing research on OCPs has predominantly been centered on long-term physical return.⁴ The most comprehensive recent research on OCPs includes that conducted by Jia Hao (1996), Zweig and Chen (1995) and more recently by Chen Xuefei et al (2003). Chen Xi has also published a series of papers based on a documentary study (2002). But almost all these studies take permanent return as the parameter in judging the costs and benefits of student migration, and a higher return rate is almost invariably identified as the key policy goal. For instance, based on a survey of 273 Chinese students and scholars in the USA in 1993, Zweig and Chen asserted that “given the exceptionally low return rate in all studies of the Chinese brain drain, China is suffering a significant loss of brainpower” (Zweig and Chen 1995: 65). Similarly, Jia Hao and Chen Xuefei argue that emigration of students not only led to the loss of highly-qualified personnel but also created a skewed structure in scientific human resources.⁵

As a further reflection of this approach, a number of research projects examined the reasons for the return or non-return of OPCs. A large-scale survey carried out by Chang and Deng (1992) shortly after the events of Tian’anmen Square highlights the perception of the political situation as the key factor affecting students’ decision-making on whether they would return. Similarly, Huang Wei-Chiao (1988) argued that the intention of returning is closely related to the human rights conditions in the home country, and ideological appeal and financial incentives must be matched with an impressive improvement in human rights situation in the country of origin. But Brzezinski’s

research (1994), based on in-depth interviews, indicates that politics has little effects on the intention of return, and instead the prospect of self-realization is the determinant. Zweig and Chen (1995) suggested that as the fall-out from the impacts of the 1989 event decrease, living conditions and working facilities again became more important for the students in the 1990s. The research by Xiao Ruo (2001), based on her case study of scholars from overseas who returned to Beijing University, also reveals that ideological and political concerns are not the main obstacles for return, and instead, that the lack of professionalism in workplace was more important.

Furthermore, existing literature tends to target the top government agencies as its audience, therefore focuses on formal policies—and the policy recommendations proposed therefore tend to be general. For instance, both Jia and Chen Xuefei et al. suggested the establishment by the central government of a special unit for OCPs, and Chen Xuefei et al. recommend an increase in funding for programs attracting the return of OCPs. Government officials whom we interviewed, however, voiced concerns that these suggestions are difficult to implement. A great number of articles about the achievement of particular institutes in attracting returnees have been published, particularly in the journal, *Research on the Management of Studying Overseas*. Although these articles are working reports on the experience of specific institutes, most of them use highly formalistic language, and fail to describe the operational process and identify problems clearly.

Based on material and insights provided by existing research, but moving away from its predominant approach, this study aims to provide new information and analysis, particularly on the following three issues. First, the study pays more attention to OCPs as a social group, and sees knowledge exchange as first of all a *social* process. Only when the programs for network building and knowledge exchange are beneficial for career development and life strategies of OCPs can they be sustainable. Thus, following the Introduction, Chapter II of this report reviews the history of the formation of the OCP group and establishes a basic profile of the group; and Chapter III maps out existing connections of OCPs with the motherland. Second, this study attempts to provide a systematic review of the various programs of encouraging knowledge exchange, and more

importantly to reveal and compare their operational modes (Chapter IVr). Third, the study calls attention to the connection between formal and informal networks, such as those based on OCP associations and personal connections (Chapter V). While there has been substantial literature on networks in general, and on overseas Chinese networks in particular, (for examples of literature by China-based scholars, see Li Minghuan 1995; Li Qiushan 1997; Wang Ling 2002; Yu Zhenchang and Zou Jianyun 2003), this study focuses on the mechanisms and strategies of network *building*. In doing so, the study also attempts to link the micro process of network building to policy analysis, as reflected in the policy discussion in Chapter VI.

A. Working Definitions and Scope of Study

Three groups comprised the main subject of this project: OCPs, government or semi-government agencies related to OCPs, and China-based knowledge-user institutes. In line with definitions used by the Ministry of Education (MoE), the Ministry of Personnel (MoP), and the Overseas Chinese Affairs Office (OCAO) of China, this project defines Overseas Chinese Professionals (OCPs) as ethnic Chinese residing outside China on a long-term basis, with tertiary degrees, and working in specialized areas, using their specialist knowledge. They can be academics at advanced research and education institutes, and may also work for private technology companies and other agencies such as government and NGOs. Self-employed professionals, such as high-technology entrepreneurs, lawyers, and other freelance consultants, also fall into this category.

“Knowledge” in this project is thus defined as including technology know-how that can be utilized by industries, as well as in research; management experiences and knowledge, such as expertise of law and finance; information about latest theories and research methodologies; and knowledge useful for policy making, such as that of successful/failed international experiences. Knowledge exchange is the process whereby the expertise or information is channelled to

institutes or individuals who originally do not possess them.

In government set-up, five major agencies at the central level are in charge of the affairs of overseas Chinese. They are the State Council Overseas Chinese Affairs Office (OCAO), Committee for Overseas Chinese Affairs of the National People's Congress, Committee for Hong Kong, Macao, Taiwan and Overseas Chinese Affairs of the National People's Political Consultation Congress, Zhigong Party and the National Federation of Returned Overseas Chinese. Apart from these five organizations, a wide range of departments have been involved in the work related to OCPs. Among them are the Organization Department of the Central Committee of Chinese Communist Party, MoE, MoP, Ministry of Science and Technology (MoST), State Administration of Foreign Experts Affairs, and the Ministry of Public Security (MoPS). MoE has set up the Office for the Affairs of Returned Overseas Students, and other ministries have also designated specific branches to take charge of the work. Interestingly, even the Communist Youth League has announced policies and experimented with programs in this area.

On 1 December 2003, the central government put in place a system of Inter-ministerial Meetings on Returned Overseas Students, participated in by thirteen ministries as members, and the All-China Federation of Returned Overseas Chinese as an observer. The system is led by the Central Government Leading Work Team on Skilled Personnel, located in the Organization Department of CCCCPC and the MoP, with MoE, MoST, and the Ministry of Finance being the deputy leader. The meetings are aimed at smoothing and speeding up the process of policy making. For example, if MoST plans to issue a new policy to facilitate the frequent mobility of OPCs by various means, including by offering favorable visa and taxation policies, which are respectively under the charge of the MoPS and Ministry of Finance, the proposal can be discussed and decided swiftly through the inter-ministry consultation.

Various semi-government agencies, for example the Overseas Returned Scholars Association, China Association for Science and Technology, and National Natural Science Foundation of China,

have also played important roles in promoting knowledge exchange. These agencies cannot promulgate policies, but have adequate budgets, and have branches all over China, which enable them to carry out various activities on a large scale.

Knowledge-user institutes constitute another important subject of our research. They are the direct counterpart of OCPs in knowledge exchange, and know best what knowledge is needed. Knowledge-user institutes include universities, research institutes, high-tech enterprises and industrial parks. Recently, a few local government departments, for example the Bureau of Personnel of Shanghai Municipality Government, have targeted OCPs for their staff recruitment: therefore they have also become a special type of knowledge user.

In terms of methodology, the study adopts a wide range of methods. We started the project in February 2004 with documentary research and in-depth consultation with the OCAO. Since then, we have collected 180 government policy documents issued during the period from 1986 to 2003, and a large amount of research literature; conducted in-depth interviews with a total of 36 government officials, staff at key research institutes and OCPs (for the key interviewees see Appendix 1.1); organised one workshop in Beijing, which consulted government agencies and knowledge-user institutes in July 2004 (for a summary see Appendix 1.2); organized one focus group discussion with OCPs in Leeds; and carried out participatory observation of two major conventions aimed at fostering high-technology joint ventures between OCPs and local enterprises. Furthermore, a questionnaire survey of OPCs was carried out in Changchun, Shenyang (China) and Leeds (UK), with 55 valid returned cases. We also conducted an in-depth study of two knowledge-user institutes. A detailed description of the research methods is provided in Appendix 1.3.

This project also utilized the detailed curriculum vitae of 130 OCPs, randomly selected from the OCAO database of more than 20,000. Although we cannot ascertain how representative these CVs can be, analysis reveals that they may be less biased than we thought: 62.1% claimed that they had no connections with any institute in China, including OCAO. These CVs were

accumulated by OCAO randomly through official or private visiting (by both overseas Chinese professionals to China and OCAO officials overseas), conferences and other activities. The CVs form a main information source for the next chapter, for the analysis of the OCPs' group profile, career trajectory, and network development.

CHAPTER II

THE FORMATION AND PROFILES OF OCPS

OCPs consist of two sub-groups: those who left China after the Reform (starting in 1978) and those left before that or from elsewhere (e.g. those who left China before 1949; those who migrated from Taiwan and Hong Kong; and those born overseas). A report by OCAO in early 2002 indicates that among the estimated 30 million “old” overseas Chinese—as opposed to those who left after the Reform—there are about “600,000 overseas Chinese technology personnel in Western developed countries. There are 450,000 in the USA alone, including 30,000 of world-class professionals, making up about one quarter of the 130,000 first-rank scientists and technology personnel in the USA” (OCAO 2002).³ The group that forms the current policy focus however, is, those who left China after the Reform. In order to reach a comprehensive understanding of this group, we shall first trace the history of the formation of the group. The chapter then snapshots some basic features of the group, based on our survey.

A. Sending Out, Attracting Back and Keeping in Touch: Policy Changes and OCPs

Unlike in other major source countries of migrant professionals, such as India, the Philippines and Ghana, studying overseas (as opposed the migration of professionals who have completed education) remains thus far the dominant source of OCPs. One source estimates that as many as 60% of all the Chinese who emigrated through legal means after 1978, including both skilled and unskilled, were students and their families (Gao Weinong 2003: 390, 395). A government agency

³ We cannot identify the exact basis for this estimate, but it is a consensus that the number of 30 million of overseas Chinese is a gross underestimate and the figure of 600,000 also tends to be a conservative estimate.

of Guangdong province estimates that about one third of all legal emigrants from the province were from universities and colleges (Gao Weinong 2003: 395), which is surprising given the fact that emigration from the region is normally perceived to be driven by family reunion. In Australia, about 80–90% of the 50,000 self-financing students who left China after 1987 became permanent residents, and this is close to the total number of Chinese skilled migrants admitted during the same period (Zhu Huiling 2000: 374).

Again differently from other emigration countries, the formation of the OCPs has been directly shaped by state policies. Studying abroad was out of the question for most Chinese during the Cultural Revolution, until the end of the 1970s, when the Ministry of Education, pushed by Deng Xiaoping, started sending selected researchers to the West to study. In 1977 and 1978, Deng Xiaoping repeatedly urged universities and the MoE to send more students overseas to learn advanced technologies. This was further facilitated by the Sino-America Understanding on Educational Exchanges (October 1978) and the Agreement on Cooperation in Science and Technology (January 1979) (see Zweig and Chen 1995: 19).⁴ More than 3,000 students were sent overseas in 1978 alone by the MoE. In 1979, the MoE, the National Science Committee and the Ministry of Foreign Affairs jointly issued a document to detail how Chinese overseas students should be regulated. The procedure was strict, and those who did not return on time would be punished.

In 1981, the State Council approved the *Temporary Regulations on Self-financed Overseas Education*. This was the first time that the Chinese government formally recognized self-financed overseas study—going abroad for studying without the state’s sponsorship—as a legitimate means of exiting China.⁵ At the same time, employers have also been able to send their staff overseas for academic exchange or even degree education since the early 1980s. The employer

⁴ China had had limited educational exchanges with the UK, Australia, France, Italy, New Zealand, Canada and other countries who had established diplomatic relations with the PRC in 1972–73. But the numbers of personnel involved were very small.

⁵ In Chinese, studying abroad without state sponsorship is called “*zifei liuxue*”. “*Zifei liuxue*” literally means self-financed overseas education. But most Chinese students who moved abroad to study without government funding

would cover the full or part of the costs, and normally the member of staff is obliged to return to the same employer to work. Thus the three main channels of Chinese students' migration, namely sent by the government, sent by the work unit and self-financing, were established, which led to the first wave of "fever to study abroad" by the mid-1980s (see Zweig and Chen 1995: 20).

The late 1980s saw the beginning of the formation of a sizable OCP group when, with the gradual relaxation in regulation, the number of migrant students increased, but the return rate dropped significantly. The Tian'anmen Square incident in 1989 was a crucial turning point in China's student migration history. The United States issued an executive order to grant PRC students permanent residency in 1990, followed by the 1992 Chinese Students Protection Act. Other major Western countries followed suit. As a result, 70,000 Chinese students and scholars in the United States (including 20,000 family members), 10,000 in Canada (through the OM-IS-399 policy, see Zweig and Chen 1995: 7) and 28,500 in Australia (McNamara 1995) obtained their permanent residency almost overnight. This laid down the basis of a large OCP pool.

The Tian'anmen Square incident, however, dealt only a minor blow to the student migration policy in China, and the government continued sending students out.⁶ Furthermore, the government soon made a significant policy shift, namely from preventing and punishing students who were overstaying, to encouraging their return regardless of whether they had ever broken the agreement with the state. In 1992, the State Council issued a special circular emphasizing that all returned overseas students shall be welcomed no matter what their past political attitudes were:

No further investigation shall be made about those who had made incorrect statements or committed incorrect activities when they were overseas. Even those who had participated in organisations that are against the Chinese government, and had damaged the state's security, interests and honour shall also be welcomed as long as they have withdrawn from these organisations and no longer commit unconstitutional and illegal anti-governmental activities.

are supported by scholarships from the receiving universities or international foundations.

⁶ A minor change introduced after 1989 was that any university graduate who applied to study overseas had to work for a minimum of three (for Bachelor's degree holders) to five (for Master's degree holders) years in a public institute or pay up to RMB 10,000 per year for the period for which their subsequent work fell short of three- or five-year requirement (see Zweig and Chen 1995: 22).

(State Council 1992)

his was clearly referring to those who left China because of the Tian'anmen Square incident. For those who were sent studying overseas by their employers, the circular urges the employers to reach out to and keep in touch with them. Originally, overseas students had to apply for approval from their employers in China, should they need to extend their stay overseas. If they stayed on without permission, their salary was suspended for the first year, and subsequently the employer needed to decide whether the member of staff should be fired. In the early 1990s, the rule was changed, and those who stayed overseas without permission could pay compensation to the employer and terminate the employment relationship. The fact that the OCPs are allowed to "buy out" themselves means that their overstay will not have any negative implication in the future when he/she returns to China (previously, it would have been recorded as a violation of the rules). A returned OCP was also allowed to quit their jobs in the public sector if he/she preferred private or foreign enterprises. The liberalized policy is summarized as the "Twelve-words Approach"; the twelve words in Chinese are *zhichi liuxue, guli huiguo, laiqu ziyou*, meaning "support study overseas, encourage returns, guarantee freedom of movement".

Corresponding to this policy evolution, three groups of students from China have studied overseas. Students in the early 1980s were mainly sponsored by the government, and mostly took post-graduate or short-term training courses overseas. The second group emerged in the 1990s, with the majority being either being supported by overseas scholarships or self-supporting. They tended to be post-graduate students, though the average age was lower than the first group. The third group are those who have moved abroad since the late 1990s. This group is characterized by a high proportion of young students taking undergraduate programs or language courses. Many were admitted by polytechnic institutes rather than universities, and an increasing number of students are going abroad for high school education (Cheng Xi 2003: 37–48). The migration of the third group has mainly been facilitated by private education agents, as we will analyze shortly.

B. Size of the OCP Group

There is no data readily available on the exact number of OCPs. MoE is in charge of emigrant students, but does not have a systematic mechanism to collect data on either emigrating students or returnees. Departments such as the MoPS and MoP also produce data occasionally, but the data is not always clearly defined. Based on a number of reliable data sources, we have reached an estimate of the overall number of OCPs. We can furthermore discern three stages of the development in out-migration, return, and the formation of the group, as illustrated in Graph 2.1 and Table 2.1.

Graph 2.1

**The scope of out-flow, return of students and OCPs
(accumulative, 1985-2003) (10,000 persons)**

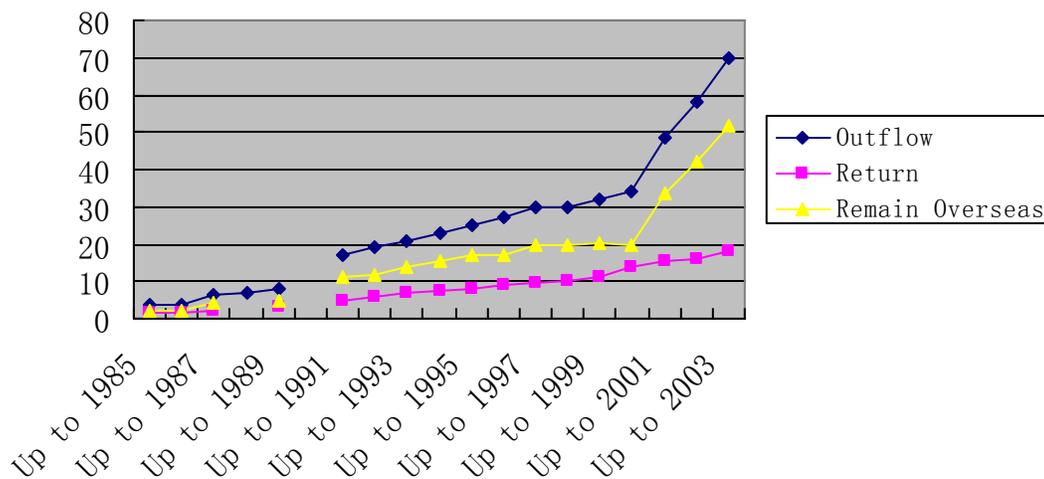


Table 2.1

The scope of out-flow, return of students and OCPs (accumulative, 1985-2003) (10,000 persons)

Time	Outflow	Return	OCPs (remain overseas)	Ratio of the those remain overseas to total number of OCS (%)
Up to 1985	4	1.65	2.35	58.75
Up to 1986	4	1.7	2.3	57.5
Up to 1987	6.4	2.2	4.2	65.63
Up to 1988	7.0	-	-	-
Up to 1989	8.0	3.3	4.7	58.75
Up to 1990	-	-	-	-
Up to 1991	17.0	5	11	64.71
Up to 1992	19.0	6	12	63.16
Up to 1993	21.0	7	14	66.67
Up to 1994	23.0	7.5	15.5	67.39
Up to 1995	25.0	8.1	16.9	67.6
Up to 1996	27	9 -	17 +	63.33
Up to 1997	30 -	9.6	20	66.89
Up to 1998	30 +	10	20	66.45
Up to 1999	32	11 +	20 +	62.81
Up to 2000	34	14	20	58.82
Up to 2001	48.6	15.22	33.38	68.68
Up to 2002	58.3	16 -	42.3	72.56
Up to 2003	70+	18	52	74.29

Data source: for up to year 2000, Cheng Xi 2003: 156. For 2001–2003, interview with the Department of International Cooperation, MoE and various government press releases at *Chinese Scholars*.⁷

From the graph and table above, we can see that at the first stage of the formation of OCPs, from the 1980s to 1997, out-migration, return, and remaining overseas all increased. But outflow not only outnumbered returnees in absolute number, but also increased faster than return. At the second stage, from 1997 to 2000, the numbers of returnees reached the same level as that of out-migration, and in 1999, return even outnumbered outflow. This may indicate that a pool of OCPs capable of contributing to science and technology development in China has been formed,

⁷ Chinese Scholars is a monthly magazine launched by the Ministry of Education in 1987, targeting OCPs (at that time mainly overseas students). The magazine developed its Internet version in 1995 (CHISA) as was the first web-based Chinese public media based in mainland China.

with a population of nearly 200,000.

