OECD/SFRI

The International Mobility of Researchers: Policy Support at National and Institutional Levels

-Japan Society for the Promotion of Science-

(Outline)

Executive Summary

- The Japanese Ministry of Education, Culture, Sports, Science and Technology (MEXT) and the Japan Society for the Promotion of Science (JSPS) have conducted a survey of current policies and initiatives at the national and institutional levels which promote international researcher mobility.

- The survey was intended to provide a broad overview and to look at typical or distinctive examples in the context of a summary of general trends.

- The result of the national survey indicates that current efforts by countries can be roughly classified into the following four categories:

  (1) Support for incoming and outgoing researchers;
  (2) Support for the return and reintegration, and networking of overseas researchers;
  (3) Promotion and international publicity and marketing of higher education and R&D; and
  (4) Support for initiatives that focus on immigration.

- In surveying initiatives to improve international researcher mobility at the institutional level, we focused on the following five aspects:

  (1)Provision of fellowships and grants by the university itself;
  (2)Research and education exchanges among multiple universities via institutional alliances and consortia;
  (3)International strategic plans developed for the university as a whole and arrangements for implementing international activities on campus; and
  (4)Establishment of overseas research facilities and efforts to attract overseas research institutes to set up on campus.
  (5)Social and cultural support for overseas researchers (e.g., housing, provisions for family, language support, etc)

- In analyzing the efforts, there is an undeniable development that involves regional (e.g., European) initiatives to improve international researcher mobility.

- The multi-layered co-existence of initiatives on a regional level, on a national level, and on an institutional level has generated synergistic effects in encouraging further efforts by countries throughout the world.

1. Study Outline

1.1 Study Framework

- The Japanese Ministry of Education, Culture, Sports, Science and Technology (MEXT) and the Japan Society for the Promotion of Science (JSPS) have conducted a survey of current policies and initiatives at the national and institutional levels which promote international researcher mobility. The study aims at understanding what is happening in the arena of international mobility of human resources in the Science and Technology (S&T) field.

- The study was conducted as a web-based survey over the period of 30 January to 23 February 2007. The main sources referenced were the websites of government bodies and Higher Education Institutions (HEIs) in the relevant countries, mainly the OECD member countries (see the lists in page 9 -10).

- The limitations of the current study need to be acknowledged. The survey was conducted under severe time constraints, and data sources were limited to the websites available in English and in Japanese. Therefore, the survey does not provide a comprehensive review of all initiatives taken by the countries and the HEIs in relation to international researcher mobility. Nevertheless the study does provide a broad overview of the general policy trends and distinctive examples in the relevant national and institutional contexts.

- Notwithstanding the above noted limitations, the current study represents an important addition to the document prepared by the OECD secretariat. The survey findings will be utilised, for example, as follows:

    (1) For the JSPS, to develop a model and identify good practices for its on-going programme, *Strategic Fund for Establishing International Headquarters in Universities*;

(2) For delegates from other countries, to refer to as basic data for future country surveys conducted by the Working Group on the Steering and Funding of Research Institutions (SFRI)

- For the purposes of this study, "researcher" was defined as research personnel enrolled in doctoral courses or higher and included doctoral candidates, post-doctoral fellows, teachers and researchers at universities and other HEIs, and researchers at research institutes.

- This report consists of two parts: *National Survey* and *Institutional Survey*. Research methods for each part are summarised below.

1.2 Research Methodology

National Survey

- For the purposes of this study, "researcher" was defined as research personnel enrolled in doctoral courses or higher and included doctoral candidates, post-doctoral fellows, teachers and researchers at universities and other HEIs, and researchers at research institutes.

- This report consists of two parts: *National Survey* and *Institutional Survey*. Research methods for each part are summarised below.

- The national survey primarily targeted the OECD member countries, but when considered appropriate, also included countries such as China and South Africa, which are undertaking some interesting initiatives to attract researchers internationally.

- When referring to specific measures, we have supplemented web-based information wherever possible with references and comments made at past OECD/CRSP/SFRI meetings regarding initiatives taken by countries to improve international researcher mobility.

