Meeting of IARU Presidents

The Australian National University,
28 – 29 March, 2007

Tuesday 27 March

1800 – 2100   Informal dinner hosted by ANU Vice Chancellor (Lavender Courtyard, Hyatt Hotel)

Wednesday 28 March

0930   Guests participating in the ANU Campus tour to be collected from foyer, Hyatt Hotel

0930 – 1145   Optional tour around ANU (including Mount Stromlo campus)

1130   Guests not participating in the ANU Campus tour to be collected from foyer, Hyatt Hotel

1145   All guests to arrive Axis Restaurant, National Museum Australia

1200 – 1320   *Lunch (Axis Restaurant, National Museum Australia)*

1330   Guests depart for University House (transport provided)

1345 – 1500   Meeting session 1 (Common Room, University House)

     1.1   Welcome – IARU Chair, Professor Ian Chubb AC (Aprox. 10 minutes)

     2.1   Discussion of IARU Global Change projects (Aprox. 65 minutes) *
         2.1.1   Movement of People (Aprox. 15 minutes)
         2.1.2   Longevity and Health (Aprox. 15 minutes)
         2.1.3   Energy, Resources and Environment (Aprox. 15 minutes)
         2.1.4   Security (Aprox. 15 minutes)
         2.1.5   Summary of discussions (Aprox. 5 minutes)

* The President of the university that hosted the IARU workshop on each topic will be invited to lead discussion of that topic alternatively the ANU representative who attended the workshop can speak to the group.

1500 – 1530	Afternoon Tea (University House outside if weather permitting)

1530 – 1645 Meeting session 2 (Common Room, University House)

    2.2   General discussion of IARU research directions in context of Global Change (Aprox. 75 minutes)

        2.2.1   Priorities

        2.2.2   Discussion paper on options to move forwards

        2.2.3   Funding sources

1645 Guests transported to the Hyatt Hotel

1715 Presidents to meet in the foyer, Hyatt Hotel (pick-up 1)

1730 – 1800 Presidents Media Reception with Senior Media Representatives

1745 Remaining guests to meet in the foyer, Hyatt Hotel (pick-up 2)

1800 – 1930 Formal reception, Senate Alcove, Parliament House

1940 Presidents collected for dinner Courgette, 54 Marcus Clarke St, Canberra

2000 – 2230 Presidents dinner, Courgette

2000 – 2230 Remaining IARU delegates and guests dinner, Members Dining Room 3, Old Parliament House

2230 Transport arranged for Presidents to return to the Hyatt Hotel (cars will wait)

Thursday 29 March

0825 Guests to meet in the foyer, Hyatt Hotel

0845 - 1030 Meeting session 3 (Common Room, University House)

    3.1   Discussion of IARU Projects (Aprox. 40 minutes)

        3.1.1   Understanding women in universities around the globe (Aprox. 10 minutes)

        3.1.2   Excellence in graduate education (Aprox. 10 minutes)

        3.1.3   Transforming power of undergraduate education (Aprox. 10 minutes)

        3.1.4   Summary of discussions (Aprox. 10 minutes)

    3.2   New initiatives and directions (Aprox. 35 minutes)

        3.2.1   Campus Sustainability

            3.2.1.1 Principles of Campus Sustainability

            3.2.1.2 Campus Sustainability

            3.2.1.3 Greenhouse gas emissions targets

1030 – 1100	Morning Tea inside (Common Room, University House)
1100 – 1215	Meeting session 3 continued (Common Room, University House) (Aprox. 75 minutes)

	3.2.2	Global Summer College
	3.2.3	Global Poverty Alleviation
	3.2.4	International Health System Scorecard
	3.2.5	Excellence in Electronic Publishing
	3.2.6	Interdisciplinary Integration Initiative
	3.2.7	Global Private Equity Boom

1230 – 1400   Lunch (Vanillabean Café, John Curtin School of Medical Research)

1400 – 1515   Meeting session 4 (Common Room, University House)

4.1   General discussion on the focus and direction of IARU (both research and education activities) (Aprox. 60 minutes)

4.2   Election of IARU Chair and location of meetings in 2008 & 2009 (Aprox. 15minutes)

   4.2.1   Election of IARU Chair for 2008 and 2009 (Aprox. 10 minutes)

   4.2.2   Location of IARU Presidents meetings in 2008 and 2009 (Aprox. 5 minutes)

1515 – 1520   Presentation of Presidents' gifts

1520 – 1530   Group Photo (University House Courtyard)