The current, third, stage is characterized by a rapid increase in both out-migration and return, but the outflow increases far more rapidly. In the year 2001, 146,000 Chinese left for studying overseas, representing an increase of 71.8% from the previous year (*People's Daily* 12 February 2002), and the numbers for the year 2002 and 2003 remained at the level of 100,000.⁸ At the same time, an unprecedented number of OCPs returned to China. Meng Na and Cui Qingxin (2003) estimate that since the end of the 1990s, the number of returned overseas students has increased by 13% a year, and the rate even exceeded 20% in places such as Beijing, Shanghai, Guangdong, Liaoning, and Sichuan. They therefore asserted that China has gone through the “heat for going abroad” and reached a stage of the “heat of return”. Official MoE data also pointed out that nearly 18,000 overseas Chinese students returned to China in 2002 alone, representing a 47% increase compared the year earlier (Deputy Minister for Education Zhang Xinsheng, see Duan Wenwen 2004).

To summarize, by 2003, an accumulated number of more than 700,000 students went overseas for study, and about 180,000 of them returned to China on a long-term basis, therefore creating a pool of OCPs of 520,000 (including students who may return later). Combining the new OCPs with those who left before 1949 (estimated to be 600,000), we estimate that the total OCPs at the current time (by end of 2003) is 1.1 million, including 140,000 who left after 2000, who are pursuing degrees or just graduated, and therefore may not be regarded as fully fledged OCP members.

We should be careful not to overestimate the number of OCPs. Since almost all the OCPs that are being targeted by the Chinese government left China after the 1970s, the group is still in the process of growth. According to an official who has worked in the field, there are less than 1,000 OCPs who have obtained tenure positions in universities, or have comparable achievements

⁸ Unlike the students who went overseas with sponsorships from government or their work units at the earlier stages, the recent increase is mainly pushed by self-financing students. The number of international education agents assisting

(including those who have obtained the position of principal investigator in research institute, of branch managers in large cooperations, have important research achievements or published significant papers in influential international journals, or have been appointed to certain positions in government or non-government organizations). Two-thirds of them are based in the USA (Zhao Xichao 2003). The head of the Association of International Personnel Exchange in London, an office of the State Administration of Foreign Experts Affairs in Beijing, told us that less than 1,000 OCPs have obtained degrees and have started working in the UK.

C. Who Are They: Group Profile of OCPs

The Majority Reside in North America

The United States remains the top country of residence of OCPs, followed by Japan and Canada. It is interesting to note that students educated in different countries have quite different rates of return, which affected the geographic distribution of OCPs. Between 1978 and 2001, the return rate from the United States, Europe, and Japan was respectively 14.0, 42.1 and 37.0%. Apart from its large number of universities, the United States also became the major country of residence because many students who studied in Europe or Japan moved to the United States for work after graduation. But in the forthcoming years we expect the geographical distribution of OCPs to become more diverse.

self-financing students has also mushroomed. First appeared in China in the end of the 1990s, by early 2001 there were at least 309 agents in operation in Beijing alone!

Table 2.2: OCPs by country of residence, 1978–2001

	Cumulative total of students having studied abroad	Total Returned	OCPs
USA	242,700	33,978	208,722
Japan	69,610	25,755	43,855
Canada	36,400	13,468	22,932
German	32,800	11,808	20,992
UK	27,940	12,852	15,088
France	18,400	8,648	9,752
Australia	14,950	7,475	7,475
Others	17,200	1,984	15,216
Total	460,000	115,968	344,032

Source: Based on Ministry of Education data and Zhang 2003: 80.

Young, and Predominantly Male

Our survey suggests that the average age of the OCPs is 34.59, with the highest age 62 and youngest 22. But the group is highly skewed in gender composition: of the 130 CVs from the OCAO database, 95.1% are male and only 4.9% are female. Of those who were honored as “outstanding overseas students” by the central government in 2003⁹, 91% were male and 9% were women. Our survey represents a better picture, with 78.2% being male.

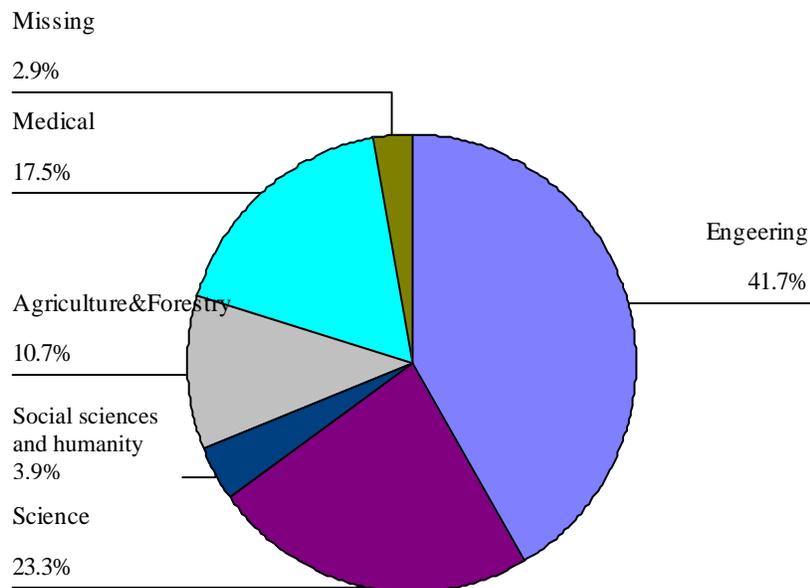
The Majority Have a PhD, and Most Work in Science and Engineering

OCPs in general have very high educational achievement. The OCAO database shows that 90.3% have PhD degrees and 7.8% have Master’s degrees. Our survey indicates 78.2% have PhD, 16.4% have Master’s and only 5.5% have only Bachelor’s degrees. In terms of the area of study and specialization, the OCAO database suggests that a mere 4% of OCPs are in the field of

⁹ We assume this data is representative enough to be used, because the Chinese government is normally very conscious that those granted state awards should be representative of the demographic profile of the entire group, particularly in terms of the field of work, location, gender and ethnicity.

social sciences and humanities (see Graph 2.2), and the overwhelming majority are in science and engineering. The earlier study by Jia Hao (1996), however, compared OCPs' subjects for the periods 1978–1981 and 1993–1994 and found a significant increase in those in social sciences and humanity (from 3.6% to 26.0%). It is also a consensus among our informants that the share of students in arts has been increasing over the last few years.

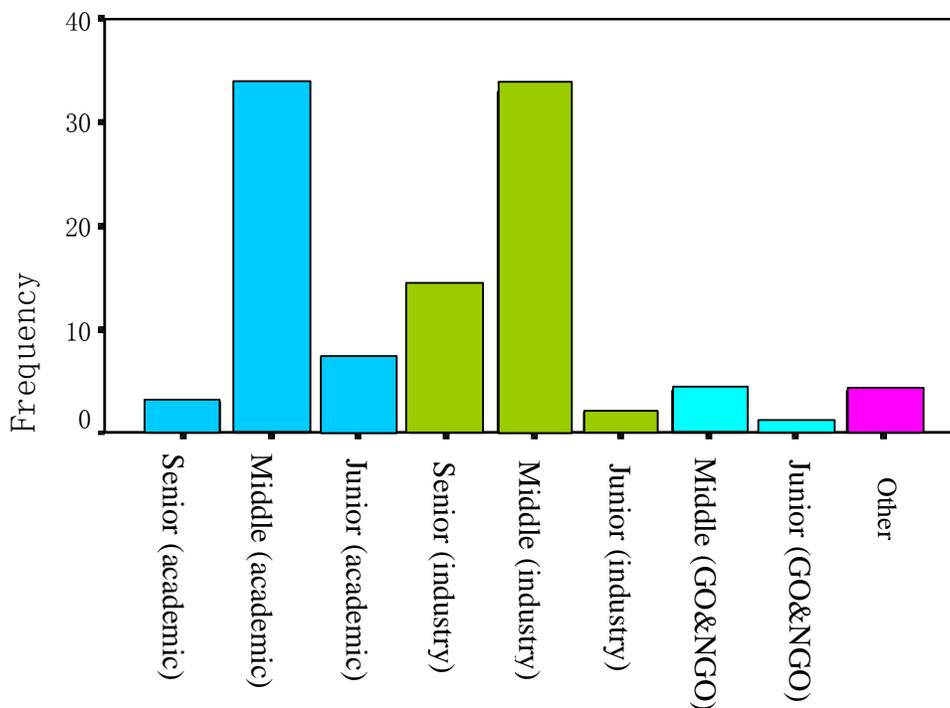
Graph 2.2 OCPs' specialization



Most Work in the Middle Rank in Academic or Industrial Institutes

According to our analysis of the CVs of 103 OCPs, about 41.6% work in the academic field, just below 50% work in private enterprises or are self-employed, and the rest, about 10%, are in government departments and NGOs. In terms of ranking, OCPs are concentrated in the middle level, in positions such as research fellows and medium-rank managers in firms (see Graph 2.3).

Graph 2.3 OCPs' Position



In order to better understand the career trajectory of OCPs, we cross-tabulate the time of going abroad and their current position (see Appendix 2.1). The results show that in general, the earlier an individual goes abroad, the more senior he/she is. But promotion in the private sector may not be closely associated with length of work experience. Those who left China after 1990 in fact appear to be more likely to have achieved high positions than those who left before 1990. This is probably because, while those who left before 1990 were academic-minded and often sought positions in the private sector after failing with academic institutes, those after them were more keen to pursue a career in the private sector. We expect the group in industries, particularly in the middle rank, will increase fairly rapidly as a result of the ongoing student migration waves.

CHAPTER III

OCP CONNECTIONS WITH CHINA

In order to explore measures to promote knowledge exchange through diaspora networks, we need first of all to examine how closely OCPs are connected to China at present. This study measures the strength and diversity of the connections by exploring three sets of questions:

- Are OCPs following the situation in China?
- Do they have stable connections with institutes in China? What are the connections and how are they established?
- Are they thinking of returning to China?

Our study suggests that OCPs in general have fairly diverse and strong ties with China, and the connections are clearly shaped by the trajectory of their career development overseas.

A. News, Phone Calls and Home Visits

Following news of the home country, making phone calls and home visits are normally regarded as the most primary forms of migrants' transnational connections. Our survey and interviews indicate that most OCPs follow the situation in China regularly and many adopt multiple means to do so. Out of the 55 surveyed, only one did not follow news of China, while over 90% have more than one information channel. Among them, 13 people use two methods, 17 use three, 9 use four, and 10 individuals exhausted all five means listed in the questionnaire (TV and newspaper, Chinese language websites, relatives and friends in China, Chinese community in place of residence, and media in place of residence).

Female OCPs use slightly fewer methods for following the news, with an average 2.75 means

per person, compared to 3.14 for men. Age appears to have a more significant effect. The general trend is that the younger an OCP is, the more means he/she uses. The group born in the 1960s, 1970s, and 1980s respectively use an average of 3.00, 3.06, and 3.43 means. But people born before 1959 on average have 3.17 means to follow the situation in China, the second highest among all the age groups. Our interview suggests that this group often had deep and wide connections with China before they emigrated, and also have stronger emotional commitment, which explains their keenness in following the situation in the homeland.

Our survey found that OCPs make an average of 1.3 visits a year, and two phone calls a week to China. Those working in commercial enterprises and government agencies tend to visit more frequently, almost twice a year on average, than those working in academic or education institutes.

B. Stable Connections with China-based Institutes

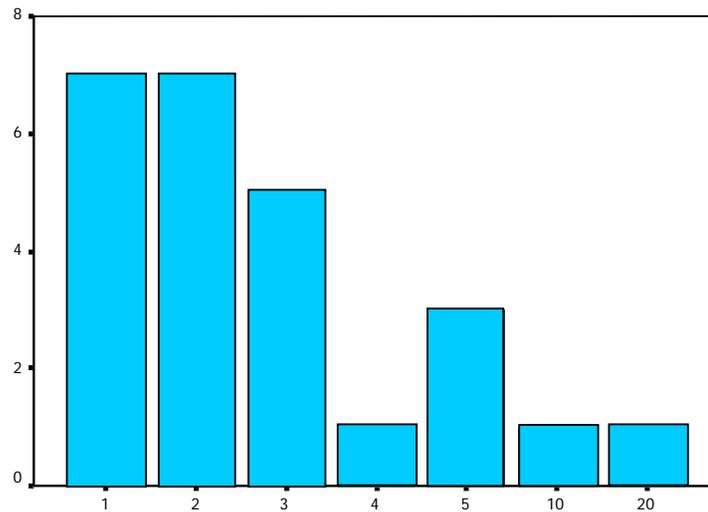
Our survey shows that 52.7% of OCPs have stable academic or commercial connections with China-based institutes, a higher percentage than the OCAO database suggests. Gender stands out as a significant factor here. While 60% of male OCPs have connections, only 25% of female OCPs do. Age, and the first trip abroad are also closely associated with the strength of connections. The older an OCP is and the longer he/she resides overseas, the more likely he/she is to have stable connections with China (Appendix 3.1).

When asked whether they have formal affiliations with Chinese institutes, around one-third of those surveyed answered yes, and of those, 40.7% work as a “special-term professor/researcher”. Five people invested in China-based projects, four work as an advisor to enterprises or government, and the remaining five have other types of affiliation.

Furthermore, older male OCPs are not only the most likely to have stable connections with China, but also to have connections with the largest number of institutes. Of those who have

connections, on average each OCP is connected with 3.4 institutes—a substantial number. Among them, male OCPs have connections with an average of 3.52 institutes, compared to 2 for female OCPs. Those born before 1959 are, on average, connected to 5 institutes, while those born in the 1960s have 4.17 connections, and those born after 1970 are connected to only 1.5 institutes. Surprisingly, those who work in commercial enterprises tend to have more connections (4.2 institutes) than those working in academic institutes (2.4).

Graph 3.1 Numbers of China-based institutes connected

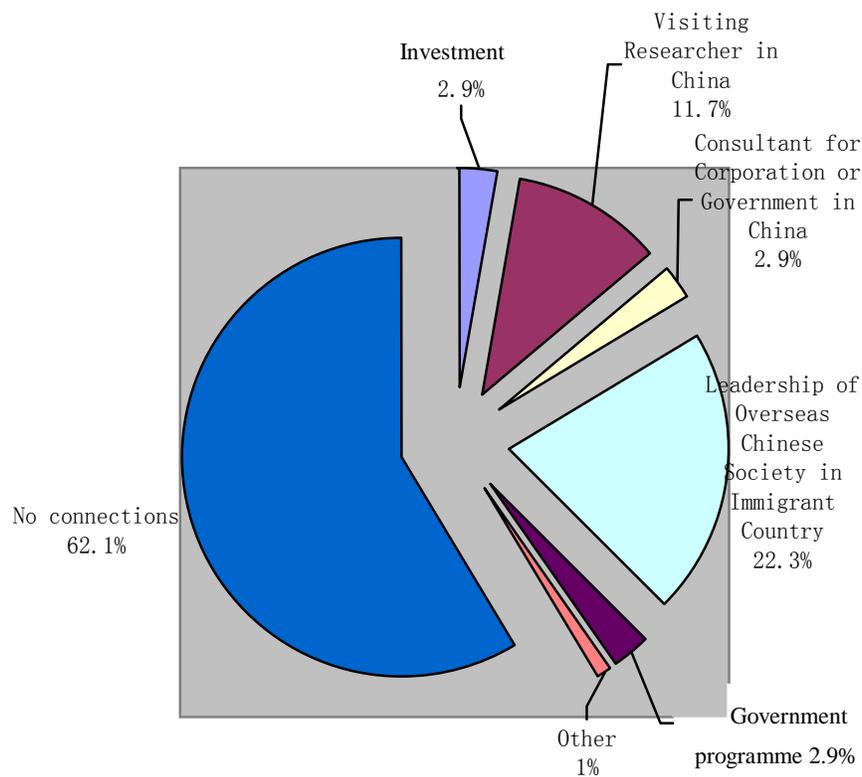


Apart from the number and type of OCP connections with Chinese institutes, we are also interested in *how* these connections have been built. Of those who answered the questions (50), 25 respondents used only one channel, 14 used two, and 6 used three channels. Again, men are better equipped at establishing connections: on average they have 1.86 means, compared 1.25 for female. Confirming the above-mentioned finding that age plays a significant role in network building, those born before 1959 have 2.83 channels on average, while those belong to the

younger groups have respectively 2.05 (for 1960–1969), 1.33 (1970–1979), and 0.88 (after 1980) channels. Also consistent to our earlier finding, those working in commercial enterprises have more means to build connections (2.67) than those in academic institute (1.57). Chapter V will further discuss the channels of network building.