- We have summarized specific initiatives taken by the countries. The following list of information was included wherever possible: programme names, objectives, background, targets, start year, period, budget, responsible organisations, eligibility criteria, annual budget, outcomes, etc... These subject headings are based on those used in the Pilot Survey among four countries conducted by OECD/SFRI in 2006/2007.

Institutional Survey

- For the institutional survey, we first selected a target sample of 30 universities. In selecting the target institutions, we consulted the Times Higher Education Supplement, *The Times Higher World University Rankings 2006*, focusing primarily on

higher-ranked institutions. A total of 20 institutions were chosen, balancing languages and geographical distribution: 11 universities were selected as English-speaking institutions from Europe and North America, and 9 universities were chosen from non-native English-speaking countries around the world (see the list in page 9). To these we added the top 10 universities in Japan to make the total of 30 universities.

- In surveying initiatives to improve international researcher mobility at the institutional level, we focused on the following five aspects:

  (1)Provision of fellowships and grants by the university itself;
  (2)Research and education exchanges among multiple universities via institutional alliances and consortia;
  (3)International strategic plans developed for the university as a whole and arrangements for implementing international activities on campus; and
  (4)Establishment of overseas research facilities and efforts to attract overseas research institutes to set up on campus.
  (5)Social and cultural support for overseas researchers (e.g., housing, provisions for family, language support, etc)

- We identified examples of specific initiatives by institutions based on the above frame of reference and tabulated them according to the following headings: programme names, objectives, background, targets, start year, period, budget, responsible organisations, eligibility criteria, annual budget, results, etc.. As with the country survey, the subject headings are based on those used in the Pilot Survey among four countries conducted by OECD/SFRI in 2006/2007.

- Regarding specific programmes such as grants and fellowships, we only included those implemented on a *university-wide* basis, excluding programmes and provisions provided and managed at the school/college/faculty/ department level.

Note

- Because of the limited data sources used to conduct both surveys, it was not possible to develop a comprehensive picture of the various programmes. It should be noted that blanks on the worksheets indicate areas where *web-based information was not available*; the blank space in the table does not necessarily mean that the item in question does not exist.

Reference:

OECD. (2002) *International Mobility of the Highly Skilled.*

List of Countries referred to in this study

OECE member countries

Australia
Austria
Canada
Denmark
Finland
France
Germany
Italy
Japan
Korea
Netherlands
New Zealand
Norway
Sweden
Switzerland
United Kingdom
United States

Non-member countries

China
Malaysia
Singapore
South Africa
Thailand

Region/Sub-region

EU
Nordic Council

List of Universities referred to in this study

Universities in English-speaking countries of Europe and North America

- Australian National University
- California Institute of Technology
- Harvard University
- Imperial College London
- Massachusetts Institute of Technology
- McGill University
- Stanford University
- University of Auckland
- University of Cambridge
- University of Oxford
- Yale University

Universities in non-native English-speaking countries

- Copenhagen University
- Ecole Normale Supérieure, Paris
- Eindhoven University of Technology
- ETH Zurich
- Indian Institutes of Technology
- National University of Singapore
- Peking University
- Seoul National University
- University of Heidelberg

Universities in Japan

- Hokkaido University
- Keio University
- Kyoto University
- Kyushu University
- Nagoya University
- Osaka University
- The University of Tokyo
- Tohoku University
- Tokyo Institute of Technology
- Waseda University

2. National Survey
2.1 Findings

Overview

- Looking at the situation of international researcher mobility from a broad perspective, European countries have notably undertaken extensive and comprehensive initiatives to promote international researcher mobility under a variety of EU programmes, including, for example, ERASMUS and the Marie Curie Actions.

- On the other hand, fast growing economies such as China and Thailand are continuing with advanced and characteristic efforts to promote the return and reintegration of overseas researchers.

Promotion Strategies

- Current efforts by countries can be roughly classified into the following four categories:

(1) Support for incoming and outgoing researchers;
(2) Support for the return and reintegration, and networking of overseas researchers;
(3) Promotion and international publicity and marketing of higher education and R&D; and
(4) Support for initiatives that focus on immigration.

Following are some examples focusing on the characteristics of each category.