1530 – 1615   Media Conference (Courtyard, University House or Fellows Room) afternoon tea)

1630   Guests transported to the Hyatt Hotel

1815   Guests to meet in the foyer, Hyatt Hotel

1845 – 1000   Informal drinks and dinner, Poachers Pantry, Hall

1000   Guests transported to the Hyatt Hotel

2007 IARU Annual Presidents' meeting

Participants

The Australian National University

Professor Ian Chubb, Vice-Chancellor

Professor Lawrence Cram, Deputy Vice-Chancellor

Dr Andrew Smith, Executive Officer to the Vice-Chancellor

National University of Singapore

Professor Shih Choon Fong, President

Professor Barry Halliwell, Deputy President (Research and Technology) and Executive Director of the NUS Graduate School for Integrative Sciences and Engineering (NGS).

Professor Lily Kong, Vice-Provost, Education

Peking University

Professor Xu Zhihong, President

Mr Li Yansong

University of Copenhagen

Professor Ralf Hemmingsen, Rector

Professor Lykke Friis, Pro-rector

Dr John E. Andersen, Director, International Office

Yale University

Mr Richard Levin, President

Ms Linda Lorimer, Vice-President and Secretary

University of California, Berkeley

Dr George Breslauer, Executive Vice-Chancellor & Provost

Dr John Lie, Dean, International and Area Studies

University of Cambridge

Professor Alison Richard, Vice-Chancellor

Dr Kate Pretty, Pro Vice-Chancellor, Special Responsibilities

The University of Tokyo

Professor Hiroshi Komiyama, President

Professor Kazuhiko Takeuchi, Director, Division for International Relations

Professor Kiichi Fujiwara, Graduate School for Law and Politics

Mr Norihiko Shimizu, Head, International Affairs Division

University of Oxford

Professor Ewan McKendrick, Pro Vice-Chancellor, Research

ETH Zurich

Professor Gerhard Schmitt, Vice-President Planning and Logistics

IARU Secretariat

Mr Iain Watt, Director

Ms Amelia Whitelaw, Coordinator

Ms Malula Sanchez, Officer

INTERNATIONAL ALLIANCE OF
RESEARCH UNIVERSITIES

Meeting of IARU Presidents

The Australian National University
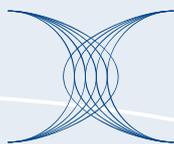28 – 29 March, 2007

Agenda Item 2.1.1
IARU Global Change Projects

Agenda Item 2.2.2
Discussion paper

Agenda Item 3.1.1
IARU Projects

Agenda Item 3.2.1
Campus Sustainability

Other new initiatives

2007 IARU Annual Presidents' meeting

Agenda items

Agenda Item 2.1.1   Global Change Project: Movement of People

Agenda Item 2.1.2   Global Change Project: Ageing, Longevity and Health

Agenda Item 2.1.3   Global Change Project: Energy, Resources and Environment

Agenda Item 2.1.4   Global Change Project: Security

Agenda Item 2.2.2   Global Change Projects: Discussion paper on options to move forwards

Agenda Item 3.1.1   IARU Project: Understanding women in universities around the globe

Agenda Item 3.1.2   IARU Project: Excellence in graduate education

Agenda Item 3.1.3   IARU Project: Transforming power of undergraduate education

Agenda Item 3.2.1   Campus Sustainability

Agenda Item 3.2.2   Global Summer College

Agenda Item 3.2.3   Global Poverty Alleviation

Agenda Item 3.2.4   International Health System Scorecard

Agenda Item 3.2.5   Excellence in Electronic Publishing

Agenda Item 3.2.6   Interdisciplinary Integration Initiative

Agenda Item 3.2.7   Global Private Equity Boom
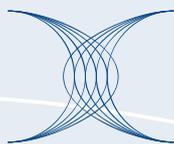
Rethinking Human Mobility: New Opportunities, Inequalities and Challenges to Human Security

Proposal coordination: International Migration Institute, Oxford University: imi@qeh.ox.ac.uk

Programme Concept

Background

In recent years, human mobility has soared as millions of people throughout the world have come to see migration as an avenue towards improvement. These global movements constitute new social developments and formations, which challenge policy makers and organisations seeking to develop policies to manage mobility and its social and economic impacts.