The OCAO database shows that OCPs are connected to Chinese institutes by playing the following roles.

Graph 3.2 Types of connections with China

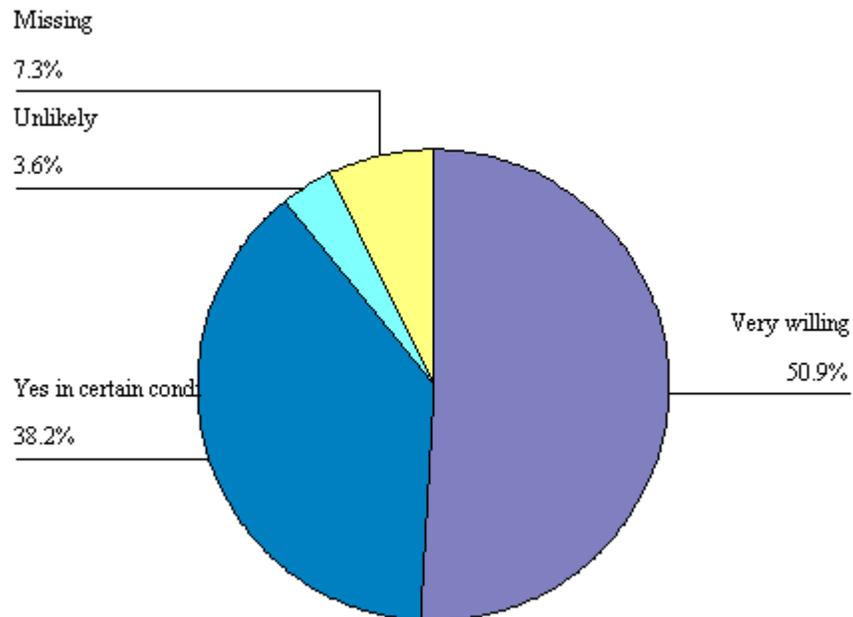


Note: Some people are involved in more than one kind of connections, so the sum of percentages exceeds 100.

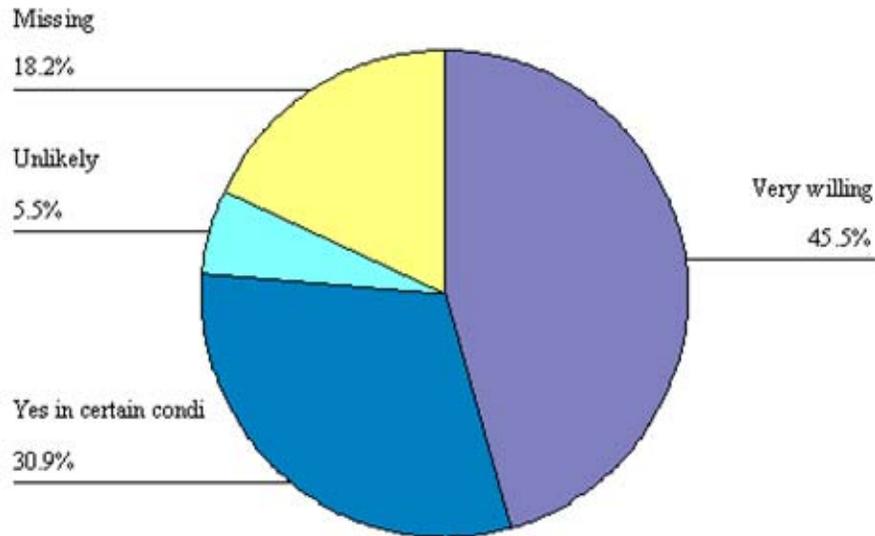
C. “Have You Considered Returning?”

A large number of the OCPs that we surveyed are “very willing” to return to work in China: 50% for return on a long-term basis, and 55% on a short-term basis. Only a very small proportion of those surveyed ruled out the possibility. Women are more inclined to return on a short-term basis, but men slightly prefer long-term return, though the difference is not significant. (Appendix 3.2)

Graph 3.3 Intention to return on a long-term basis



Graph 3.4 Intention to return on a short-term basis



A clear pattern can be seen when cross-tabulating age and the intention to return. The older an OCP is, the more enthusiastic he/she is about short-term return. By comparison, with the decrease in age, the proportion of OCPs who are willing or very willing to return on a long-term basis increases (Appendix 3.3). Related to this, those who have worked in more than one country outside China are more keen to return, on both a short-term and long-term basis, than those who are still accumulating experience (Appendix 3.4). There is also a discernable, albeit weak, association between occupation and intention of return. Those working in commercial enterprises prefer long-term return, but those working in academic institutes do not show a clear preference (Appendix 3.5).

D. Transnational Connections and Career Development

Our interviews and focus group discussion reveal that OCPs' ties with the motherland are closely linked to their career trajectory, which can be roughly divided into four stages. First, when an OCP has completed their study and moved from being a student to being a professional, he/she often develops a strong interest in contacting China. But given their relatively limited work experience and other resources, while OCPs are active in exploring various possible means for network building, few achieve tangible collaboration relationships. This is followed by the second stage, when the OCP is preoccupied with gaining a foothold overseas, particularly by publishing as many academic papers as possible. To this end, OCPs often target research communities in the USA and Europe—collaboration with institutes in China is not particularly helpful at this career stage. Thus this stage forms a relatively “low” period in network building. OCPs enter the third stage when they obtain secure positions such as a long-term contract with the employer. They have more autonomy in starting new research projects and choosing partners for collaboration. Connections with China-based institutes become more beneficial; for example, working with laboratory in China can cut research costs significantly, and China makes a “natural” top choice when an OCP wants to recruit good postgraduate students. Lastly, those in the later stages of their career often have the most, and also strongest, connections with institutes in China, and they are often motivated by altruistic concerns of helping scientific development in China.

OCPs' transnational connections are not only associated temporally with their career development, but also with their sector of employment. Those working in the private sector (commercial enterprises) are keener to develop networks and also actually have developed more connections than those in academic institutes. This probably has something to do with the glass ceiling that they face, a problem that is more obvious in industry than in academic setups. Dr Xiang Weizhong, a mechanical engineer working for a large UK-based household electronics company, represented a typical case of the motivation for establishing more connections with China:

On one hand we face glass ceiling. (It is) very hard to move up to the senior managerial level. But to be honest it is also too tiring for us to do that. We have to learn all the rules and it is certainly not easy to manage all the foreigners! Yet we are overqualified for technology jobs. I can get my work done by using half or sometimes one third of my work time. We have a lot of spare time and energy. Then you want to do something for yourself. When you start thinking of this, of course developing projects in China is the best the choice ... In my area, China really needs the technology that I master. I think the situation is very conducive.

Dr Xiang plans to set up a firm for technology consultancy as the first step to entering the Chinese market. He has visited a few places in China to talk to companies in relevant areas there, but surprisingly, at the time of the interview he did not know about any programs set up by Chinese government to cater almost exactly for the kind of need that he has. In sum, the wide and diverse connections that OCPs have with China provide a strong basis for the knowledge exchange. At the same time, detailed analysis of the dynamism of network building requires us to pay special attention to OCPs' gender, age, and stage of career development when devising OCP programs.

CHAPTER IV

FORMAL PROGRAMS AND INSTITUTIONALIZED MEASURES

This chapter reviews three main types of government initiatives for promoting knowledge exchange through diaspora networks, namely policies, concrete programs, and official websites. The Chinese government has issued numerous policies in this field. Following an index provided by the Ministry of Education, we have collected 180 government policies issued during the period from 1986 to 2003, including eight general policies issued by the State Council, 90 general policies by local government, 34 regarding industrial parks exclusively for returned overseas students, 7 on education for returnees' children, 27 on personnel policy, nationality, household registration and even marriage of returnees, and 14 on customs regulations.

MoP, MoE and MoPS are the main policy makers. MoP has probably issued the most policies, which are mainly aimed at liberalizing existing regulations (for example, exempting OCPs from rigid regulations on employment or residence) therefore to create a more friendly working and living environment for them. By comparison, MoE policies tend to be more provocative, by offering extra benefits. Policies of MoPS regulate exit and entry matters, and one of the most important initiative of the Ministry concerns the "green card", which allows OCPs with foreign passports to enter China freely within a period of time. (So far, the scheme is confined to selected cities, and is not yet applicable nationwide.) Indeed, because so many ministries have promulgated different favorable policies, MoE recently issued the "Notification on Issuing Special ID Card for High Rank Overseas Students to grant", which enables OCPs to enjoy all the benefits provided by various ministries, from buying cars to sending children to kindergarten.

While policies from the central government are impressive, local governments, particularly at the provincial and municipality levels, are even more enthusiastic, and their initiatives tend to be more provocative and detailed. For example, as early as August 1993, the Shanghai municipality government issued the "Notification on Special Treatment on Installing Telephones, Gas and Air

Conditions for Overseas Students Who Are to Work in Shanghai”. Guangzhou municipal government gives RMB 100,000 (US\$12,000) as a “golden hello” (*jianmainli*) to a returnee who decides to work in Guangzhou. Even poor provinces such as Shanxi, and cities such as Xi’an, also provide OCPs with free office and facilities, seed funds for research, housing, and even special personnel to assist with applying for national research funds. Liaoning province, one of the places that faces the most acute problem of workers’ lay-off, had invested RMB 78.5 million for these projects by 2003 (Mu Xiaosen 2003).

Knowledge-user institutes have also devised their own policies to lure OCPs, offering special financial packages, housing subsidies, and research facilities. One university in Beijing that we interviewed went so far as to almost guarantee a job, often of a undeservingly high pay and status, for the spouses of returned OCPs, though the university now may have to stop this, because it has exhausted its the resources.

Lastly, the Chinese government has resorted to its time-honoured working method, “setting up models” (*shu dianxing*), to acknowledge and publicize the achievement of returning OCPs, and thus to encourage more to come back. The national government made awards to a total of 939 returned outstanding OCPs (the “models”) at honoring conferences in 1991, 1997, and 2003, for their work performance in China. Usually, the central government asks local institutes all over China to recommend returned OCPs whom they think deserve the award, and then the central government finalizes the list according to a comparison which includes consideration of the balance between different sectors (academic, commercial, and public sectors). The second and third conferences also honored a total of 47 “Outstanding Institute for the Work on Overseas Students” apart from OCPs individuals (MoE 2004). Furthermore, while the first two honoring conferences (*biaozhang dahui*) were organized by the MoE and MoP, the third was organized jointly by MoE, MoP, MoST, the Department of Organization of CCCCP, the Department of Public Information of CCCCP, and the Department of United Front of CCCCP. This clearly indicates that the Chinese government attaches unprecedented emphasis to this course and even encourages

competition between government agencies and knowledge-user institutes in establishing contacts with OCPs.

These policies may have more symbolic than substantive significance. We found through interviews and the focus group discussion that only a very limited number of OCPs, including those who have been considering returning, have detailed knowledge of the government policies. Alarming, the Shanghai Research Team on the Motivations and Rules of the Return of Overseas Talents and the Strategies to Encourage the Return (2003) indicates that many returned OCPs in Shanghai, ranging from 98.4% to 44.8% depending on the particular policy, do not know about policies promulgated by the Shanghai municipality government aimed at offering them special benefits. This was confirmed by the research by Chen Xuefei et al (2003). A recent survey conducted by the Department for Overseas Scholars of the All-China Youth Federation and the newspaper *Youth Reference*, based on online questionnaires suggests that 43% of returned OCPs think that beneficial policies to support OCPs in setting up enterprises are necessary. While this figure may be lower than one would expect, 40.9% of those who have never studied or worked overseas also regard the favorable treatment as necessary. This indicates that while OCPs themselves do not take the policies that seriously, a consensus has been built up regarding the importance of OCPs. This consensus, according to some of OCPs interviewed, is sometimes more important than policies themselves. One returned OCPs working in pharmacology in Changchun told us that he was most impressed by the low-rank cadres for their support when he was setting up his enterprise there. He suggested that while the wonderful promises made by high level officials are nothing unusual, those cadres directly charged with the implementation of promises often failed to deliver. In Changchun, however, the consensus created a strong awareness throughout the government system about the importance of the pharmaceutical industry and OCPs, which ensured full implementation of policies.

The focus of this chapter, however, is to map out and analyze existing programs, instead of policies. As an official directly in charge of the OCP work commented, given the wide range and

large number of policies that have been put in place, concrete and action-oriented programs to encourage knowledge exchange are now more important. The chapter categorizes the formal programs into two types: fund-based and activity-based. While the former facilitates knowledge exchange by allocating special funds, for example by establishing foundations, the latter provides platforms for knowledge exchange through activities. Apart from this, given the special importance of Internet-mediated communication, this chapter also reviews official websites targeting OCPs.

A. Fund-based Programs

Fund-based programs are mainly initiated by three types of agencies: government ministries (e.g. MoE and MoP), government or private foundations (e.g. the National Science Foundation, Lee KC Foundation, KC Wong Foundation) and knowledge- user institutes (mainly the Chinese Academy of Sciences). What follows reviews these fund-based programs by grouping them into different types according to their goals.

To Encourage Short-term Visits

The MoE Special Fund for Sponsoring Overseas Students' Short-term Visit and Work in China, also known as the Chunhui (literally means spring sunlight) Plan is a typical case of this. The fund supports short visits for the purposes of academic exchange, providing training, taking part in joint PhD programs, transferring technology to underdeveloped regions in China, and participating in R&D at large and medium state-owned enterprises. Since 1996, when it started, the program has sponsored about 7,000 short-term visits by OCPs to China. Its working methods have changed over the years, but basically consist of three steps: the central committee at the MoE decided annual priorities for funding; the list is sent to the education attachés in foreign missions; OCPs submit their applications to the foreign missions, which are processed in the missions with the exception of group applications or requests for full sponsorship, which need to be approved by

MoE in Beijing. The support from local government is the key to the success of the Chunhui Plan. The priorities for sponsorship are often identified according to demands of local government; and while MoE subsidizes international trips, local governments who want the OCPs to visit their areas normally cover all the costs of travel and accommodation in China.

The Chunhui Plan also intends to lead short visits to larger collaborative activities between OCPs and China. The government is thus keen to support follow-up programs. For example, in July and August 1997, 25 France-based OCPs visited Gansu province, northwest China. They were divided into four groups according to their specialization, and visited more than 70 institutes. During the visit, they signed 56 proposals for joint projects, and submitted two suggestions to the government on agriculture technology and local development. Acknowledging the significance of these intended projects, the MoE allocated RMB 2 million to support starting 52 projects, and the province of Gansu, Ministry of Agriculture and the National Natural Science Foundation respectively allocated RMB 300,000, 600,000 and 860,000. 4.

Chunhui Plan launched a sub-program in 2001 to support OCPs to work in China during sabbaticals. According to the scheme, universities in China advertise their short-term positions internationally, interested OCPs submit applications for the positions to the foreign missions in the country of residence; the embassy, after processing the application, passes it on to the university. When the university decides to accept an OCP, the application is sent to the MoE for final approval. When approved, the MoE covers the international airfares. The university decides on the remuneration rate for the OCPs and the pay can be 5–8 times higher than their equivalent in China, for which MoE subsidizes the university RMB 5,000, 7,000, and 8,000 monthly for assistant professorship, associate professorship and full professorship respectively. Apart from remuneration, the university should provide free accommodation or allowance, medical insurance and certain amount of financial support for academic activities (MoE 2002).

To Support Collaborative Research Projects

Programs such as the Special Fund for Short-term Return to Work and Teach of the National Natural Science Foundation, and the KC Wong Education Foundation Fellowship for Short-term Return managed by the Chinese Academy of Sciences (CAS) are aimed at encouraging collaborations between China-based scholars and OCPs. Starting in 1991, the KC Wong fellowship sponsors OCPs to return to China for work for at least two months. The program was expanded in 2003, increasing the number of beneficiaries from 144 man-months a year to 193, and the total fund to RMB 1.5 million (including US\$ 120,000 and RMB 540,000).

To Support OCPs to Start Research Projects in China

Programs of this kind include the Fund for Returned Overseas Students on the Basis of Competition of the MoP, Fund for Return to China to Work on Basis of Competition at the CAS, and the Starting-up Fund for Research Projects of Returned Overseas Students of the MoE. The funding is often of relatively small, and the programs support OCPs who return on both a long-term and short-term basis.

To Set Up Special Chairs for OCPs on a Contract Basis

Programs in this category aim to recruit outstanding professionals to work in strategic areas, and they are often backed-up by substantial funding. The Distinguished Young Scholars Program set up by the National Science Foundation grants RMB 550,000–800,000 (US\$ 66,000–96,000) to scientists below 45 years of age, for four years. The One Hundred Talent Program of the Chinese Academy of Sciences offers each selected scientist RMB 2 million (US\$ 240,000) for three years. Similar to these are the National Science Fund for Post-doctoral Fellows set up by MoP, and the Outstanding Trans-century Talents Plan established by MoE. Although these programs are open to both OCPs and those who have studied and worked in China, OCPs form a priority target group,

and often more than 80% of grant recipients are either former OCPs or are still overseas at the time of receiving grants.