Supporting Incoming and Outgoing Researchers

- Multiple countries have been actively pursuing programmes to support incoming and outgoing international researchers. Of particular note is a marked increase in recent years in the number of invitation programmes for top overseas researchers with proven track records. This appears to be an international trend as countries in Europe, as well as Canada, Japan, China and South Africa are now involved in such projects. Such growing emphasis on this type of programme on a global basis indicates that international competition for talented and highly skilled researchers will become more intense.

- Other programmes that target incoming mainly younger researchers, post-doctoral fellows for example, are also being implemented on a bilateral basis. While such programmes are not covered by this study, it was found that some countries like Norway are taking a more strategic approach in regard to such programmes, offering them only to researchers from fast-growing economies. Other countries like France, Germany, Japan, the United States and Australia generally open such programmes to

all overseas individuals regardless of nationality.

- Although these types of programmes are mostly designed for individual researchers based on their own records of research, Norway employs a different approach as exemplified by its Personal Visiting Researcher Programme in which grants are awarded to researchers who become involved in, and will likely make a contribution to, research projects launched by the relevant receiving institutions. The rationale behind this approach is an expectation of better results from such research projects and more effective use of grants through the recruitment of top researchers with specifically skills sets required for undertaking superior-level projects.

- In regard to programmes to support outgoing researchers, most countries gear such programmes toward younger researchers at the postdoctoral level or equivalent. The number of these programmes, which are mostly offered by "major powers" such as France, Germany, and Japan, is slightly smaller than that of the above mentioned more recent type of programmes to receive overseas researchers which have been actively developed by many countries and burgeoning in recent years. This proximity in number could be explained by the fact that the systematic basis of sending researchers overseas has been well developed under bilateral and regional (e.g. EU) programmes, thus reducing, to a considerable extent, the necessity to further develop open-type programmes on a national level.

- Some recently developed programmes to support outgoing researchers involve initiatives to strengthen institution-supported funds for institutional efforts to support excellent researchers going abroad. Illustrative examples include: Japan's JSPS International Training Programme (ITP) which started from 2007; the United States' NSF Partnerships for International Research and Education (PIRE) launched in 2005; and Initial Training Networks under the 7th Framework Programme of the EU which starts from 2007. These programmes cover a wide range of younger researchers at the start of their career, including both PhD students and post-doctoral fellows, and are intended to provide individuals with opportunities to undergo training at overseas partner institutions. Although the programmes are chiefly designed to support fixed-term mobility of outgoing researchers, they are noteworthy for their potential effect to stimulate competition among universities in building an attractive educational environment in education and research, thus influencing the mobility of younger researchers.

Supporting the Return and Reintegration, and Networking of Overseas Researchers

- There have been a growing number of so-called "reverse brain drain" policies and initiatives enacted to support the return of overseas professionals. Along with the increased mobility of individuals, an increasing number of advanced and semi-advanced countries have been taking measures to support the return of overseas researchers in recent years. These policies and initiatives include Australia's "Backing Australia's Ability" programme which is being developed on a national level as well as the EU's International Reintegration Grants (IRG) and European Reintegration Grants (ERG), both of which are being developed at a regional level under the Marie Curie Actions. Such drives, however, are especially pronounced in Asian countries which have been suffering from more notable cases of "brain drain." In addition to South Korea, which has been actively making efforts to cope with this issue, China and Thailand have developed programmes to encourage and support returning researchers by covering the costs of creating a research environment that the researchers can return to.

- The efforts of China and Thailand have extended beyond initiatives for the return and reintegration of overseas researchers to cover short-stay visitor programmes in which researchers from the relevant country who have been resident abroad could return home temporarily to deliver single isolated lectures and/or closely packed series of lectures and thereby transfer knowledge so as to create a network for the further development of the relevant country and its research and development activities.

- The drive to network overseas researchers is also growing in Europe, though to a lesser extent than in China and Thailand. For example, Austria and Germany are undertaking initiatives to promote networking of their own researchers in active service in North America, while other policies focus on encouraging communication ("brainpower austria" and "GAIN" programmes). Austria's initiatives include programmes to support the return and reintegration of overseas researchers by supporting traveling expenses required to attend job interviews for overseas researchers who wish to return home as well as foreign researchers who wish to come to Austria. In addition to "reverse brain drain" policies, efforts to "network compatriot researchers overseas" are growing.

