



# Introduction to Innovation Policy in Developing Countries

## Module 03

## China and Brain Drain Prevention Strategies



## History of Brain Drain in China

Despite exercising stricter control over immigration policy, China has been vulnerable to the outflow of skilled human capital. Political instability, salary differentials, inferior research facilities, family considerations, including children's education acted as push factors for the brain drain.

This was evident in the numbers: between 1978 and 2006, nearly one million students, researchers and academics left China; but only 30 per cent returned. In 1999, nearly one in every postgraduate students was leaving China, a figure that rose among students who attended the top universities.



The result was a chronic gap in China's research base: researchers aged in their late 20s and 30s were not publishing in China – indeed many were abroad, notwithstanding the fact that this cohort forms the most productive age group in a number of disciplines. By implication, it delivered a significant blow to the development of China's budding innovation system. It also discouraged government from making investments in higher education, fearing that they would not reap the benefits as skilled individuals moved country, taking the value of those investments with them.





From encouraging the outflow of students and scholars in the early 1980s, political instabilities in the late 1980s contributed to a hardening of attitudes and a less friendly climate for anyone considering a return. Memories of the Cultural Revolution and political campaigns were reawakened. For their part, universities, research laboratories and state-owned enterprises were also deeply suspicious of returnees, viewing their knowledge as a threat. To some extent, this reflected the advanced learning returnees received abroad; however, it reflected the fact that those who were allowed to go abroad were more talented than those who stayed behind.

## Policy Measures to Reverse Brain Drain

However, starting from the early 1990s, attitudes began to thaw. An initiative launched by the Ministry of Personnel to ‘improve services for returned students’ in 1992 signaled a more relaxed approach. A raft of subsequent measures included job introduction centers for returned students in a number of cities, the establishment of a national association of returned students, increased support for scientific research and relaxation of restrictions on labor mobility. Allowing returnees to work in cities other than those from which they emigrated was particularly significant for it promoted competition between cities for scarce talent which bid up the value of the enticements on offer to returnees.

The most aggressive example of these efforts has been the one-thousand-talents scheme initiated in late 2008. It aims to attract over 2000 overseas talents by 2015-2020 by offering considerable relocation packages, salaries and research budgets. This has been underpinned by a long due overhaul of the educational and research infrastructure under the ‘985’ and ‘211’ projects which aim to create world-class of excellence.



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- Ministry of Personnel’s initiative to “improve services for returned students”

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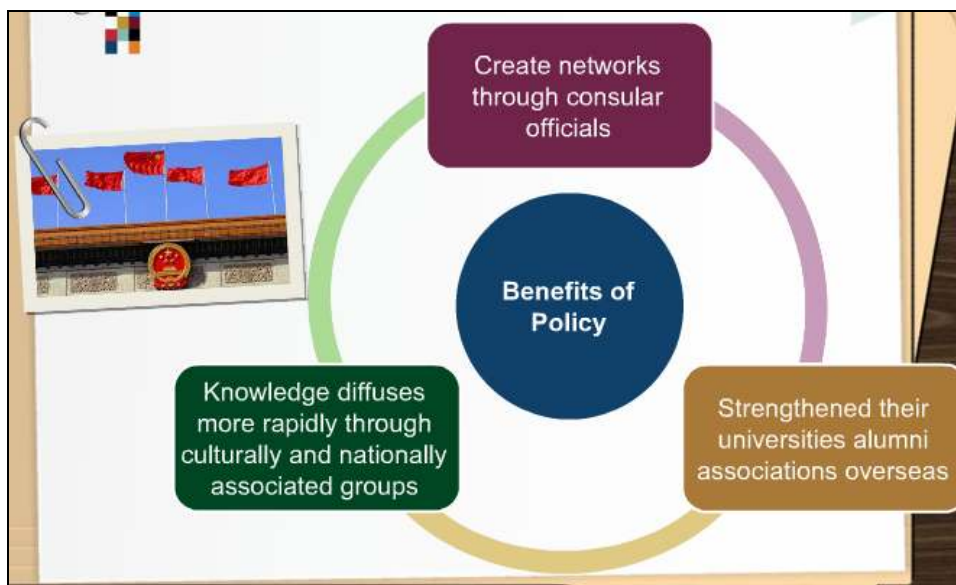
- “One-thousand-talents scheme” to modernize the educational and research infrastructure by 2015-2020