Among these programs, the Cheung Kong Scholar Program stands out as the most influential, with possibly the largest budget. In 1998, Cheung Kong Holdings and the MoE both allocated RMB 60 million as the initial fund for the program. In addition, the Lee KC Foundation donated HK\$ 10 million to set-up the Cheung Kong Scholar Achievement Award. The Cheung Kong Scholar Program sponsors OCPs to work in China in strategic research areas under two schemes: Special-term Professors, whose tenure lasts three years and can be renewed for another two years, and Chair Professor, which lasts for one year. A professor will be given RMB 100,000 as an annual stipend and some of them are honoured with the Cheung Kong Achievement Award of RMB 1 million.

The Cheung Kong Scholar Program adopts a strict selection procedure. As the first step, universities apply to the MoE to set up Cheung Kong Scholar chairs. Once it has approval from the MoE, the university advertises the chair internationally for recruitment. Applications will be processed by a committee composed of 60 Chinese Academy of Sciences fellows and Chinese Academy of Engineering fellows, and the final list needs to be approved by six pre-eminent scientists. By June 2002, nearly 400 out of the 411 Special-term Professors had previously studied or worked overseas, and 114 of them were working overseas at time of recruitment. All 33 Chair Professors were recruited from overseas (Committee for Cheung Kong Scholar Award Program 2002; for the numbers of scholars sponsored by the program, see Appendix 4.1). Despite the small number of grant recipients, researchers and administrative staff in universities and the CAS whom we interviewed unanimously suggested that the program has attracted some top OCPs, and has therefore significantly contributed to advancing strategic research and helped the Chinese scientific community to integrate worldwide.

There is no data available on the amount of financial inputs for these programs. MoE invests about RMB 300–400 million (US\$ 37–50 million) per year for its OCP programs. MoP has only

recently engaged in this work, but has allocated nearly RMB 200 million (about US\$ 25 million) to sponsor short-term visits by overseas Chinese professionals in the last few years. Apart from that, in 2003, MoP has also granted a special allowance to 2,500 OCPs who returned to work in China (MoP 2003).

B. Activity-based Programs

Activity-based programs aim to function as bridges or platforms for knowledge exchange. Inviting OCPs to visit China is understandably the most conventional activity of this type of program. A number of government and semi-government agencies have organized a series of OCP delegations over the last few years, but the state OCAO is probably the first agency to initiate this, and it has organized different types of delegations. Since the late 1990s the OCAO has organized teams of OCPs to visit China under particular themes, and the delegations are supposed to provide technical advice in the specifically identified areas. Table 4.1 lists a few examples of thematic delegations from 1997 to 2003.

Table 4.1. Examples of OCP delegations organized by the state OCAO (1997–2003)

Time	Theme
1998	Asian financial crisis and financial regulations
1998	Water treatment in Tai Lake
1997 and 1998	Automobile technologies
2003	Venture capital and high-technology industry

In 1999, the OCAO initiated “One Hundred PhD Holders Homeland Visit Delegations”, and subsequently turned it into an annual event. The delegations were organized according broad themes. For example, in 1999, a delegation consisting of specialists in agriculture visited 512 institutes in eighteen provinces, gave 136 academic lectures, 115 seminars, proposed 52 suggestions, and transferred 1 technology. In the end, 32 OCPs were appointed as advisors to local government. In 2001, following central government’s work priority of developing the western region of China, a delegation was organized to visit the west. These visits are well received by the local governments, and there are a good number of cases where visiting OCPs helped local institutes or enterprises solve technology problems; some OCPs even became shareholders in enterprises as a result.

The second type of activity-based program facilitates information exchange between specific knowledge-user institutes in China and OCPs. For example, CAS has established “CAS Young Scholars Academic Forums”, a program that has sponsored nearly 100 conferences since 1991. The forum seeks to enhance knowledge exchange between researchers at the Academy and those outside. OCPs are a special group to be invited, and of the more 6,000 participants of these conferences thus far, more than 1,500 have been OCPs. *Science and Technology News*, the flagship newspaper of the Ministry of Science and Technology, has a special page called “Who takes the plate?” (*shui lai zhaipai*), where local institutes all over China publicize their technology problems and seek those able to solve. The OCAO passes on the quests to OCP associations overseas through its e-newsletter, “Snapshots of Science and Technology for Overseas Chinese”.

In 2004 the China Association for Science and Technology launched the program of Overseas Talents Serving Homeland by capitalizing on its connections with OCP associations overseas and its local branches across China. Local branches of the Association propose projects according to the local needs. On approval, the national Association seeks OCPs who can participate in the project and the Association may

also partially fund the project. To institutionalize this initiative, the Association plans to hold two meetings annually: one for more than 40 OCP association leaders (the first meeting was held in December 2003), and the other of local associations of science and technology in China. The Association also plans to establish bases (*jidi*) in selected locations for long-term and multi-faceted collaboration between OCPs and local societies in China. For example, they are setting-up a training center for skilled workers in Shenyang, and a research base on agricultural development in a semi-desert area in Xinjiang.¹⁰

The third type of activity-based program brings OCPs and domestic institutes together directly, typically in the form of large fairs. This type of program has attracted the most public attention. The Guangzhou Overseas Students Fair, which started in 1998, is probably the earliest of this type. It is largely an initiative of the Guangzhou municipal government and is co-organized with MoE, MoST, MoP, and CAS. The Guangzhou government shoulders most of the costs of the meeting, while various ministries provide technical assistance. The fair takes place during the Christmas break to cater for the time schedule of OCPs working in the West. The Guangzhou fair is characterized by:

- its large scale: for example, the 2003 fair attracted 230,000 participants (including both OCPs and representatives of China-based institutes) and 1,926 projects;
- openness: anyone studied or worked overseas is in principle welcomed;
- high financial inputs: the fair used to cover the full expenditure of OCPs, though in last few years participants have to pay their international airfares.

Given the scale and cost, the immediate achievement of the Guangzhou fair is not particularly

¹⁰ Interview with Dr Zhang Jiansheng, President, China Council for the Promotion of Applied Technology (CCPAT, a subsidiary of the China Association for Science and Technology), 29 April 2004.

impressive—the 2003 fair finalized 1,005 agreements, a relatively small number compared to the 230,000 participants. But its openness makes it a valuable vehicle for many OCPs as their first step in exploring the Chinese market.

In 2001 Hubei province and the state OCAO experimented with a new type of fair, known as Convention for Overseas Chinese Professionals' Business Development. The convention turned into an annual event afterwards, and by 2004 they had invited more than 899 professionals to Wuhan (capital city of Hubei province), and brought about 257 joint-venture agreements, of which 185 have materialized. Facilitated by the Convention, more than 500 OCPs have set up more than 300 enterprises, and 150 have been appointed as technology advisors, guest professors, or overseas representatives for universities and companies (Hubei province Overseas Chinese Affairs Office and Foreign Affairs Office 2004). Unlike the Guangzhou fair, the Wuhan convention in principle invites selected OCPs only. The OCPs who want to participate in the Convention submit their applications, and the documents are passed on to local knowledge-user institutes. Only those OCPs who local institutes are interested in are invited.

Even more selective and better prepared is the Jilin Convention of Consultation and Cooperation between Overseas Chinese Professionals and Domestic Enterprises. The Convention is jointly organized by the state OCAO and the Jilin provincial Office for Overseas Chinese Affairs and Foreign Affairs, with the first meeting being held in 2002. Partly because of budgetary constraints, the organizers have taken a “less-but-better” approach to make the Convention small but successful. They start preparation six months before the event, basically following three steps.

- First, the Office sends out 300–400 calls for proposals to OCPs through the state OCAO, as well as through organizations such as the Jilin University Alumni Association in the USA, and the contacts that the provincial government itself has accumulated over the years. The criteria for eligible invitees is strict: they must have a PhD and a minimum of three years' work

experience, or a Master's, with a minimum of five years' work experience.

- After receiving proposals from OCPs, the provincial Office invites a range of departments in charge of technology and economy development, such as the Bureaux of Science and Technology, Information Technology, Environment Protection, Commerce, and Small and Medium Enterprise Development, to evaluate the proposals. Proposals regarded as suitable will be forwarded to local enterprises through these bureaux, who have full lists of enterprises in their fields, or through local branches of the provincial Office for Overseas Chinese Affairs.
- An OCP whose proposal attracts the interest of three enterprises or more will be finally invited. On average, 50–60 OCPs are invited each year, though the size of the 2004 meeting was slightly larger. Once the list is drawn up, the provincial Office for Overseas Chinese Affairs and the state OCAO help local enterprises establish contacts with OCPs, and encourage them to communicate with each other throughout the time until the convention. At the meeting, those who have reached an agreement can sign the documents, while those who need further negotiations continue their discussion.

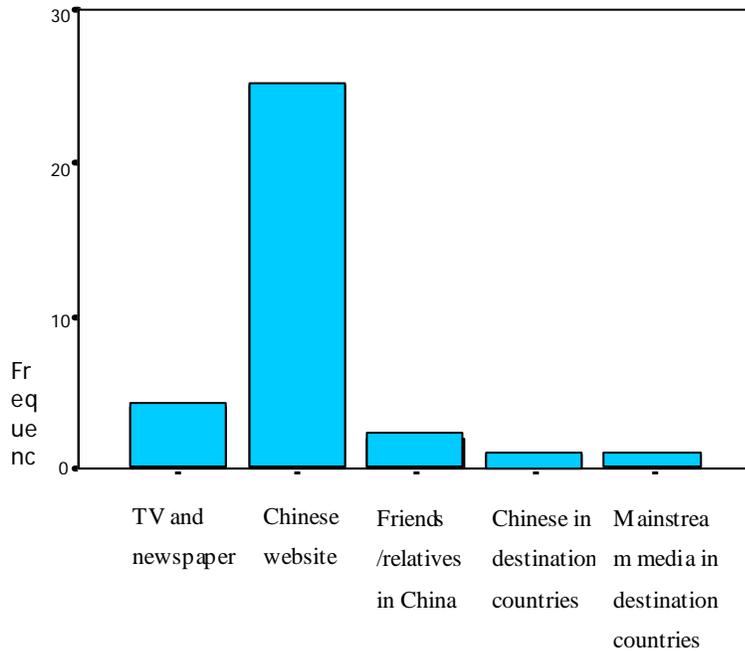
After the conference, the provincial OCAO works with other economic departments to help both the OCPs and local enterprises to fulfill their agreements. Because of the careful preparation and follow-up actions, the Jilin conventions are probably the most cost-effective of this type of activity. The budgets for each meeting were RMB 300,000, 600,000, and 700,000, for the years 2002, 2003, and 2004 respectively. But at the Second Convention in 2003, 59 OCPs from fourteen countries and regions met 288 enterprises on 91 projects, in five sessions. In the end, 79 agreements were signed with a total investment of RMB 3,520 million, including RMB 530 million from overseas.

The Cooperation and Exchange Convention of Overseas Chinese Enterprise in Science and Technology Innovation co-organized by the state OCAO, MoST, MoP, Ministry of Commerce, and Zhejiang province government in 2002, Hangzhou, represents yet another strategy of network building. While most of the fairs are primarily to serve the economic development of the host province, this conference broke down geographical boundaries and was participated in by representatives from 34 high-technology zones and more than 600 enterprises across China, alongside 100 OCPs from more than 20 countries and regions. Furthermore, apart from seeking to match OCPs and domestic enterprises, the Convention attempts to enhance a triangular capital-technology synergy between: OCPs who contribute knowledge, overseas Chinese business communities who contribute capital, and domestic enterprises who contribute links to the Chinese market.

C. Official Websites: Gaps between Suppliers and Users

The importance of the Internet for transnational network building is self-evident, and websites specifically catering for OCPs have become another important institutionalized measure for contacting OCPs. Among the 55 OCPs that we surveyed, 51 are using Chinese language websites to follow information in China, and for those who left China after the mid-1990s, websites became an almost unsubstitutable means (Appendix 4.2). Chinese-language websites are not only widely used, but are also commonly ranked as the most important information source compared to other means such as TV (see Graph 4.1).

Graph 4.1 What is your most important means of following information of China?



Acknowledging this, almost all government departments related to OCPs have set up specific websites, or at least create special sections in their general portals, targeting this group. Websites set up by national agencies can be divided into two types. The first covers a wide range of information, from general news to government policies to entertainment, with the most notable examples being the websites of Chinese Scholars Abroad (<http://www.chisa.edu.cn>) of MoE, and the China Diaspora Web (<http://www.hslmw.com>) hosted by the state OCAO. The second type is more focused, primarily to provide OCPs with policy-related information. The websites Liuxue.net (<http://www.liuxue.net>) managed by MoE, China Overseas Talents by MoP (<http://www.chinatalents.gov.cn>) and CAS Overseas Study and Continuing Education (<http://www.castalents.ac.cn>) are probably the three largest websites of this kind.¹¹ As a reflection of the enthusiasm of the local government, there are numerous province- or even

¹¹ Other examples of this type of website include the China Human Resource Network (<http://www.hr.com.cn/>), China International Employment Net (<http://www.chinajob.cc/>), Chinese Service Center for Scholarly Exchange (<http://www.cscse.edu.cn/>).

municipality-based websites, such as Nanjing International Talent Networks (<http://www.wininjob.com>), and Liaoning Overseas Chinese Scholar Innovation Engineering Network (<http://www.ocs-ln.gov.cn>). These local websites are basically of the second type, focusing on policy changes and recruitment information.

A systematic browse, however, suggests these websites tend to be homogeneous not only in content but also in the structure, and the second type of portal is particularly so. For example, the OCP sections in both Liuxue.Net and in Chinatalents have basically three parts: policy information, a platform where job seekers (OCPs) and recruiters (knowledge-user institutes) register themselves,¹² and links to other institutes. While the MoE website understandably provides more information about MoE initiatives, and the MoP one has the most detailed MoE policy guide, no other significant difference between the two websites in terms of the type of information can be discerned. In other words, the websites have yet to establish their identities, and users do not know which website they should consult when seeking particular information.

Our survey yields surprising results regarding OCPs' usage of these most important websites. The website of China Scholars Abroad is the most popular among the all, but on average OCPs visit it only occasionally. Even more surprisingly, we find that the younger an OCP is, he/she is *less* likely to visit these websites, which is the exact opposite of the general pattern of website usage. This means that some significant adjustments in the websites are needed in order to attract young OCPs. In our interviews and focus group discussion, the informants voiced the view that there are too many, rather than too few, websites for and about OCPs, which sometimes makes them confused. Therefore, better structuring of the information within a website, and a better division of labor across them seem to be necessary.

¹² When we visited the Chinatalents website in June 2003, 31 knowledge user institutes registered themselves with the website to seek OCPs, including 26 academic institutes, 3 commercial firms, and 2 municipality government,

D. Summary

There is little doubt that government and semi-government agencies in China have achieved great, and possibly globally unique, progress in encouraging knowledge exchange through OCP networks. Government have not only launched a large number of programs, but have also experimented with a variety of types, which are to some extent mutually complementary. For example, while the Guangzhou Overseas Students' Fair provides an open platform for OCPs who are starting networking with China institutes, the Jilin Convention serves as a bridge to link OCPs with well- developed project proposals to potential investors, and the Wuhan and Hangzhou fairs fall somewhere in the middle.

We also find that different levels of government work together well, as most clearly evidenced by the case of the Jilin Convention. Close collaboration between the central and the local level seems essential for the success of most programs. When the Central Committee of the Communist Youth League organizes OCP homeland visit delegations, they mobilize their local branches to receive the delegations and play the bridging role between the delegations and local institutes, which is very similar to the work method of China Association of Science and Technology. Even in the case of programs solely organized by an agency at the central level, local government also actively exploits the opportunities. For example, when the 2003 Hundred PhD holders' Delegation sent more than 400 OCPs to various provinces, quite a few local governments held special fairs during their visit, in order to make their presence more fruitful for both the visitors and local institutes. Among others, Shijiazhuang municipality of Hebei province held the OCPs-Shijiazhuang Interface for Economic and Technological Development, Xiamen organised Xiamen Convention of OCPs and Development Projects, and similarly the Gathering in Shanghai, Developing Together was held by the Shanghai government.

What concerns us, however, is the lack of coordination between departments at the central

respectively Shanghai and Nantong city (Jiangsu province).

level. On the one hand, there is clear duplication in the work of different agencies, as evidenced by the large number of initiatives of homeland visit delegations, and the fact that large fairs are becoming increasingly popular; on the other hand, the departments rarely contact each other. Furthermore, instead of forming clearer division of labour, there is a tendency of homogenization. More and more organizers seek immediate concrete results from the fairs and visits, particularly in the form of agreements of collaborative projects. For example, the state OCAO used to organize small delegations, in principle open to all OCPs who have the expertise and are interested in, to provide free technology assistance in China. But now programs are better subsidized, but have also become more selective to ensure some agreements of joint venture are made by the end of the program. From 2002 on, OCAO requires that all the applicants joining the Hundred PhD Holders' Delegation must have project proposals. The 2003 delegation led to 44 contracts or proposals for collaboration, worth RMB 2.94 billion. This represents the typical work strategies of most government agencies.

E - Photos



A celebratory setting for the second Cooperation and Exchange Convention of Overseas Chinese Enterprise in Science and Technology Innovation, Shenyang, June 2004. The large red banner on the right hand reads “Win-win Cooperation”.



An OCP is presenting his project and proposal for cooperation at the session on environment-related and new material projects at the second Cooperation and Exchange Convention of Overseas Chinese Enterprise in Science and Technology Innovation in Shenyang. Most of the audience are OCPs, local officials and entrepreneurs, and few local researchers participate. June 2004.



Agreement and contract signing ceremony at the third Jilin Convention of Consultation and Cooperation between Overseas Chinese Professionals and Domestic Enterprises. Such ceremony is normally the final part and also climax of the entire event of this kind, also a focus for the local media. June 2004, Changchun.