Promotion and International Publicity and Marketing of Higher Education and R&D

- Another marked recent trend is the growing number of national initiatives to promote international publicity and marketing of higher education and R&D. This has stimulated national organisations for academic exchange such as Britain's British Council, France's CNRS, Germany's DAAD and DFG, South Korea's KOSEF, the Netherlands' Nuffic, NSF in the United States and JSPS and JST in Japan. These organisations re-emphasize traditional approaches to publicity and marketing while actively promoting international publicity and marketing through overseas offices. For example, Nuffic held "The European Higher Education Fair" in Asian countries under

a joint initiative with the British Council, while DAAD has joined with EduFrance to promote education and R&D in Europe throughout the globe while at the same time working to strengthen and fine tune its publicity and marketing strategy for certain countries.

- In Germany, the Federal Ministry of Education and Research in collaboration with various stakeholders is carrying out the "Hi! Potential" campaign, a joint initiative for international promotion of study, research and training in Germany. The country's prime minister has also served as a face of the campaign which demonstrates the emphasis being placed on higher education and R&D.

- Enhancement of national level awareness-raising activities to boost research environments also serves as a measure to attract overseas researchers.

Initiatives that Focus on Immigration

- One of the most popular initiatives relating to the issuance of visas and residence and work permits is the move to give preferential treatment to professional human resources with specialized expertise under immigration control schemes. These include: (i) formation and expansion of a special framework for human resources with specialized expertise; and (ii) introduction of a point system in which the adequacy of issuing a residence permit to an overseas researcher is determined on the basis of scores calculated and registered based on the researcher's educational background and qualifications. Examples of the move under the above (i) include the formation of the framework for "intellectual immigrants" by the Netherlands and the expansion of the framework of HI-B visas by the United States. Moves that fall under the above (ii) may be characterized by the way in which they are more conducive to heightened objectivity and transparency in the visa process and/or the approval of other relevant permits rather than relying solely on the policies of (i). The latter strategy has mainly been carried out in Commonwealth countries such as the United Kingdom, Canada and New Zealand, while Germany is now in the process of introducing such a system. In France where preferential treatment is given to talented and skilled overseas human resources under the Immigration Reform and Control Act, the immigration control system forestalls a brain drain by requiring immigrants from developing countries either to obtain approval of the country from which they come from or by granting limited residence permits. In recent years, such initiatives have become more focused on giving special consideration to talented and skilled human resources in the context of tightened requirements for receiving immigrants under the immigration policies of many Western countries.

- Another initiative that has become popular in recent years is the move for a country to give preferential treatment in issuing a residence permit to students from overseas who

have graduated from its own higher education institutions. France, Germany and Scotland allow such overseas students to stay in the relevant country for a fixed period of time to give them sufficient time to find a job. Singapore requires scholarship students from ASEAN countries who have been educated in its higher education institutions to work in the country for a period of two years, the observance of which results in automatic authorisation to stay in the country on a permanent basis.

- In recent years, many Western countries have revealed a policy of receiving immigrants in a more visible manner by developing and/or improving preferential treatment for talented and skilled human resources while strengthening the requirements for receiving immigrants under the scope of immigration control.

- While there may be no direct implications on immigration control policy, Denmark and Sweden give tax incentives to overseas researchers received by the relevant country by allowing them tax exemptions or reductions on a temporary basis.

Others

- Other noteworthy recent developments include a shift to multiple funding sources and internationalisation of funding, as exemplified by the Internationally Coordinated Initiatives (ICIs) undertaken by Australia. This programme is intended to co-fund with foreign funding institutions joint international research projects undertaken by Australian higher education and research institutions and their overseas counterparts. A similar sort of programme is undertaken by the U.S.-based NSF and the EU, presenting a prospect for future growth.

- Another noteworthy recent development is a Singapore government-led project in which a research town known as *Biopolis* that houses many institutes of higher learning and research institutes was developed. Through this initiative, Singapore is attracting overseas universities and research institutes as well as overseas enterprises to further develop the research town into a hub of research in the Asian region.

- It is expected that these initiatives will influence international researcher mobility by generating opportunities of international research cooperation and exchange and further promoting such activities.