### Tapping into Diasporas

The Chinese government recognized that helping the country was not a take-it-or-leave-it affair. A major policy document in 2001, integrating the suggestions of many ministries, acknowledged that mainlanders overseas did not have to return to China to make a contribution to local development. A positive contribution might mean teaching, lecturing or participating in collaborative research. It might mean engaging in intermediary services, such as running conferences, importing technology or foreign funds or carrying out inspections or consultations. Collaborations between institutions and countries are particularly attractive to the diaspora because they acknowledge openly that overseas Chinese do not need to choose between loyalties.

Policy has made considerable efforts to create networks through consular officials linking skilled labor overseas with researchers and exporters at home. Local governments and cities have also strengthened their universities alumni associations overseas to spread information about business and scientific opportunities in their region. These services fill in an important information gap because the diaspora can lose track of developments at home and the evolving ways in which they may be able to contribute to development needs. There is also evidence that knowledge diffuses more rapidly through culturally and nationally associated groups.





## Diaspora and Entrepreneurship

Another popular contribution is entrepreneurship and business creation - A development assisted by the more favorable status enjoyed by private firms in the economy after 1998 and 2007. Accession to the WTO which brought more multinationals into the country has also contributed as many contemplating a return, find the workplace culture and practices of foreign firms more congenial.

It is difficult to assess how far firms established in China by overseas mainlanders have contributed to innovation. Nonetheless it appears that many are concentrated in high-tech industries and are more likely to import foreign technology. For instance, Dalian in Northern China has become a hub for firms managed by Chinese nationals who live in Japan but outsource software services from Japan to the mainland.

Firms are encouraged to partner with local governments that, in return, provide preferential policies; the disadvantage is that local governments take ownership stakes in companies which can infringe on the preferences of returnees to seek greater autonomy from the state.



## Conclusions and Lessons

Has China managed to replace 'brain drain' with 'brain circulation'? China shows that there is significant potential for countries to benefit from the skills, knowledge and resources of the diaspora without the need for it to return home. There is evidence that the return rate of scholars and students has been rising in recent years. On the other hand the majority still choose to stay overseas. Nor is it altogether clear that those individuals who do return are the most talented.



No 'one-size-fits-all' approach is sufficient.

We have also seen how government policy can make a difference; however it is important to be clear about what has worked and what has been less successful.

Often wider policies such as increased political stability and rapid economic development have been more effective in promoting brain circulation than policies targeted specifically at the diaspora. Of course, more could be done.

Interviews of Chinese diaspora policy identify areas that could be further improved. Respondents have stressed the following in descending order of importance: developing the economy, improve policies towards intellectuals, expand democracy, fully utilize people who had already returned, and invest more in science and education.

This underlines a larger, more important point for policy. Incentives such as improved salaries, promotion prospects and seed money for starting new ventures are necessary but insufficient conditions for motivating the diaspora or boosting return rates.



## Broad Policy Lessons

Policies should also be customized or tailored to very different professions - managers and executives, engineers and technicians, academics and scientists, entrepreneurs – after all, each group will respond to different push and pull factors. Moreover, policymakers need to focus more on the 'softer' aspects of the package that is used to attract overseas students and scholars. Many are attracted to the nature of

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### Case Study

the work they are required to do and the conditions under which they have to conduct their work. For instance, a flourishing academic community, one that values meritocracy over personal relationships, encourages openness and the exchange of ideas and information and gives individuals space to explore new areas is one of the most important qualities for countries wishing to attract the best researchers and scientists.