During the third Jilin Convention of Consultation and Cooperation between Overseas Chinese Professionals and Domestic Enterprises in Changchun, local government of counties or cities in Jilin province organized delegations to the event to hold side-line meeting with participants to promote the county/city. This was a meeting between Convention participants and a delegation in an early morning before the formal meeting started. But local government were still more interested in potential investors than OCPs.



Local government and enterprises set up stalls at a major OCP event to promote themselves and attract proposals for collaboration (the second Cooperation and Exchange Convention of Overseas Chinese Enterprise in Science and Technology Innovation in Shenyang, June 2004.)



As part of the project, COMPAS and its government counterpart for the project, the Policy Research Department of the State Council Overseas Chinese Affairs Office held a workshop with assistance from the Overseas Chinese Affairs Office of Beijing Municipal Government in July 2004. Attended by representatives from various government agencies and high education institutes, the workshop evaluated schemes that have been put in place to encourage knowledge exchange and discussed the tentative conclusions and policy recommendations that the project team proposed.

CHAPTER V

INFORMAL TRANSNATIONAL NETWORKS

Compared to the limited literature on the formal programs for encouraging knowledge exchange, even less has been documented about OCPs' informal connections. However informal, uninstitutionalized connections are essential for network building, and particularly for maintaining networks. At the end of the day, knowledge exchange must be carried out by individual scientists, and the exchange must become part of the scientist's daily work in order to be effective. The importance of informal networks can be further appreciated when we differentiate knowledge from information. While *information* can be codified and disseminated through impersonal means, *knowledge* is closely associated with meaning and understanding, and personal communication is indispensable for its transfer. In the times we now live in, when communication technology is highly developed and information is widely available, interpersonal connections have become more, rather than less, important for the exchange of knowledge. This chapter details the role of informal networks in OCPs' knowledge exchange, and explores how synergy between formal programs and informal networks can be achieved.

To our surprise, quite a few Chinese students and researchers in the UK interviewed were shocked by the poor equipment there. Dr Zhang, a visiting fellow at the Department of Engineering, University of Oxford, could not use software programs that she brought from China because the computers in the Department were so out-dated. But she asserts that she has benefited greatly by being in Oxford, and one of the biggest achievements is a good understanding of the research methods and approach taken by scientists there. Another chemist, a specialist in the food industry, also visiting Oxford University said:

The lab equipments are definitely no better than in China. We always asked: how could they publish so many good papers with such out-dated equipment? Then we learn how they work, how they think. Particularly how they divide the work among the team members and

collaborate efficiently. It is not a problem nowadays for us to get published research material. For patents registered in the USA and Japan, for example, you can get the full list through the Internet anytime. You can follow the latest products and technologies very easily. But we need to know *how they made it*.

Dr Liang, a postdoctoral fellow in chemistry at the University of Cambridge, also emphasized that an “understanding of the research strategies and of the *process* of research” of his Cambridge colleagues has improved his research capacity.

The experience of Dr Yan Haixue, a specialist of ceramics working at Queen Mary University of London, further demonstrates the indispensable role of personal connections in knowledge exchange. He studied and worked in three universities and CAS (Shanghai) before going abroad, and has kept in touch with a number of colleagues since then. For the past two years, he has made on average one call every three weeks, normally lasting more than one hour at a time, to his former colleagues, to discuss work:

I was involved in many projects [in China] and know how [the projects] were being done. When I came here, I found that many projects were similar to what we did, but researchers in the UK did it much more thoroughly. They thought everything through. In China we have so much pressure to publish papers for the sake of promotion. But it is different here: the most important thing [for researchers in the UK] is to think things through, otherwise it does not count. I want to tell colleagues in China what is going on here, how we could have continued our earlier work to a deeper level. Because all the colleagues did the projects before, they could understand what I am talking very well.

Dr Yan further pointed out that Chinese scientists in fact do not suffer from a lack information on the latest scientific developments; instead the problem lies in almost exactly the opposite direction:

In China researchers are too busy in following new fashions. The fashion often comes from overseas. Whatever is thought to be the frontline internationally, people try to jump on it. But not enough thought of the fundamental ... When we discuss *how* foreign researchers see the frontline research, *why* they think it cutting-edge, our colleagues in China [can thus] understand the root better.

In turn, these phone calls also informed Dr Yan of the latest developments in China, and have made him think more seriously about going back to China to work soon.

Informal networks enable the exchange of knowledge that is strongly embedded in particular setting, and is therefore difficult to learn through formal channels. Dr Zhang Shengfu at Imperial College, London, has close contacts with the physics department of a preeminent university in Beijing as colleagues and friends, though they have not done any collaborative projects. The department imported two sophisticated escalators, but most staff were not aware of the multiple functions of the machine. Dr Zhang demonstrated the various functions of the equipment to them, knowledge which is taken for granted in Zhang's workplace in the UK, but would have been very difficult to learn in China without such personnel connections.

Personal connections are even more important for OCPs aspiring to be entrepreneurs. Ms Hua, who runs a trading company in the USA and Hungary, participated in the Jilin Convention in July 2004, and signed one business agreement at the meeting. But she got in touch with the partner through her personal connections, and brought the deal to the Convention in order to enjoy extra benefits (subsidy for her international travel and more publicity for the project). Personal connections, according to her, make negotiation much more effective, since both sides are more willing to adjust their business plans to accommodate the partner's intention.

According to our survey, 83% of OCPs listed personal connections with former classmates and colleagues as the most important means of establishing connections with China institutes, compared to the 20% of OCPs choosing government formal programs (Table 5.1). According to the survey of 447 returned OCPs in Shanghai, 42.2% of OCPs identified families as their main information source about the situation in China. This finding even prompted the research team to recommend that the government should pay more attention to OCPs' family members in China, through whom to influence OCPs and encourage their return (Shanghai Research Team on the Motivations and Rules of the Return of Overseas Talents and the Strategies to Encourage the Return 2003). In our case studies of the CAS institute and the department of Beijing University, a

large number of former OCPs returned through their personal connections with the staff there.

Table 5.1
What is the most important means for your establishing contacts with institutes in China?

Means	Percentage
Personal connections (former classmates or colleagues)	84
Academic conferences or other types of academic exchanges	35
Government programs	20
Fairs in China	20
Recruitment fairs by Chinese institutes overseas	11
Other	4

Informal networks also distinguish OCPs from other groups of foreign experts. We had been concerned about whether treating the OCPs as a special group in knowledge exchange can be justified. To address this concern we consulted knowledge-user institutes about the advantages and disadvantages of OCP, compared to other foreign experts. The general impression is that non-OCP foreign experts tend to be more committed and work harder (it was suggested that foreign experts came to China mainly out of ultraistic motivation, while OCPs may have more concerns about rewards), but OCPs can communicate with local staff much more effectively. It is also easier for knowledge-user institutes in China to identify quickly the experts they need among the OCPs—again because of the extensive personal connections between them. Therefore,

ultimately, OCPs are likely to make a greater contribution to the development of research capacity in China.

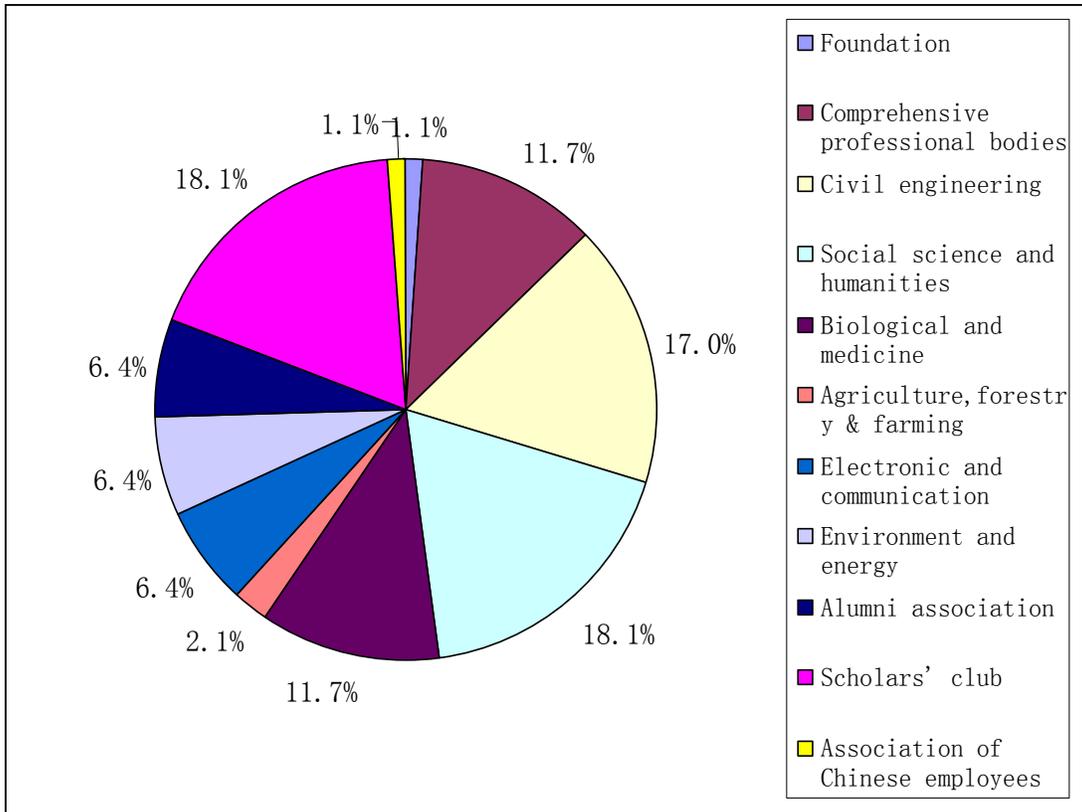
A. OCP Associations: A Key Vehicle

When examining the specific patterns of informal networks, which differed from our original hypothesis, overseas associations remain an important part of their life, and more importantly, a key means for transnational network building. It is estimated that there are currently more than 10,000 overseas Chinese associations, including more than 100 global organizations (i.e. not confined to any particular country) (Xie Chenjia 2002). Although the exact number of OCP associations is unknown, it is clear that they have experienced a major development over the last 20 years, in both number and geographical distribution. The Chinese Professionals Association of Canada is one of the oldest, established in 1974. By 1997 it had nearly 1,000 members, with ten branches divided by specialities. The Chinese Association for Science and Technology, USA, was set up in New York in 1992, and has now more than 1,500 members in 27 states, with more than ten regional or disciplinary branches. The Association of Chinese Scientists and Engineers in Japan (ACSEJ) has a similar structure. Set up in 1993, the association has 1,150 members and is divided to nine branches, according to discipline.

Graphs 5.1 and 5.2 illustrate the types and geographical distribution of the 200 OCP associations that the state OCAO has connections with. Clearly reflecting the general profile of OCPs, most associations are in the area of science and engineering, and USA is the dominant location.

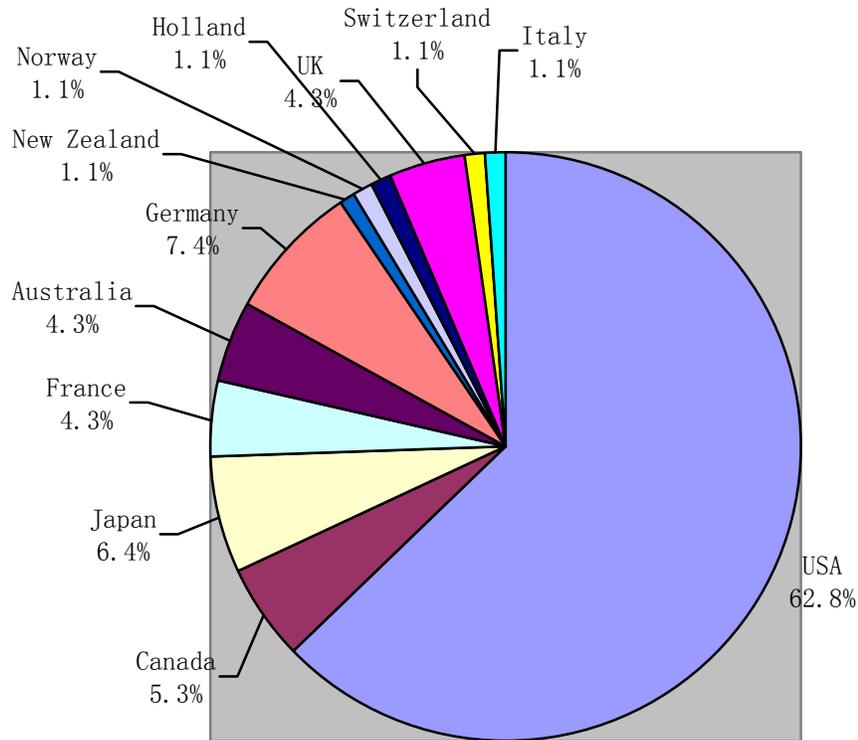
Graph 5.1

OCP associations by type/subject



Graph 5.2

OCP associations by country of residence



B. OCPs' Participation in Associations

Professional bodies, though not necessarily all set up by OCP themselves, are the most popular OCP association. Of the OCPs whom we surveyed in Leeds, about 71% participated in professional bodies, and as many as 36.4% are core members.¹³ The second most popular type of association is Chinese language school, which OCPs get involved in through their children. The least popular associations are religious and clan organizations—only about 5% of those surveyed have ever participated in clan organizations, in sharp contrast with the traditional overseas

¹³ Our questionnaire did not clearly differentiate professional bodies set up by and for OCPs on one hand, and

Chinese associations.

Table 5.2 OCPs' participation in associations by types

	Total Score	Mean
Professional bodies	90	1.88
Chinese language school	37	0.95
Alumni associations	25	0.69
Associations based on same place of origin in China	20	0.57
Arts associations	12	0.38
Social work and charitable	10	0.31
Religious organizations	7	0.22
Clan organizations	4	0.13
Other	3	0.13

Our questionnaire asked the OCPs to give scores to each type of associations: 0 means that the informant never participates in that type of association, 1 means occasional participation, 2 participation as an ordinary member, and 3 means participation as a core member. Thus the higher the total score and the mean, the more popular the type association is among the surveyed OCPs.

Age and the length of residing overseas clearly affected OCPs participation in associations, particularly professional bodies. For instance, all those surveyed who were born before 1959 or who left China before 1985 are core members of professional bodies. By comparison, 71.4% of those born after 1980 and nearly 40% of those who left China after 2001 have never participated in a professional body (Appendix 5.1 and 5.2). We also find that those working in commercial enterprises are more likely to participate in associations than those working in research and education institutes.

general professional bodies on the other. Therefore it is likely that some informants are reporting their participation in

C. Associations as a Driving Force for Transnational Network Building

OCP associations emerged with a new type of organization leadership. The most traditional Chinese community leaders typically kept their distance from mainstream society, and maintained a strong allegiance towards China (but they may not be close to Beijing, since many of them left China before 1949, and some were from Taiwan or Hong Kong). With the development of the communities, this was in some places replaced by civil-association-style leadership, by those who are keen to penetrate to the local societies and active in fighting for equal rights (see Wong 1982). A third type of leadership emerged in the 1990s, mainly as a product of “new migrants” (see Nyiri 2001), characterized by leaders’ increasingly close relations with Chinese officials, both at Chinese missions, and in the sending areas in China. OCP societies are a typical example of this.

For many OCP associations, organizing delegations to China has become a main, or even the most important, activity. As we have seen in Chapter III, 22.3% of the OCPs who are included in the OCAO database established connections with China because they are leaders of OCP associations. Receiving these delegations has been a part of OCAO’s daily work, particularly during the beginning and the end of the year. In these busy months they receive on average two groups of visitors a day, with one group normally consisting of around 30 people. In total, it is estimated that about 1,000 OCP visit OCAO a year on their own initiative.¹⁴ The Japan-based New Overseas Chinese Association and the ACSEJ set up the Committee of Japan-based Overseas Chinese for Supporting Reinvigorate Northeast China in early 2004, and sent a delegation to China in March 2004. The delegation consisted of scientists and professionals, and was aimed at providing advice to state-owned enterprises in the northeast.

At the same time, inviting officials from Chinese embassies or even directly from China also became a standard part of large meetings of OCPs. The ACSEJ, for example, invited the deputy

general professional bodies.

¹⁴ Interview with Xia Fudong, Department of Economy and Technology, State Council Overseas Chinese Affairs Office, Beijing, 29 March 2004.

mayor of Beijing, with responsibility for high-tech industry, to stop over in Japan to address the association on his way to the USA to open the first overseas chapter of the Zhongguancun high-tech industry park in Silicon Valley in 2002. The Chinese Materials Association UK (CMA-UK) invited more than 20 researchers from China for its 10th annual congress in Birmingham, 14–15 August 2004

OCP associations often serve as an incubator where OCPs develop their intention for building close ties with China. Dr Wang Jun, a former president of the UK-China Chemistry Association, said:

What do we talk when we sit down? Inevitably the topic will end up in China. The more you talk about, the more you think about it. Only when we can sit down regularly and exchange more, people become serious in developing connections with China.

Indeed, it has become a notable trend in last few years that OCPs have returned to China in groups, particularly when setting up enterprises. For those who left China after the mid-1990s, though they do not participate in associations as actively as the older migrants, communication with fellow OCPs remains an important source of information. The importance of the circle of fellow OCPs, be it an association or more loosely connected, should not be underestimated.

Chinese government and semi-government agencies have acknowledged the importance of OCP association and are actively exploited it in building transnational networks. The state OCAO, for example, used to rely on embassies and consulates to collect information on establishing its OCP database, and the missions recommended about 20–30 CVs a year. After 1998 OCP associations became the main information source, and they contributed about 8,000 CVs out of the database of more than 10,000 CVs. Similarly, in organizing The One Hundred PhD Holders' Homeland Visit Delegations, OCP associations also replaced foreign missions as the main information source and contact point. The associations not only master comprehensive information of OCPs, but can also disseminate information effectively. Although most OCP

associations are loosely organized, they have large numbers of members, and are able to transmit information swiftly through means such as electronic mailing lists. In contacting OCP communities, OCAO always sends information to association leaders first, and through them disseminates the message to other members, even though the OCAO is able to contact the members directly. This provides the association leaders with a basis of authority, and thus encourages them stay in close contact with the government.