- As stated above, we have obtained an overview of current efforts by countries to promote international researchers mobility. In analyzing the efforts, however, there is an undeniable development that involves regional initiatives to improve international researcher mobility. Typical examples of these initiatives include ERASMUS, as an education and exchange programme undertaken by the EU, Marie Curie Actions under the scheme of the 6th and 7th Framework Programmes of the EU, as referred to above,

and NordForsk as undertaken by the Nordic Council. The Marie Curie Actions focus mainly on the mobility of individuals and offers programmes to specifically promote international researcher mobility. This comprehensive programme covers long- and short-term support for outgoing and incoming researchers as well as support for the return and reintegration of researchers and the settlement of overseas researchers and has had a significant influence on policies and initiatives adopted and taken by various countries.

- Also noteworthy is a funding programme undertaken by the European Research Council (ERC) that will be newly established under the 7th research framework of the EU. This programme is likely to influence researcher mobility on a regional level as it will bring top-level researchers that play an active role in Europe in to competition for grants as it does not have any limits in regard to the nationality of candidates.

- On a regional level, there is a growing trend to follow Europe, which is taking the lead in researcher exchange, in the Asia-Pacific region, as exemplified by the University Mobility in Asia and the Pacific (UMAP) programme to promote the mobility of persons in terms of higher education exchange. As the Asia-Pacific counterpart of the ERASUMS programme, UMAP, though currently focused on the exchange of students, particularly at the undergraduate level, is set to expand to cover researcher exchange, thus retaining the potential to become a tool to enhance international researcher mobility. Another new drive geared toward reducing institutional barriers to international researcher mobility is also being observed, as exemplified by Japan's proposal at a recent APEC meeting to expand the APEC Business Travel Card scheme, which eliminates the necessity for businesspeople to obtain a visa for short-term business visit in the region, to cover researchers.

- On an institutional level, there are a variety of initiatives that are likely to improve international researcher mobility. A noteworthy example is the Strategic Fund for Establishing International Headquarters in Universities programme being undertaken by the Japan Society for the Promotion of Science with the support of the Ministry of Education, Culture, Sports, Science and Technology. This initiative is characterized by the fact that the national government supports an internationalisation activity on an institutional level in non English-speaking countries that is inherently faced with linguistic barriers in its effort to become more internationalized.

- As indicated by the history of development of institutions in Europe, the multi-layered co-existence of initiatives on a regional level, on a national level, and on an institutional level has generated synergistic effects in encouraging further efforts by countries throughout the world.

3. Institutional Survey

3.1 Findings

University-sponsored fellowship/ grant programmes

- University-sponsored fellowships and grants provide a measure of how much the university is involved in sending or inviting international researchers and reflect the stance (motivation, uniqueness) of each university. We collected information on the fellowship and grant programmes of individual universities because we regard this as an important indicator of the international mobility of researchers.

- In this survey, we looked only at fellowships targeted at students and researchers at the doctoral or higher level funded primarily by the university and offered on a campus-wide basis (i.e., we excluded faculty- or department-level programmes).

- Seven of the 10 Japanese universities surveyed offered their own fellowships. These are intended principally to take in overseas researchers or to assist Japanese researchers to go overseas.

- Of the 20 universities in European and American English-speaking countries, non-native English-speaking countries, 8 offered their own fellowships. Two universities listed as eligibility criteria students/ researchers other than those from the home country (University of Cambridge, Peking University). Five specified the nationality of incoming researchers or destination country for outgoing researchers for fellowships offered under an alliance programme (Australian National University, ETH University etc.), while four made no reference to nationality in the descriptions of their programmes (MIT, Yale University, etc.).

- MIT is an illustrative example. This institution collects funds from 20 sponsors (foundations, endowments, etc.) and utilizes these funds to offer its own MIT fellowships (postdoctoral fellowships). Nationality is not an eligibility criterion for the fellowships, which are given to students who are screened and selected by MIT itself. The fellowships normally provide a stipend only, but may also cover insurance and travel expenses if the sponsor agrees. Like MIT, the University of Cambridge funds its fellowships (The Cambridge Trusts) with money collected from multiple sponsors, subsidizing a portion of living expenses for non-British students.

- At universities in European and American English-speaking countries, non-native English-speaking countries, there are fellowships funded solely by the university in question as well as fellowships funded by both the university and foundations. However, many fellowships are funded solely by a foundation, with the foundation handling applicant screening, therefore they are not covered in this survey.