While different states across the world have attempted to put measures in place to control the movement of people, or to address dilemmas of inequality, insecurity or social conflict associated with migration, these policies are based on a very limited understanding of the fundamental dynamics that drive world migration.

Migration policies often fail to meet their stated objectives or have unintended consequences because they are based on two flawed assumptions that are no longer tenable in this epoch of increasing global integration and cross-border flows: first, that "immobility" is the normal pattern for human societies and mobility is something abnormal and representing a problem to be "solved"; and second, that nation states can be seen as bounded and ideally homogeneous units. These assumptions, which have little grounds in reality, also underlie most migration research, which has been largely policy-driven.

Although the increase in human migration has encouraged an unprecedented growth in migration studies, the study of migration still lacks theoretical coherence. It is highly fractured by disciplinary and geographic boundaries. It is also haunted by separation between research on the determinants and consequences of migration, research on sending and receiving countries, and research on internal and international migration.

Aims

This research project aims to develop comprehensive and long-term perspectives on global migration dynamics. In order to improve our understanding of human mobility, it will fundamentally rethink the central assumptions on the forces that drive global migration while addressing the methodological challenges mentioned above. This new conceptual framework

will seek to achieve a broader understanding of human mobility as an integral part of global transformation processes, encompassing the ways in which social and economic structures as well as new spatial inequalities and opportunity structures help to shape, and are simultaneously shaped by changing configurations of human mobility at all stages of the migratory process (that is in sending, transit and receiving localities).

Research programme

The empirical research to be carried out by IARU partners for the programme *Rethinking Human Mobility* will be clustered around four thematic strands (or sub-programmes)

- Economic and Social Processes: examining how social and economic transformations affect human mobility and how this mobility in turn affects economic and social conditions in communities and societies at all stages of the migratory chain and at various spatial levels.

- Migration and Human Security: examining some of the most hazardous, marginalised and neglected groups of migrants (e.g., refugees, (failed) asylum seekers, irregular labour migrants) and their impact on human rights and security for both places of settlement and communities and populations left behind.

- Mobile Lives and Place Making: focusing on how human mobility and the increasingly transnational character of migrants' lives intersect with place making processes, in particular in 'Global Cities'.

- New Identity Constructions and Economic and Social Processes: studying the ways in which migration impacts on identity constructions, and how these identities relate to new forms of social and economic opportunities and inequalities associated with human mobility.

The four thematic strands will be closely linked to the common conceptual framework. They will apply the theoretical and methodological ideas developed through an initial workshop of all partners. The sub-programmes will adapt the central concepts to their own areas and operationalise them for empirical research. Each sub-programme will carry out cases studies involving analysis of available data and literature, surveys and qualitative studies focusing on specific communities and migrants.

The research will question common, simplistic distinctions between sending, transit and receiving societies, by emphasising processes of transition and change. Research will therefore focus on all stages of the migratory chain and address causes and consequences of migration at various spatial levels: local, national, regional and global. Empirical synergy and cross-fertilization between the four sub-programmes will be achieved through implementing the case studies within each sub-programme in the same emigration, transit and immigration countries linked within three main migration systems. These are as follows (note that countries specified are only indicative, and will be decided during the research planning stage):

- West African-European migration system: case study focus probably on Nigeria, Ghana and Morocco, to western and northern European countries

- Latin America and Caribbean-USA migration system: case study focus probably on El Salvador, Mexico, USA

- Asia-Pacific migration systems: case study focus probably on China, India ‚Japan, Vietnam and other Indo-China to Singapore, Malaysia and Australia.

The empirical findings, comparisons and conceptual insights arising from each sub-programme will be used to re-assess and modify the common conceptual framework. A Coordination Group will be established to ensure constant communication about empirical findings and their significance for the overall aims of the programme.

Provisional time-table and outputs

Programme start: as soon as possible, once funding is secured.

Continuous: Literature review, theoretical work, communication between sub-programmes and the Coordination Group.

Year 1:   Initial workshop to develop conceptual framework and methodology, and to map out sub-programme research activities. Start of empirical research.

Years 2 and 3:   Continued empirical research by the sub-programmes

Year 4:   Data analysis. Preparation of sub-programme reports and publications.