The China Science and Technology Association has connections with more than 40 OCP associations in seven countries, half of them in the USA. Almost all the members of these associations are new migrants who left China after the 1970s. The OCP associations are so important that when the China Association visits overseas, they normally contact those associations first, and then through them to contact embassies or consulates if needed. In order to keep in close touch with them, the Association convenes an annual meeting of OCP association leaders and has launched the newsletter "Work Information of the Program of Overseas Talents Serving Homeland (Overseas Version)" specifically targeting OCP associations.

D. Synergy between Formal and Informal Networks

Informal networks are important not only in themselves, but also because they can effectively enhance formal programs. The evolution of MoE programs for knowledge exchange through OCP networks, as reviewed by Chen Xuefei et al (2003), suggests that in practice, formal and informal networks often overlap. Before 1992, informal networks constituted the main channel for knowledge exchange and they laid down the basis for later program development. After 1992, the emergence of OCP associations made network developing a "collective" effort (by associations as opposed to individuals) though still informal. Network building became "formalized" after 1995, when the Ministry launched various special programs. In implementing formal programs, in turn,

as we can see in the case of organizing the Jilin Convention, informal connections with OCPs serve as an important basis. Lastly, formal programs often produce informal networks, and the extent and depth of the resultant informal networks can be a criterion to assess how successful a formal program is. In order to explore how formal programs and informal networks can facilitate each other better, what follows examines the processes of network building of the two case institutes.

Institute A is a large institute of CAS. The institute has regular contacts with over 90 OCPs, and keeps in close touch with about 20 of them. The way in which the current institute head, Dr Tan, was recruited serves as a typical example of the combination of formal and informal networks. The institute got in touch with Dr Tan through informal means. The former head, Dr Ma, visited the UK in 1992 and got to know Dr Tan, who was interested in returning to China. When CAS started developing its OCP database in 1995, Dr Ma listed Tan in the database, and in 1996 Ma recommended Tan to CAS as a candidate for the One Hundred Scholar Program; he was accepted. This much consolidated the relationship, and finally led to Dr Tan's joining the institute in 1998 as the deputy director.

Institute staff often have collaborative research projects with OCPs based on personal connections, and the relationship may cease with the completion of a project. In order to continue and deepen the connection, the institute often helps the OCPs to apply for a KC Wong Fellowship or Outstanding Scholars Fund on completion of projects, to institutionalize long-term collaboration. When we interviewed the institute in July 2004, the first tenure of the members at the CAS International Experts for Project Evaluation, including those recommended by institute A, came to an end. The institute was planning to set up a special institute position of Honorary Researcher or Special-term Researcher to maintain relations with the members. When OCPs visit on a formal program, the institute also makes special effort to develop informal networks, in order to make the connections deeper. The head of the human resource branch of the institute, for example, recalled that the institute director once phoned her at 8 pm to ask her to accompany a visiting OCP family

for dinner in Beijing, just to make the OCP's visit as pleasant as possible.

Unlike institute A, department B at Beijing University is much smaller, and has limited resources. The department had 34 faculty members in June 2004, all having experience of studying or working overseas, and 11 holding degrees for overseas universities. Most of the overseas-degree holders had had connections with the department before they joined it, and only one was recruited through open advertisement. The director, himself US-educated, makes a special effort to search for outstanding Chinese PhD students overseas. He collects students' email addresses and sends them calls for applications for jobs, or visits them personally when he visits those countries. The institute often invites OCPs to give seminars and lectures during their visits to Beijing, which is completely free.

But unlike institute A, department B hardly has any formal program to turn to. The department can only apply for less than RMB 20,000 (US\$ 2,500) a year from the university for inviting scholars from overseas. This makes long-term collaboration difficult. The only major channel is to carry out international collaborative research. Department staff conducted 29 such projects between 1995 and 2000, almost all of which were funded by overseas bodies, particularly from Hong Kong and the USA. None of the projects were secured through the process of open bidding; instead, all were based on pre-existing personal connections. Collaborative research certainly contributes to knowledge exchange, but is not sustainable enough. According to the department director, most departments of social sciences and humanities face the same problems, except for such subjects as law and business.

Our case study also reveals that synergizing formal and informal connections requires a conducive institutional set-up, which is largely lacking. Institute A has three branches charged with knowledge exchange: branches of human resources, of technology, and of personnel. Unlike the situation at the central government level, where ministries compete with each other to expand their own work scope, these branches are wary of encroaching into others' territory and therefore tend to minimize their work in contacting and mobilizing OCPs. The administrative demarcation is also

detrimental to the accumulation of networks. One department may not be willing to share its information on OCPs with others. Furthermore, the administrative staff charged with network building, just like most other administrative staff, are often assigned to a different position every a few years. This is at odds with the fact that network building is a time-consuming process. While the problem of institute A stems from the demarcation between branches, department B faces almost exactly the opposite problem: the department can only develop networks sporadically because it does not have any staff responsible for this task. Thus, in order to reach a synergy between informal networks and formal programs, we need consider the administrative set-up of knowledge-user institutes and the dynamics of informal networks themselves while implementing formal programs.

CHAPTER VI

DISCUSSION AND POLICY RECOMMENDATIONS

This study has reviewed the initiatives by Chinese government to encourage knowledge exchange through diaspora networks. Two features of these initiatives stand out clearly. First, almost all the programs are state-led. Although the programs are aimed at benefiting the wider society, including the private sector, the state remains overwhelmingly the major, or even the single, investor and organizer, and the programs are implemented through state bureaucracy. At the first-ever National Conference on Skilled Labour Force and Professionals held by the Central Committee of the Chinese Communist Party and the State Council in December 2003, where the president, the premier, and the vice president all delivered important speeches, OCPs were once again mentioned as an important group. Indeed, OCPs have become a new political constituency: for whom special policies designated, institutes set up, resources put in, and for which government departments compete each other for resources, and to show achievement. Our general assessment is that the awareness of the importance of OCPs and knowledge exchange is high, and the resources devoted substantial, and it is now time to reflect on the practise critically in order to achieve further improvement.

While being state-led is in part a legacy of the well-established political and social system in China, the second feature of the OCP programs, namely the emphasis on commercial projects as the main expected outcome, is new. Previously, discourses of emotional attachment and political allegiance (for example the notion of “patriotism”) underpinned government OCP programs, and OCPs were supposed to provide free services. But government agencies (with the exception of MoE, which mainly targets advanced academic research) place increasing importance on profitable projects as the most desirable outcome (most typically joint ventures between OCPs and domestic enterprises). Sometimes, helping to set up profitable enterprises becomes the central goal, and knowledge exchange is only supplementary.¹

¹ Besides the programs reviewed in this study, the Chinese government has set up Returned Overseas Students Industry Parks to provide OCPs with excellent facilities and a wide range of beneficial policies. In Beijing,

There are good reasons for the emphasis on focusing on profitable projects. First, the connections between OCPs and China in general have become increasingly business-driven. According to the online survey by All-China Youth Federation and the magazine *Youth Reference*, more than 20% of the OCPs who intend to return are planning to set up enterprises in China. Many OCPs working in academic or education institutes develop ties with China precisely in order to turn their research results into commercial projects in China. Second, from the organizers' point of view, "deliverability"—the concrete results a program can yield—is essential for the sustainability of their work. This is particularly true for the local OCAO, which needs specially allocated budget from the provincial and municipal government to support its work—it would be difficult to justify the constant request for funding without being deliverable. Lastly, demonstrable results are important for government departments, as they are the most convincing evidence for their performance. For this reason, a government department is often very keen to have large number of agreements, no matter how tentative, signed on the spot at the event that they organize, so much so that they often work hard well in advance to guarantee a minimum number of deals to be struck at the meeting.

This project-oriented approach is at odds with the basic fact that knowledge exchange is by definition a long-term and multifaceted process. The approach also fails to reflect the reality that enrolled students overseas still form the main part of OCP, and that work with OCPs is to a great extent an investment for the future, for which there is unlikely to be any immediate achievement. How to establish contacts with self-financing overseas students—who have little connection with the government, but are set to form the majority of OCPs soon—remains a challenge. Furthermore, paradoxically enough, the emphasis on profitable projects does not mean that existing OCP programs truly link themselves to the dynamism of the global economy or domestic industries, as is clearly evidenced by a comparison between the Chinese

around 5,000 returned students had created over 2,000 IT companies in Zhongguancun Science Park by the end of 2003. Nationwide, China has established more 60 industrial parks specifically for returned overseas students, and the returned overseas students have set up more than 5,000 enterprises, generating a revenue of more than RMB 30 billion by the end of the 2002 (Duan Wenwen 2004). The Shenzheng government allocates RMB 30 million (US\$ 3.8 million) to its Park as investment funds every year. Liaoning province launched its Project for Overseas Students' Business Development, and it has organised four "Overseas Students' Business Development Weeks", during which week-long visits are received, business talks are held, and stories of successful returned technopreneurs are

and Indian experiences, as detailed below.

Bearing in mind the key feature of being state-led project-oriented, our basic policy recommendation is two-pronged. On the one hand, at least some government agencies should make the OCP programs less commercial project-oriented, and instead adopt a longer-term view. On the other hand, the government should try to integrate the mobility of the highly skilled to the global high-tech industry better, rather than focusing narrowly on “return”, regardless of whether it is permanent or temporary. Only by doing this can the OCP programs be sustainable and contribute effectively to China's development in the long term. This chapter specifies this recommendation by addressing three questions:

- How can the leading role of the state be improved?
- How can state and market mechanisms be better synergized?
- Can the third sector—societal sectors outside the state and market—play a bigger role in facilitating knowledge exchange?

A. Policy, Project, and People: Inter-ministry Coordination

In terms of the institutional framework of the OCP work, we find that government agencies at the central and local levels of the same system (for instance the system of overseas Chinese affairs) work together well. The local level also enjoys effective and smooth cross-departmental coordination, probably because of direct intervention from the top leadership of the province or municipality. But at the central level, duplication and the lack of coordination are clear. For example, after the OCAO initiated the program of PhD Holders' Home Visit Delegation, so many other agencies have launched similar programs that the OCAO decided to drop this scheme from its future agenda. Almost all the government agencies and large knowledge-user institutes that we visited are establishing comprehensive OCP databases, but sharing literally

widely reported.

no information with each other. The problem of websites, as described in Chapter V, is obviously of the same nature.

The duplication can be particularly wasteful when one considers the number of OCPs who are likely to join these programs (mostly who left China after 1980), and who can contribute to knowledge exchange (those who have completed their education). According to some government officials, numerous OCP programs have brought about a special group of OCPs, sometimes dubbed “conference worms” (*hui chongzi*). They are so called because it is said that they almost live on the conferences and events organized by the government in China. One participant in a convention had met almost one-third of the participants before, and according to him, the project proposals all sounded familiar. This may indicate an “oversupply” of certain types of programs (especially fairs).

Since inter-ministry relationships are an unusually complex issue, it may not be realistic to expect substantial changes in institutional frameworks to reduce the duplication. Instead, we recommend two more moderate mechanisms for reaching a better division of labor among ministries. First, inter-ministry consultation could be carried out through the inter-ministry meeting headed by the CCCCP Organization Department and Ministry of Personnel, which is already in place. The consultation can clarify the advantages, and accordingly work focus, of each department, and look at how to avoid repeating the work of other departments. Second, in-depth research can be carried out to evaluate the OCP-related initiatives by different agencies, aimed at helping each department develop its own identity and focus.

One possibility is that different ministries focus on “policy”, “project”, and “people” respectively. MoE, MoP, and MoPS can be the main player in promulgating policies, which is already their main task. MoST and agencies such as the China Association of Science and Technology can be project oriented. And the work of OCAO should perhaps be people-centred, focusing on developing personal connections. Agencies that focus on projects should pay more attention to identifying domestic needs and the follow-up implementation of projects, and work with people-oriented agencies for overseas contacts.

There is a strong voice from OCPs that OCAO should be more active in foreign countries in

working with OCPs. OCAO has currently only eight personnel stationed in foreign embassies and consulates worldwide. OCPs, as well as enrolled overseas students, are in the purview of MoE, and directly of education attachés. But OCPs pointed out that their problems and issues go far beyond those of education. For example, they may wish to establish contacts with particular enterprises or local government, which MoE may not be best placed to facilitate. MoE focuses on cooperation and exchange between education institutes—whose workload is almost certainly set to increase in the future—and have little time for contacting individual OCPs, let alone helping them with career development. Given the very different profile of the recent migrant students compared to the earlier state-sponsored overseas students for whom MoE is responsible, the OCAO could also be more active in contacting enrolled students. To summarize, there is a need for OCAO to focus more on people.

A people-centred approach entails that the agency needs to take a long-term view. For example, besides new migrant students, OCAO could also consider developing programs targeting the second generation of earlier OCPs. If OCAO takes such a people-centred approach, it should act as the focal point in establishing a more-or-less unified OCP database, and in providing general information about OCPs to other ministries. A people-centred approach, however, may reduce the agency's bargaining power for budget (since the work may not require "hard" costs), and may also make its achievement less notable. To compensate for this, the possibility of designate OCAO as the coordinating centre for all affairs of OCPs could be explored through a higher-level authority.

As a first step in enhancing cross-ministry coordination, improving data collection and analysis regarding OCPs—a basis for any solid policy discussion—can be a valuable exercise. Relatively accurate estimates can be reached based on five sets of data: the number of students leaving China from MoE, the number of passports issued for the purpose of leaving China for study by MoPS, the number of border exit records from the Bureau of Exit and Entry Management of MoPS, estimates from the embassies in destination countries, and estimates from government agencies of country of destination. Despite the high-quality data available in

countries such as the USA, UK, and Australia, very few agencies in China have made use of this information source.²

B. Synergising State and Market Mechanisms

Despite the enthusiasm about profitable projects as desirable outcomes of OCP programs, the actual economic contribution made by OCPs through government programs remains unclear. A fairly large proportion of the agreements signed at the Jilin and Shenyang conventions, for example, in fact have very limited high-tech elements. Of the 2,246 enterprises set up by returnees in Beijing's 12 high-tech parks for returned OCPs by June 2004, less than 20% are profitable, while the failure rate is higher than 20%.³ Nationwide, returned OCP entrepreneurs have thus far yet to produce groundbreaking technologies or many leading enterprises (Lin Jianren et al. 2003). Furthermore, some OCPs were attracted back through government programs, but failed in business because of underdeveloped market system, particularly the finance market. While greatly supported by government in setting up, enterprises face problems in long-term development.⁴ Acknowledging this, the Chinese government has set up a venture fund to support high-tech enterprises. But being a state fund, it can hardly be "venture" in the true sense. The fund sets very strict conditions for investing, contributes normally only a quarter to a third of what a project requires, and often supports the projects with imminent commercial prospects and shuns away from proposals that are still in the process of research and development (Lin Jianren et al. 2003).

This situation suggests that the outflow of OCPs from China (mainly as students), the

² This scheme for data information is partly based on a proposal of Mr Miao Dan'gou at the International Cooperation Department of MoE (interview on 29 April 2004).

³ Interview with an official from the Human Resources Branch, Zhongguancun Science and Technology Parks Management Committee, 8 July 2004, Beijing.

⁴ Recently, a so-called "Hu Hui phenomenon" has triggered heated debate in China. Dr Hu Hui returned from the United States to set up a firm with an initial capital of US\$ 150,000 in the top science park of China, the Zhongguancun Park in Beijing, in 2002. Despite the very generous assistance from the government, the company faced severe problems in marketing and in attracting follow-up investment. In the end, Dr Hu sold the company together with his technology for remote medical diagnosis to a US-based company for US\$ 18 million. Many more enterprises cannot be as lucky as Hu Hui, and have failed through lack of funding.

return of OCPs, and the high-tech industry in China remain separate processes. While the outflow is basically an individual decision, the return of OCPs has been very much encouraged by the state through policies, and neither of them is inherently related to high-tech business. A comparison between China and India in migrations of their professionals, particularly in the Information Technology (IT) industry, suggests that integrating these three can bring about a significantly different scenario. India and China have performed very differently in the IT industry. Indian software and services exports industry earned revenues of US\$ 9.6 billion in 2002–03 (Nasscom 2004). By comparison, software exports from China hit merely US\$ 2 billion in the same year (Chinese Ministry of Information Industry, cited in *The Times of India* 11 Feb 2004) and it has literally no world brand in this sector. However, the IT boom in India is accompanied by large-scale outflows, rather than returns, of IT professionals.⁵ Then, how do Indian IT professionals contribute their intellectual capital by leaving and why have not their Chinese counterparts made a big difference despite returning? The contrast becomes even sharper when one considers the fact that 70% of the recent Chinese returnees were IT professionals.⁶

The reason for this lies in the fact that both the outflow and the return of Indian IT professionals are integral parts of the high-tech industry. IT professionals generate revenues at home by leaving, and in the long run this helps integrate India's IT industry to the global market. The large number of Indian IT professionals move around globally through a business model dubbed "body shopping" in the industry. Put it simply, body shopping refers to the practice whereby a software service firm provides labor to a client to implement a particular program. The billing is directly proportional to the number of program hours contracted. Thus, unlike the conventional recruitment agencies who *introduce* employees to employers, body shops

⁵ In 2002, 64,980 Indians were granted H-1B visas, the special work permit of the United States for highly skilled temporary migrants, far exceeding the second largest countries of origin, China, with 18,841 (U.S. Citizenship and Immigration Services 2003). More strikingly, 47,477 of the Indian H-1B visa holders were computer-related professionals, making up 63% of all computer-related H-1B visa holders, while only 5,357 Chinese H-1B visa holders were at the same occupations (U.S. Citizenship and Immigration Services 2003). Across the Atlantic, Indians constituted 78% of all the foreign IT professionals entering the UK in 2002 (Clarke and Salt 2003: 572), and Chinese accounted for only about 2% of the all engineers and technologists, of which category IT professionals is only a part (Clarke and Salt 2003: 570, 572).