- There are almost no references to family subsidies and no assistance for the traveling expenses of families in cases where the researcher is required to travel. This is true of Japan, English-speaking countries and non-English-speaking countries. The University of Singapore states specifically that no assistance is available for family traveling expenses.

- Some universities offering fellowships designate expenses for items related to research activities, such as books (examples: Peking University, University of Singapore, California Institute of Technology, etc.) while others merely refer to living costs or a stipend (McGill University, University of Auckland, Copenhagen University, etc.). The amount of funds provided also varies considerably.

- There were relatively few examples of campus-wide programmes providing grants for international research activities or projects, which are key to improving researcher mobility.

- Other noteworthy examples apart from the above are the Lautenschläger-Research Prize offered by the University of Heidelberg, which provides a grant of EURO 250,000 over two years for high-quality research activities involving international collaboration, and the CHF 20,000 grant for three months provided under University of Zurich's Sino-Swiss Science and Technology Cooperation Research Fellowship Programme, which is aimed at bolstering research with China.

Alliances and consortia

- Quite a number of international alliances and networks involving multiple universities state as their objectives the promotion of researcher exchanges and joint international research as well as collaboration aimed at nurturing younger researchers, suggesting an organised attempt among HEIs to improve international researcher mobility. Accordingly, we collected information about alliances and networks among the target universities where these function as an organised framework to improve international researcher mobility.

- The definition of "alliance" used in the survey was as follows:
  (1)Primarily, an inter-university collaborative arrangement with participation by universities in at least three countries
  (2)Universities play the lead role (i.e., in principle there is no involvement of international organisations or other bodies)
  (3)The agreement is entered into at the university level (i.e., department-based arrangements were, as a rule, excluded)
  (4)In principle, the alliance has an existing membership and is involved in substantive activities under university leadership

- We have summarised in table form membership of major alliances among the 30 universities surveyed.

- Alliances may exist at the regional level or the international level. Regional-level alliances are especially common in Europe but the number of alliances in the Asia-Pacific area has grown in recent years.

- The regional nature of alliances influences the level of participation at the institutional level. Looking at alliance membership among the universities surveyed, we note that European and Asian universities are especially keen participants in alliances.

- The University of Cambridge, the University of Oxford, Imperial College London and Copenhagen University in Europe, University of Singapore and Peking University in Asia, and Australian National University in Australia are members of both worldwide and regional alliances. These universities are probably aiming to strengthen networks both with universities in neighboring countries as well as those located in more distant areas.

- Japanese universities are conspicuous by their membership of alliances in the Asian-Pacific region, such as APRU, AEARU and ASAUHL. Japanese universities are also proactive in organizing alliances, as exemplified by Conference of Asian University Presidents (centred around Kyushu University). The impact of Japanese universities' focus on Asia in their international strategies (discussed later) is evident here.

- Compared to European and Asian universities, which are keen participants in alliances, North American universities tend to be members of few alliances. This is probably because university associations and networks within the US itself are highly developed.

- Many networks and alliances advocate international researcher and student mobility, but how effective these networks and alliances are in furthering international researcher mobility is not clear from the web-based information gleaned in this study. Further investigation of regionally based and worldwide alliances is necessary

International strategies

- International strategies are an embodiment of universities' efforts to promote international exchange among researchers at a campus-wide level and from a

medium-to-long-term perspective. Specific actions are grouped under such headings as participation in alliances and consortia, promotion of international joint research, establishment of overseas facilities, and others related to researcher mobility. We gathered information on universities' international strategies to assist in developing a picture of the level of international mobility among active researchers.

- All of the Japanese universities studied in this survey have clearly stated international strategies and they are promoting internationalisation on an organisation-wide basis. Reasons for this include (1) desire by universities to make up for lost time in developing an international focus; (2) the activities of MEXT to support the objectives of universities. For example, the Strategic Fund for Establishing International Headquarters in Universities was inaugurated in 2005 to create an internationally competitive research environment that would attract high-caliber researchers both from within Japan and overseas. MEXT has provided a total of JPY 5 million (per year) to 20 selected universities (including the 10 Japanese universities covered in this survey).