⁶ Interview with Mr Xia Fudong, OCAO.

manage workers for the employers. Many IT firms are a hybrid of labour supplier, technology firm, and sometimes training institute. By sending labor overseas, small start-ups in India can thus accumulate resources and make their way to the global market, some eventually moving up into the high tier with stronger R&D capacity.

Precisely because of this linkage between migration and the high-tech industry, Indian IT industry was estimated to need to send about 200,000 professionals to the United States alone to sustain its 40–50% growth rate over the year 2000–2005 (Ramesh 1999). The H1-B program was so vital to Wipro, one of the largest IT company in India, that the company listed the possibility that the US H1-B visa program might be curtailed as a major risk factor in disclosures to the Securities and Exchange Commission when the company floated an initial public offering on the New York Stock Exchange in 2000 (Thompson 2001).

In turn, the migration of IT professionals has facilitated the outsourcing of IT business from the West to India. According to a survey by Simon Commander et al (2003) of 225 software firms in India, about a quarter of firms retained links with former employees who migrated abroad. Because of this, over 60% of the respondents thought that skilled migration had been beneficial to their firms, particularly by transferring cutting-edge technology, changing working habits, and providing access to new markets and customers. Over 10% of the respondents reported that emigrants from their firms were now customers of their firm. According to a survey conducted by AnnaLee Saxenian (1999), 52% of the India-born IT entrepreneurs investigated in Silicon Valley travelled to India on business at least once a year, 27% reported regular exchanging information on jobs/business opportunities with those back home, while 33% reported regular exchanges of information on technology. Furthermore, 46% had been a contact for domestic Indian businesses. In terms of investment, 23% had invested their own money into Indian start-ups—10% on more than one occasion. Although these figures may not represent the situation of all emigrant IT professionals, the survey at least reflects the existence of the wide connections.

Recognizing the importance of the mobility of skilled labor, India has launched systematic efforts to push for WTO negotiations on services and the mobility of the highly skilled, and to

persuade the West to relax restrictions on the migration of professionals, as evidenced by a speech by then Indian Prime Minister Atal Bihari Vajpayee (2001). The pre-eminent IT industry body, National Association of Software and Service Companies of India (Nasscom) has long negotiated with the US governmental and non-governmental agents to relax immigration laws, which is supplemented by the lobbying forces such as The IndUS Entrepreneurs (known as TiE), which originated in Silicon Valley with 40 local chapters around the world.

In the Chinese case, the majority of the H1-B visa holders in the United States are former students who converted their visa category on graduation. Some did migrate from China through agents, but in a very different way from body-shopping. For example, the New York City-based Headway Corporate Resources, a leading human resources company, has an exclusive agreement with the state-owned Shanghai Foreign Services Company Ltd (SFSC) to bring Chinese IT workers to the United States. SFSC identifies qualified candidates and conducts pre-screening English-language skill evaluations and reference checks. The CVs and evaluation results for successful candidates are forwarded to Headway. Clients can tap into Headway's website and conduct a video interview to assess the candidates' personality and language skills. Once the worker is hired, Headway and SFSC jointly prepare the immigration documents for H1-B visa processing. The Chinese workers need to sign contracts with the Chinese government for a specified period of time, and, after their stay in the United States, must return to China (Chepesiuk 2001). Clearly, the business remains conventional labor recruitment, and does not form part of the IT industry.

In order to integrate migration into the high-tech industry, China first of all needs to adjust its regulations of labor exports and encourage firm-facilitated labor mobility as a form of service supply. This approach has great potential, since the ongoing negotiation on Mode 4 as part of the GATS, albeit the process has been slow and unpredictable, is expected to liberalize regulations regarding service-tied mobility of natural persons. Currently, labour exports from China remain a very limited volume, are messily regulated, and are dominated by unskilled labor.

China can also consider cooperating with the country of residence of OCPs in linking

migration, diaspora networks, and knowledge exchange. There has been a positive signal that some developed countries are willing to explore means to benefit developing countries through migration. France, for instance, has proposed the notion of “co-development” and set up an Inter-ministerial Mission on Co-development and International Migration, seeking to link migration management with development in the sending countries, and “brain drain” is recognized as a major concern in the co-development strategy. But more concrete intergovernmental cooperative activities need to be developed. At the same time, China should also pay close attention to the concerns of some receiving countries. Students from China in the United States reportedly face more scrutiny than applicants from any country outside the Middle East. A US congressional study found that during a three-month period in 2003, more than half of all the Visa Mantis investigations, a screening process intended to prevent the transfer of sensitive technology worldwide, involved Chinese students (*New York Times*, December 21, 2004). More debates should be initiated at international forums on the link between security, migration, and knowledge exchange, and particularly to enable the voices of developing countries to be heard.

C. Taking a Broader View: Enhancing Spin-Off Effects

The narrowly focused state-led and commercial project-oriented OCP programs tend to neglect the societal sector. For instance, we were approached more than once by OCPs and their children asking how they could work as volunteers in China (for instance as English teachers in the countryside), but there seems no program to address this kind of request. As a result of the emphasis on profitable projects, most OCPs participating in the state programs are from science and engineering backgrounds. Although the Chinese government and society at large have recognized the importance of social sciences (a recent New China News Agency report states that by the end of 2004, 60% of provincial governors had social science backgrounds, very different from the situation in the 1990s), it remains very difficult for social

scientists, and particularly those among OCPs, to establish links with relevant government agencies to voice their concerns and contribute insights. This indeed forms a sharp contrast to diaspora networks of many other developing countries, where hometown development associations, philanthropic organisations, and civil-society type activities constitute the majority of activity.

The emphasis on profitable projects may have also limited the wider society from benefiting more from the existing programs. The Jilin Convention in July 2004, for instance, only invited OCPs and registered enterprises to attend presentations by OCPs. The organizers could have made the presentations open events, and arranged for local college students to attend. It could have been an excellent opportunity for the students to gain better understanding how OCPs have turned their research results into commercial projects, and also to establish contacts with them. Although the slogan of “learning society” (*xuexixing shehui*) is widely heard, local government seem to have missed a golden opportunity for the public to learn.

As mentioned in the beginning of the study, the fundamental goal of promoting knowledge exchange is not to import knowledge *per se*, but to develop the local R&D capacity in a sustainable manner. Thus far the programs targeting academic institutes (mainly by MoE) on one hand, and those targeting enterprises and local government (for example by OCAO) the other, are often completely separate from each. Perhaps we can consider initiatives that pair-up domestic researchers and OCPs to carry out project together to address problems faced by Chinese institutes.

Apart from these recommendations, the state could consider honoring the OCPs who are active in network building without returning (currently most of the state awards are granted to those returned); enhancing inter-linkage between websites and databases of different departments; and, given the importance of OCP associations and the disparity in the performance of network building between different associations (associations with relatively young leaders often have difficulties in contacting relevant institutes in China though wish so), commissioning a study to summarize and disseminate the successful experiences of OCP associations.

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GLOSSARY

- Agreement on Cooperation in Science and Technology 《科学与技术合作协议》
- All-China Federation of Returned Overseas Chinese 中华全国归国华侨侨眷联合会
- All-China Youth Federation 中华全国青年联合会
- Association of Chinese Scientists and Engineers in Japan 在日中国科学技术者联盟
- Association of International Personnel Exchange 国际人才交流协会
- biaozhang dahui* 表彰大会- honoring conference
- Bureau of Exit and Entry Management of MoPS 公安部出入境管理局
- CAS Fund for Return to China to Work on Basis of Competition 中国科学院择优支持回国工作基金
- CAS International Experts for Project Evaluation 中国科学院国际专家项目评估组
- CAS One Hundred Talent Program 中国科学院百人工程
- CAS Outstanding Scholars Fund 知名学者基金
- CAS Overseas Study and Continuing Education (website) 中国科学院海外人才与继续教育网
- CAS Young Scholars Academic Forum 中国科学院青年学者学术论坛
- Central Committee of the Chinese Communist Party (CCCCP) 中共中央
- chair professor 讲座教授
- Cheung Kong Scholar Program 长江学者计划
- China Association for Science and Technology 中国科技协会
- China Council for the Promotion of Applied Technology (CCPAT) 中国科技协会对外应用技术交流促进会
- China Diaspora Web 中国侨网
- China Human Resource Network 中国人力资源网
- China International Employment Net 中国国际职业网
- China Overseas Talents (website) 人事部中国留学人才网
- Chinese Academy of Sciences (CAS) 中国科学院
- Chinese Association for Science and Technology, USA 中国旅美科技协会
- Chinese Materials Association UK (CMA-UK) 旅英华人材料科学学会
- Chinese Professionals Association of Canada 加拿大中国专业人士联合会
- Chinese Scholars Abroad 《神州学人》
- Chinese Service Center for Scholarly Exchange 中国学者交流服务中心
- Committee for Hong Kong, Macao, Taiwan and Overseas Chinese Affairs of the National

People's Political Consultation Congress 全国政协港澳台侨委员会
Committee for Overseas Chinese of National People's Congress 全国人大华侨委员会
Committee of Japan-based Overseas Chinese for Supporting Reinvigorate Northeast China
旅日华人支持东北振兴委员会
Communist Youth League 共产主义青年团
Convention for Overseas Chinese Professionals' Business Development (Wuhan) 华侨华人
专业人士创业发展洽谈会
Convention of Consultation and Cooperation between Overseas Chinese Professionals and
Domestic Enterprises (Jilin) 海外华侨华人专业人士恳谈及项目对接会
Cooperation and Exchange Convention of Overseas Chinese Enterprise in Science and
Technology Innovation 华商企业科技创新合作交流会
Cultural Revolution 文化大革命
danqiu suoyong, buqiu suoyou 但求所用，不求所有- only seek to utilize, not to possess
Department for Overseas Scholars of the All-China Youth Federation 中华全国青年联合会海外
学人工作部
Department of Economy and Technology 经科司（侨办）
Department of Policy Research 政策研究司（侨办）
duanqi huiguo temporary return
duanqi huiguo 短期回国 temporary return
dumb bell model 哑铃模式
fever to study abroad 出国留学热
Gathering in Shanghai, Developing Together 相聚上海、共谋发展
Guangzhou Overseas Students Fair 广州留学生交流会
Harvard Girl Liu Yiting 《哈佛女孩刘亦婷》
Hu Hui phenomenon 胡晖现象
hui chongzi 会虫子- conference worms
huiguo fuwu 回国服务- return and serve the motherland
Human Resources Branch, Zhongguancun Science and Technology Parks Management
Committee 中关村科技园管理委员会人力资源部
Inter-ministrial Meeting on Returned Overseas Student, 留学归国工作部际联席会议
International Cooperation Department of MoE 教育部国际司
Japan-based New Overseas Chinese Association 日本新华侨华人会
jianmianli 见面礼- "golden hello"

jidi 基地- bases

Jilin University Alumni Association in the USA 吉林大学美国校友会

KC Wong Education Foundation Fellowship for Short-term Return 王宽诚教育基金科研奖金
(短期回国)

Lee KC Foundation 李嘉诚基金会

Liaoning Overseas Chinese Scholar Innovation Engineering Network 辽宁海外学者创业网

Ministry of Education (MoE) 教育部

Ministry of Information Industry 信息产业部

Ministry of Personnel (MoP) 人事部

Ministry of Public Security (MoPS) 公安部

Ministry of Science and Technology (MoST) 科技部

MoE Fund for Research Projects of Returned Overseas Students 留学回国人员科研启动基金

MoE Outstanding Trans-century Talents Plan 跨世纪优秀人才培养计划

MoE Special Fund for Short-term Return to Work and Teach 短期回国工作讲学专项基金

MoP Fund for Returned Overseas Students on the Basis of Competition 人事部留学回国人员
科研择优资助经费

MoP National Science Fund for Post-doctoral Fellows 人事部国家博士后科学基金

Nanjing International Talent Networks 南京国际人才网

National Natural Science Foundation Distinguished Young Scholars Program 杰出青年学者工
程

National Natural Science Foundation 国家自然科学基金委员会

Notification on Improving the Work of Attracting Outstanding Overseas Students for
Post-doctoral programs 《关于进一步争取优秀留学博士回国做博士后的通知》

Notification on Issuing Special ID Card for High Rank Overseas Students 《关于办理高层次海
外留学人才身份证明的通知》

Notification on Special Treatment on Installing Telephones, Gas and Air Conditions for
Overseas Students Who Are to Work in Shanghai 《关于对来上海工作的出国留学人员新装
电话、煤气和空调器给予优先照顾的通知》

OCAO One Hundred PhD Holders Return Visit Delegation 海外百名博士回国考察团

OCPs-Shijiazhuang Interface for Economic and Technological Development 华侨华人专业
人士与石家庄经济技术对接洽谈会

Office for Affairs of Returned Overseas Students (MoE) 教育部留学回国工作办公室

Outstanding Institute for the Work on Overseas Students 留学工作先进单位

Overseas Chinese professionals (OCPs) 海外华侨华人专业人士

Overseas Returned Scholars Association 欧美同学会

People's Daily 《人民日报》

Program of Overseas Talents Serving Homeland (China Association for Science and Technology 海外人才为国服务工程

Provisional Methods of Sponsoring Overseas Students to Return to China to Work in Non-Education Sectors Temporarily 《资助留学人员短期回国到非教育系统工作暂行办法》

Research on the Management of Studying Overseas 《留学工作研究》(杂志)

Research Team on the Motivations and Rules of the Return of Overseas Talents and the Strategies to Encourage the Return “海外科技人才回流规律、动因与引进策略研究”课题组

Returned Overseas Students Industry Parks 留学生创业园区/创业工业园

rouxing liudong 柔性流动- flexible mobility

Science and Technology News 科技日报

Shanghai Foreign Services Company Ltd. (SFSC) 上海对外服务有限责任公司

shu dianxing 树典型- setting up models

shui lai zhaipai 谁来摘牌- “Who takes the plate?”

Silent Appointment: Our Stories of Studying Abroad 《无声之约：我们的留学故事》

Sino-America Understanding on Educational Exchanges 《中美教育交流协议》

Snapshots of Science and Technology for Overseas Chinese 《侨务科技动态》

special-term professors 特聘教授

State Administration of Foreign Experts Affairs 国家外国专家局

State Commission for Science and Technology 国家科技委员会

State Commission on Education 国家教委

State Council Overseas Chinese Affairs Office (OCAO) 国务院侨务办公室

storing brainpower overseas 海外人才储备

Studying in America: A Story of an Era 《留学美国：一个时代的故事》

Suggestions on Encouraging Overseas Students to Serve Countries by Various Means 《关于鼓励海外留学人员以多种形式为国服务的若干意见》

Tai Lake 太湖

Twelve-words Approach 十二字方针

weiguo fuwu 为国服务- serve the motherland

Work Information of the Program of Overseas Talents Serving Homeland (overseas version) 《海外人才服务祖国项目工作通讯 (海外版)》

Xiamen Convention of OCPs and Development Projects“厦门海外科技人才项目对接会”

xuexixing shehui 学习型社会- learning society

Youth Reference 《青年参考》

zhichi liuxue, guli huiguo, lai qu ziyou 支持留学，鼓励回国，来去自由- support study overseas,
encourage returns, guarantee freedom of movement

Zhigong Party 致公党

zifei liuxue 自费留学 self-financed overseas education, studying abroad without state
sponsorship

APPENDIX 1.1. KEY INDIVIDUALS INTERVIEWED, EXCLUDING OCAO STAFF

Time of interview	Persons Interviewed and Institutional Affiliations	Place of interview
25/02/2004	Cheng Xi, research at the China Federation of Returned Overseas Chinese	Café, Chang'an Theatre
10, 15, 29/03/2004	Yu Hui, research officer at Department of Engineering, University of Oxford	home of Dr Yu Hui, Matson village, Oxford
17/03/2004	Zhang Chenyou, Counsellor, PRC Embassy to the UK	PRC Embassy Office, London
01/04/2004	Mr Huang Huijin, Division of Scientific Talents and Overseas Scholar Affairs, Bureau of Personnel and Education, Chinese Academy of Sciences	office of Division of Scientific Talents and Overseas Scholar Affairs, Bureau of Personnel and Education, Chinese Academy of Sciences, Beijing
14/04/2004	Mr Li Xiaoxuan, Chinese, Academy of Sciences	office of Chinese Academy of Sciences, Beijing
15/04/2004	Prof. Ma Rong, head, Department of Sociology, Beijing University	office of Department of Sociology, Beijing University
18/04/2004	Ms Bai Yan, Department of International Cooperation, Beijing University	office of Department of International Cooperation, Beijing University
21/04/2004	Ms Deng Li, Division of Personnel, Institute of Automation Technology, Chinese Academy of Sciences	office of Chinese Academy of Sciences, Beijing
24/04/2004	Ms Xiao Ruo, Director, Editorial Office of Research on Studying Overseas Affairs (belong to the Department of International Cooperation of Ministry of Education and Research Association on Studying Overseas of China's Association on Research on Higher Education)	Yan'nan Café, Beijing University
29/04/2004	Dr Zhang Jiansheng, President, China Council for the Promotion of Applied Technology (CCPAT, a subsidiary of the China Association for Science and Technology)	office, China Science and Technology Museum, Beijing
29/04/2004	Mr Miao Dan'guo, Department of International Cooperation, Ministry of Education	office of Department of International Cooperation, Ministry of Education
30/05/2004	Richard Ye, researcher, the University of Illinois, College of Medicine, Chicago, Illinois, U.S.A.	A café in Oxford
28/06/2004	Mr Shui Chao, Director of Information Centre, Overseas Chinese Affairs Office, Beijing Municipal Government	Overseas Chinese Affairs Office, Beijing Municipal Government
11/07/2004	Mr Zuo, Director of Politics and Returned Overseas Chinese Branch, Foreign Affairs and Overseas Chinese Affairs Office, Jilin province	Changchun
11/07/2004	Deputy Director of Branch of External Relations, Foreign Affairs and Overseas	Changchun