- The university strategies about which we were able to obtain information all refer to "promotion of the university's internationalisation," "internationalisation of researchers" and "acceptance of overseas researchers." Improving researcher mobility is thus a common theme of all strategies.

- A feature of Japanese universities is that many have outlined specific Asian strategies. Examples of universities that look towards Asia are Kyushu University, with its "Strategy focused on Asia," Waseda University, which talks of "joint creation of knowledge in the Asian-Pacific region," and Osaka University, with its policy of broadening research fields by establishing a joint research community in the Asian region.

- Yale University's international strategy has a three-fold aim: preparing students for leadership and service in an increasingly interdependent world, attracting the most talented students and scholars to Yale from around the world, and positioning Yale as a global university of consequence. It emphasizes activities in China particularly in its international strategy.

- The University of Cambridge has a campus-wide international strategy. This includes promoting collaboration with overseas universities and specialist institutes in various countries. It carefully selects the world's leading institutes as collaboration and alliance partners and specifically cites strengthening collaboration with MIT and Tsinghua University in its strategy.

- Part of the International Strategy known as the "Task Force on International Project and Site," was executed at Harvard University.

- We found that non-Japanese universities also tend to promote international activities, but we could not find much evidence of specific campus-wide international strategies among the universities covered in this web-based survey. That said, (1) there may have been instances among universities in non-English-speaking countries where strategies were posted in the local language (local-language web pages were not reviewed in this study) or (2) rather than an independent international strategy, the relevant strategy may be incorporated into the university's overall strategy. The lack of information should not, therefore, be interpreted as meaning that there is no international strategy. We found, in fact, some examples of non-Japanese universities with stated international strategies.

- University of British Columbia (Canada) and Delft University of Technology (Netherlands) have separately defined international strategies, but these universities were not included in the sample covered in this study.

Overseas facilities

- Overseas facilities are located in areas selected because of their relevance to the promotion of international exchange, and they are intended to serve as the locus of vigorous activities. Their role is to promote international exchange of researchers by collecting and disseminating information and implementing local surveys. We gathered information on overseas facilities as illustrative of initiatives to promote international strategies aimed at advancing researcher mobility.

- A feature of Japanese universities is their keenness in establishing overseas facilities. Many have multiple facilities in different overseas locations.

- Regions where many Japanese universities have established facilities to represent the university as a whole are North America (west coast), Europe, China and Southeast Asia. There has been a notable move recently to set up facilities in Asia, especially China and Southeast Asia. However, these facilities do not have a long history, with many having been set up in the past few years. Rather than actual research, their role is largely confined to clerical activities such as PR, student recruitment, promotion of researcher exchanges and local information gathering. We expect that overseas facilities will expand from being mere clerical offices to become proper research bases going forward.

- There are also universities that have established international research facilities as part of academic-industrial alliances. For example, Japan's Waseda University has set up the WASEDA-OLYMPUS Bioscience Research Institute in Singapore's Biopolis, a research town that houses many institutes of higher learning and research institutes. It

has established this jointly with a manufacturer of optical and medical equipment and is promoting international research activities and the formation of scholar networks.

- These positive steps to utilize academic-industrial alliances, secure overseas researchers and conduct cutting-edge research have attracted attention. The development of these facilities should promote greater reciprocity (sending and receiving researchers) among Asian universities going forward.

- An example of an initiative by a European/American university in an English-speaking country is Stanford Japan Center. This is Stanford University's sole overseas facility and it is involved in promoting international research exchange. It does not merely perform a clerical function like the aforesaid facilities of Japanese universities, but has a long history as a research base and is active in promoting international research.

- Singapore University has been active in establishing overseas facilities and now has bases in five countries. Its facility in Bangalore, India is particularly interesting. The aim of this facility is to enable Singapore university students to work in Bangalore while studying for one year at the Indian Institute of Science (IISc). It aims to function as an overseas facility for graduates, and includes promoting advances in IT technology as one of its goals.

- There are some universities in European and American English-speaking countries, non-native English-speaking countries do not have overseas facilities.

- However, the German Academic Exchange Service (known by its German acronym DAAD), which was established jointly by German universities, and the Finnish Institute, established by a private foundation focused on universities to promote academic-industrial alliances, have overseas facilities that serve as centers for promoting international research. The UK's British Council and America's National Science Foundation (NSF) provide support by disseminating information about research exchange programmes in various countries. The overseas facilities of these organisations appear to serve as proxy overseas facilities for those universities that do not have their own overseas facilities, assisting with the dissemination of international information and international exchange

Social support

- Social support for overseas researchers can be regarded as the infrastructural underpinning of efforts to improve researcher mobility. While there are differences of degree, all universities provide a variety of support related to daily living, including

assistance with securing visas, finding accommodation and locating medical facilities. We provide below some examples of the type of support furnished, as garnered from information available on websites.

- Accommodation supplied by Japanese universities tends to be very standardized, but nearly all Japanese universities provide accommodation (lodging). In European and American English-speaking countries, MIT, Yale University and Stanford University have accommodation facilities for researchers. However, they are not necessarily exclusively reserved for overseas scholars.

- In non-native English-speaking countries, ETH Zurich and Peking University provide accommodation for overseas scholars.

- One noteworthy initiative by a Japanese university is Osaka University's "Icho Japanese-language Programme." This is designed to teach Japanese, but significantly, it is also available to researcher's wives and other family members. In addition, the university provides a web service called GCN (Global Campus Net) using online Japanese-language teaching materials and multilingual bulletin board service (BBS) to provide support for overseas researchers. GCN is also designed to be utilized by foreigners living in the vicinity of Osaka University.

- Copenhagen University provides a Danish student to act as a mentor for overseas researchers, helping them to prepare for and adjust to daily life in Denmark. MIT and Singapore University also use local students to provide support (Singapore University refers to this as the i CARE Project).

- ETH Zurich has published a Handbook for PhD students (Survival Guide). This covers support for housing and daily living and includes advice of an academic nature, such as how to write a PhD thesis.

- Harvard University provides on-campus healthcare facilities under its HARVARD UNIVERSITY HEALTH SERVICES (HUHS) programme. For a fixed charge, it covers expensive treatment such as acute care and dental treatment.

- The University of Cambridge has a career counseling service staffed by 80 persons, which provides advice to overseas scholars on how to design a research focus and develop postgraduate career plans.

List of alliances and consortia

		IARU (International Alliance of Research Universities)	AC21 (Academic Consortium 21)	Universitas 21	APRU (Association of Pacific Rim Universities)	IDEA League: (ETH, Imperial college, Aachen Tech, Delft Tech)	Coimbra Group	LERU (League of European Research Universities)	CESAER	CLUSTER	EVROPAEVM	STANDER Group	COMPOSTELA Group of Universities	Øresundsuniversitetet:	AEARU (Association of East and Asian Research Universities)	ASEAN University Network (AUN)	ASAIHL(Association of Southeast Asian Institutions of Higher Learning)	URA(University Research Association)	AGS(Alliance for Global Sustainability)	BESETOHA	Singapore-MIT Alliance(SMA)	The Cambridge-MIT Institute	Conference of Asian University Presidents
Australia	Australian National University	○			○												○						
Canada	McGill University			○																			
New Zealand	University of Auckland			○	○																		
UK	Imperial College London					○			○	○										○			
	University of Cambridge	○					○	○														○	
	University of Oxford	○					○	○			○												
USA	Harvard University																	○					
	Massachusetts Institute of Technology																	○	○		○	○	
	Yale University	○															○	○					
	Stanford University				○													○					
	California Institute of Technology				○													○					
China	Peking University	○	○		○									○						○			
Denmark	Copenhagen University	○											○	○									
France	Ecole Normale Supérieure, Paris																						
Germany	University of Heidelberg						○																
India	Indian Institutes of Technology																						
Korea	Seoul National University				○										○					○			
Netherlands	Eindhoven University of Technology											○											
Singapore	National University of Singapore	○		○	○											○	○				○		
Switzerland	ETH Zurich	○				○													○				
Japan	Hokkaido University																						
	Keio University				○												○						
	Kyoto University				○										○		○						
	Kyushu University																					○	
	Nagoya University		○																				
	Osaka University				○										○								
	The University of Tokyo	○			○										○				○	○			
	Tohoku University														○								
	Tokyo Institute of Technology														○								
	Waseda University			○	○													○					