3/10/2004 Chinese Affairs Office, Jilin province
Dr Zheng Yuejun, associate professor, Kyoto, Japan
Research Institute for Humanity and
Nature, Kyoto, Japan

OCPs Interviewed and Who Participated in Focus Group Discussion, Leeds, UK, 24–25 September 2004

Dr He Yufeng, post-doctoral fellow, Department of Chemistry, University of Bath
Dr Wang Jianhua, Grid Support Centre, CCLRC e-Science Centre
Dr Wang Jun, Research Scientist, Procter & Gamble
Dr Xiang Weizhong, CFD Analyst Engineer, Merloni Elettrodomestici UK
Dr Xu Baohua, Department of Chemistry, University of Leeds
Dr Yan Haixue, research assistant at Queen Mary University of London
Dr Ye Hua, research fellow, Department of Chemistry, University of Oxford
Dr Zhang Shengfu, Senior Engineer, Imperial College, London
Dr Zhang Xiaoyu, visiting fellow to Inorganic Chemistry Laboratory
Mr Guo Zhichao, Phd, University of Collage of London
Mr Li Hua, PhD at Institute of Mechanics, Chinese Academy of Sciences, visiting researcher to the Department of Physics, University of Leeds
Mr Wu Haicheng, D.Phil student in department of Chemistry, University of Cambridge
Ms Shang Hui, PhD student at School Chemical Environment and Mining Engineering, University of Nottingham

APPENDIX 1.2. WORKSHOP REPORT

Promoting Knowledge Exchange through Diaspora Networks
8 - 9 July 2004, Beijing

Since the topic of “brain drain” was introduced to the United Nations debates in the late 1960s, policy thinking on highly skilled migration has shifted its focus from discouraging emigration in the 1970s to encouraging returns in the 1980s, and to facilitating “brain circulation” more recently. More and more developing countries do not see the exit of the highly educated as a problem, and instead focus on utilizing their human capital stock overseas. The project “Promoting Technology Transfer through Diaspora Networks (China)”, funded by the Asian Development Bank and designed and implemented by COMPAS, aims to map out the current situation of knowledge exchange through migrant networks in China; identify potentials and problems in this area; and recommend a list of innovative measures to promote the exchange. As part of this project, COMPAS and its government counterpart for the project in China, the Policy Research Department of the State Council Overseas Chinese Affairs Office (OCAO) held the workshop with assistance from the Overseas Chinese Affairs Office of Beijing Municipal Government. Attended by representatives from various government agencies and higher education institutes, the workshop evaluated schemes that have been put in place to encourage knowledge exchange and discussed the tentative conclusions and policy recommendations that the project team proposed.

All the participant institutes recognized the great resources among the diaspora professionals: there are an estimated 800,000 overseas Chinese professionals who could contribute to knowledge exchange; ongoing economic globalization and the rapid development of China provide a conducive environment for attracting professionals’ returns, on a both long-term and short-term basis; and the Chinese government has attached sufficient emphasis to this. It was agreed that in this context, establishing and sustaining wider networks between institutes in China and professional diaspora should be a priority to lay down a concrete basis for sustainable exchange.

The workshop also identified areas where improvement is needed. For example

coordination among different government departments may need to be strengthened to reduce duplicated work and maximize efficiency. Systematic evaluation mechanisms are called for to ensure proper use of resources invested in various programs. A few institutes also called attention to the sustainability of knowledge exchange programs. Some professionals who returned through government schemes could not stay on or failed to turn their technologies into concrete projects, particularly because of an underdeveloped finance market. This led to a discussion of how to combine government programmes with market mechanisms.

The information and policy suggestions put forward at the workshop will be incorporated to the project's report. Apart from exchanging views, the workshop also helps the project team establish connections with a wide range of potential user institutes of the research, based on which the team will seek further feedback at the coming states of the project.

Workshop Programme:

Introducing participants, Mr Shui Chao, Director of Information Centre, Overseas Chinese Affairs Office, Beijing Municipal Government

Opening remarks, Dr Qiu Jin, Head of Policy Research Department, State Council Overseas Chinese Affairs Office, People's Republic of China

Briefing on the project and key questions for discussion, Dr Xiang Biao, COMPAS

Presentations by representatives from various institutes

Discussion and conclusion

Participant Institutes:

- Administrative Committee of Zhongguancun Science Parks, Beijing Municipal Government
- Beijing Huanwen International Sinology Exchange Centre (part of the State Administration of Foreign Experts Affairs)
- Beijing University of Technology
- China Agricultural University
- Committee of Education, Beijing Municipal Government
- Committee of Science and Technology, Beijing Municipal Government
- Department of United Front Work, Beijing Committee of Chinese Communist Party
- Federation of Returned Overseas Chinese, Beijing
- Humanities and Social Sciences Development Planning Office, Beijing Municipal Government
- National Federation of Returned Overseas Chinese
- Overseas Chinese Affairs Office, Beijing Municipal Government
- Policy Research Department, State Council Overseas Chinese Affairs Office, People's Republic of China
- Tsinghua University

APPENDIX 1.3 RESEARCH METHODS

Literature review and documentary study

Policy review

We have collected 180 government policy documents issued during the period from 1986 to 2003, including:

- 8 general documents from the State Council;
- 90 general documents from local governments of various provinces and municipality;
- 34 regarding industrial parks for returned overseas students, 7 on education of children of returned overseas students;
- 27 on employment, nationality, household registration and even marriage of returned overseas students;
- 14 on customs regulations and overseas students ID cards.

Research literature

In addition to our own collection accumulated prior to this project, and assistance from government agencies, we used two Internet-based search engines for Chinese social science literature (Renmin University Database for Published Information) and one for literature related to overseas Chinese (Jinan University Information Centre on Overseas Chinese) to identify relevant literature. As a result we have collected:

- five academic books on overseas Chinese professionals (three Chinese and two English)
- 50 reports from (1) government departments such as Ministry of Education and the OCAO, (2) journals such as the 出国留学工作研究 (*Research on the Management of Studying Overseas*), 华侨华人历史研究 (*Research on the History of Overseas Chinese and Chinese Overseas*) and (3) various websites such as 神州学人 *Chinese Scholars* and 中国侨网 *China's Overseas Chinese Web*.
- about 30 articles/monographs on knowledge exchange and scientific diaspora of other countries.
- analyzed more than 200 detailed curriculum vitas of overseas Chinese professionals provided by the OCAO. These CVs were accumulated by OCAO randomly through official or private visiting (by both overseas Chinese professionals to China and OCAO officials overseas), conferences and other activities. Although these CVs certainly cannot represent all OCPs, they at least indicate who the individuals are with whom the government has contacts. They are representative, in fact in their CVs, 62.1% claimed that in fact they did not have connections with China.

Interviews

The in-depth interview was chosen as the main research method of this project. We have conducted interviews with three key groups of informants, specifically,

- officials from government departments at the central level such as OCAO and Ministry of Education, and officials at the local level, particularly Beijing and Jilin province;

- staff at key research institutes such as Beijing University and Chinese Academy of Sciences;
- overseas Chinese professionals.

Workshop and Consultation

COMPAS and the Policy Research Department of the State Council Overseas Chinese Affairs Office held a workshop in Beijing on 8 and 9 July with assistance from the Overseas Chinese Affairs Office of Beijing Municipal Government. A list of key questions and the tentative conclusions and policy recommendations that the project team proposed were sent out to all the participating institutes well before the workshop. Most participants came with prepared presentations and comments.

Consultation with OCPs was also carried out throughout the project, but a focused consultation took place in conjunction with the Leeds conference.

Participatory Observation at Two Major Conventions

COMPAS member Xiang Biao took part in two major events organized by the Chinese government to promote knowledge exchange, as a special guest:

- The Third Jilin Convention of Consultation and Cooperation between Overseas Chinese Professionals and Domestic Enterprises, organized by State Council Overseas Chinese Affairs Office and Jilin Provincial Government, China, 13-17 July, Changchun, Jilin province;
- The Second Cooperation and Exchange Convention of Overseas Chinese Enterprise in Science and Technology Innovation, organized by State Council Overseas Chinese Affairs Office, Ministry of Science and Technology, Ministry of Commerce, Provincial Governments of Heilongjiang, Jilin, and Liaoning, China, 17–21 July, Shenyang, Liaoning province.

The two events invited a total of more than 150 overseas Chinese professionals to meet with domestic enterprises. The aim was to foster high-technology joint ventures to which the professionals will contribute their technologies and international connections, and the enterprises will contribute capital and management expertise. These two conventions provided highly valuable opportunities for observing the working mechanisms of local government.

Questionnaire Survey

A questionnaire targeting overseas professionals was designed, intended to investigate three issues: (1) the development of spontaneous networks among overseas Chinese professionals; (2) overseas Chinese professionals' career trajectory; and (3) means of communication and information exchange between the professionals and institutes in China.

The survey was carried out in two stages: first through the two major events in Changchun and Shenyang as mentioned above, and second at the annual meeting of the UK Association of Chinese Chemistry Professionals in September, in Leeds.

The result of the first stage survey was unsatisfactory, with a very low return rate of just 8%. This was mainly because that the local organizers were too preoccupied by the conferences and could not assist with the survey, despite cooperation from the State Office. With the assistance from the UK Association of Chinese Chemistry Professionals, the second phase of the survey was successful. Seventy-four questionnaires were sent out, and 49 valid questionnaires were returned.

APPENDIX 2.1

AGE, YEAR OF LEAVING CHINA, AND CURRENT POSITION

		current occupation and position							
		senior academic	middle -rank academic	junior academic	senior in private sector (e.g. CEO or immediately below CEO)	middle in private sector (e.g. owning small enterprises or middle-level managers in large corporations)	junior in private sector	middle in government departments or NGOs	junior in government departments or NGOs
time of leaving China	before1990	2.4%	38%	0%	9.5%	42.9%	2.4%	0%	2.4%
	1990-1995	3.6%	29%	21.4%	17.9%	7.1%	3.6%	10.7%	0%
	after1996	0%	0%	0%	100%	0%	0%	0%	0%
total		2.8%	33%	8.3%	15.3%	27.8%	2.8%	4.2%	1.4%

APPENDIX 3.1

AGE AND CONNECTIONS WITH CHINA

		Are you in stable commercial or academic connections with institutes in China?		total
		No	Yes	
age group	-1959	16.7%	83.3%	100%
	1960-1969	35.0%	65.0%	100%
	1970-1979	66.7%	33.3%	100%
	1980-	85.7%	14.3%	100%
total		51.0%	49.0%	100%

YEAR LEAVING CHINA AND CONNECTIONS WITH CHINA

		Are you in stable commercial or academic connections with institutes in China?		total
		No	Yes	
time of leaving China	1980-1985	0%	100%	100%
	1986-1990	0%	100%	100%
	1991-1995	50.0%	50.0%	100%
	1996-2000	35.3%	64.7%	100%
	2001-	70.8%	29.2%	100%
total		48.1%	51.9%	100%

APPENDIX 3.2

GENDER AND INTENTION OF RETURN (LONG TERM)

		intention for return on a long-term basis			total
		very willing and/or is preparing to return	yes in certain condition	unlikely	
gender	male	53.7%	43.9%	2.4%	100%
	female	60.0%	30.0%	10.0%	100%
total		54.9%	41.2%	3.9%	100%

GENDER AND INTENTION OF RETURN (SHORT TERM)

		intention for return on a short-term basis			total
		very willing and/or is preparing to return	yes in certain condition	unlikely	
gender	male	58.3%	33.3%	8.3%	100%
	female	44.4%	55.6%	0%	100%
total		55.6%	37.8%	6.7%	100%

APPENDIX 3.3

AGE AND INTENTION OF RETURN (LONG TERM)

		intention for return on a long-term basis			total
		very willing and/or is preparing to return	yes in certain condition	unlikely	
age group	-1959	33.3%	50.0%	16.7%	100%
	1960-1969	61.1%	33.3%	5.6%	100%
	1970-1979	47.1%	52.9%	0%	100%
	1980-	71.4%	28.6%	0%	100%
Total		54.2%	41.7%	4.2%	100%

AGE AND INTENTION OF RETURN (SHORT TERM)

		intention for return on a short-term basis			total
		very willing and/or is preparing to return	yes in certain condition	unlikely	
age group	-1959	100%	0%	0%	100%
	1960-1969	64.7%	35.3%	0%	100%
	1970-1979	37.5%	50.0%	12.5%	100%
	1980-	42.9%	42.9%	14.3%	100%
Total		52.4%	40.5%	7.1%	100%

APPENDIX 3.4

WORK EXPERIENCE AND INTENTION OF RETURN (LONG TERM)

		intention for return on a long-term basis			total
		very willing and/or is preparing to return	yes in certain condition	unlikely	
number of countries that you have worked or studied outside of China	1	40.6%	56.3%	3.1%	100%
	2	80.0%	20.0%	0%	100%
	3	100.0%	0%	0%	100%
	4	0%	0%	100.0%	100%
total		54.0%	42.0%	4.0%	100%

WORK EXPERIENCE AND INTENTION OF RETURN (SHORT TERM)

		intention for return on a short-term basis			total
		very willing and/or is preparing to return	yes in certain condition	unlikely	
number of countries that you have worked or studied outside of China	1	44.8%	44.8%	10.3%	100%
	2	78.6%	21.4%	0%	100%
	3	100.0%	0%	0%	100%
total		56.8%	36.4%	6.8%	100%

APPENDIX 3.5

TYPE OF CURRENT POSITION AND INTENTION OF RETURN (LONG TERM)

		Intention for return on a long-term basis			total
		very willing and/or is preparing to return	yes in certain condition	unlikely	
current position	academic institutes	56.8%	38.6%	4.5%	100%
	commercial enterprises	20.0%	80.0%	0%	100%
	government or NGO	100.0%	0%	0%	100%
	other	100.0%	0%	0%	100%
total		54.9%	41.2%	3.9%	100%

TYPE OF CURRENT POSITION AND INTENTION OF RETURN (SHORT TERM)

		Intention for return on a short-term basis			total
		very willing and/or is preparing to return	yes in certain condition	unlikely	
current position	academic institutes	60.0%	35.0%	5.0%	100%
	commercial enterprises	0%	66.7%	33.3%	100%
	government or NGO	100.0%	0%	0%	100%
	other	0%	100.0%	0%	100%
total		55.6%	37.8%	6.7%	100%

APPENDIX 4.1

CHEUNG KONG SCHOLAR PROGRAM (BY FEBRUARY 2003)

	no. of host universities	no. of disciplines involved	no. of special-term professors	no. of lecture professors
batch one	40	69	73	6
batch two	49	123	117	10
batch three	45	106	107	10
batch four	49	141	136	7
batch five	—	—	84	10

APPENDIX 4.2

TIME OF FIRST TRIP ABROAD AND USAGE OF CHINESE LANGUAGE WEBSITES

		Do you use Chinese language websites to follow situation in China		total
		no	yes	
time of going abroad	1980-1985	33.3%	66.7%	100%
	1986-1990	50.0%	50.0%	100%
	1991-1995	16.7%	83.3%	100%
	1996-2000	0%	100.0%	100%
	2001-	0%	100.0%	100%
Total		7.4%	92.6%	100%

APPENDIX 4.3

AGE AND THE FREQUENCY OF VISITING SELECTED WEBSITES

age group	very often	often	regularly	seldom	never
-1959	0.67	0.33	1.00	0.67	2.17
1960-1969	0.40	0.25	0.50	0.95	2.45
1970-1979	0	0	0.22	0.56	4.89
1980-	0	0	1.14	1.43	3.43
total	0.24	0.14	0.55	0.84	3.41

APPENDIX 5.1

AGE AND INVOLVEMENT IN PROFESSIONAL BODIES

		professional bodies				total
		never participate	core members	ordinary members	participate occasionally	
age group	-1959	0%	100.0%	0%	0%	100%
	1960-1969	0%	56.3%	37.5%	6.3%	100%
	1970-1979	13.3%	20.0%	26.7%	40.0%	100%
	1980-	71.4%	0%	14.3%	14.3%	100%
Total		15.9%	40.9%	25.0%	18.2%	100%

TIME OF FIRST TRIP ABROAD AND INVOLVEMENT IN PROFESSIONAL BODIES

		professional bodies				total
		never participate	core members	ordinary members	participate occasionally	
time of going abroad	1980-1985	0%	100.0%	0%	0%	100%
	1986-1990	25.0%	75.0%	0%	0%	100%
	1991-1995	0%	66.7%	16.7%	16.7%	100%
	1996-2000	0%	61.5%	30.8%	7.7%	100%
	2001-	38.1%	4.8%	28.6%	28.6%	100%
Total		19.1%	40.4%	23.4%	17.0%	100%

APPENDIX 5.2

AGE AND INVOLVEMENT IN ASSOCIATIONS

age group	never participate	core members	ordinary members	participate occasionally	missing
-1959	3.83	1.33	0.50	0.83	2.50
1960-1969	1.75	1.00	0.80	0.30	5.15
1970-1979	4.44	0.28	0.39	0.78	3.11
1980-	8.00	0	0.71	0.14	0.14
Total	3.80	0.65	0.61	0.51	3.43

EDUCATION AND INVOLVEMENT IN ASSOCIATIONS

education	never participate	core members	ordinary members	participate occasionally	missing
PhD	3.16	0.79	0.51	0.44	4.09
Master	6.11	0.56	0.78	0.44	1.11
Undergraduate	7.00	0.33	0.67	1.00	0.00
Total	3.85	0.73	0.56	0.47	3.38