Year 5:   Final workshop to analyse findings and their implications. Preparation of final report (as a book) and other publications. Dissemination workshops for policy-makers and civil society.

ANNEXE: SUB-PROGRAMMES

1. Sub-programme on Economic and Social Processes

(Coordinator: Stephen Castles, IMI, Oxford University)

Background

Processes of change in global economic and political patterns make themselves felt as social transformations – that is major shifts in patterns of production, employment, livelihoods and social relationships. In less-developed countries such changes include introduction of new agricultural methods, causing concentration of land ownership and displacement of poorer farmers. Many displaced rural people move to rapidly growing cities, where employment opportunities, housing and social conditions are poor. This can encourage onward migration to other countries. In richer countries, the changes include closure of older industries, devaluation of traditional skills and decline of urban neighbourhoods, but also reductions in fertility and increased demand for both skilled and unskilled labour. Increasing income differences between countries and regions are major driving forces for national and international migration flows. Moreover, technical progress, increased globalisation and changed policies have reduced the transaction costs of international migration.

In turn migration becomes a major force for further change: in countries of origin loss of labour and human capital can have negative effects on economic growth, while remittances and changes in attitudes and behaviour can accelerate social and cultural change. In countries of immigration, increased cultural, linguistic and religious diversity can present challenges for welfare systems, national identity and political participation.

Objectives

1. To examine changes in economic and social processes at various spatial levels (global, local, national etc.), and to analyse their two-way effects:

   a. how contemporary forms of economic and social transformation contributes to greater human mobility and changes in its characteristics

   b. how this mobility in turn affects economic and social conditions in societies and communities at all stages of the migratory chain

2. To provide contextual material and data relevant to the other sub-programmes and to the programme as a whole

Approach and methods

The sub-programme will build on existing social scientific data and analysis, as well as carrying out new empirical work. Specifically it will:

- Theorise and analyse the relations between global economic and social changes and their impacts on countries experiencing emigration, immigration or transit migration. This will be based on a review of social scientific literature in the fields of economics, political economy, demography, geography, development studies and sociology.

- Develop hypotheses on the determinants of international migration and test them empirically.

- Analyse international and national data on migration and social transformation. This will include visits to appropriate agencies and countries to collect and re-analyse materials collected for different purposes (such as demographic data, national accounts data, development planning material and PRSPs).

- Carry out case studies within the migration systems listed above. Methods would include surveys and qualitative studies of specific communities and migrants.

2. Sub-programme on Migration and Human Security

(Coordinators: Yasunobu Sato (Tokyo University), Robyn Iredale and Siew-Ean Khoo (both ANU)

Background

Many migration flows around the world are characterised by a serious governance deficit. While it is generally assumed that refugee flows and asylum seekers are most problematic in this respect, many non-refugee migrants are also subject to abuse, neglect and the denial of their human rights. At the same time, the non-migrants left behind may be rendered less secure by the out-movement of certain groups of people, such as young people of working age, highly skilled health workers or teachers. Recent worldwide concerns about terrorism and states measures to counter terrorism appear to have negative effects on the human security of these vulnerable populations. Norms, policies and regulations to address the issue of the vulnerability of migrants and the people they left behind are generally absent. Research on the normative and institutional aspects of these governance issues at the global and national levels has also largely been absent. It requires global networking of local researchers, so IARU is an excellent vehicle for advancement of knowledge in this field.

Objectives

1. to examine some of the most hazardous and neglected migration streams

2. to study their effects on receiving societies and communities

3. to examine effects on communities and populations left behind

4. to analyse the factors that contribute to vulnerability of specific groups

5. to establish reasons for the lack of governance arrangements for vulnerable groups, or for deficits in such arrangement.

Approach and method

The sub-programme will work on three different levels:

• Review of international conventions, laws, agreements and non-binding instruments as well as institutions that have been developed to help govern migration, with emphasis on actual implementation by nation states;

• Evaluation of state and local government policies and regulations on migration and settlement, and the impact that they have on protection accorded to migrants and refugees;

• Review of local, regional, national, and transnational non-government, and international organizations, including business organisations, that have sprung up to service or advocate for migrants and non-migrants, often in the face of a deficit of government services.

Area studies and a comparative approach will be used in the analyses and special attention will be drawn to gender. The sub-programme will adopt an inter-disciplinary approach, including legal, socio-economic and anthropological research. It will seek to work with networks of local research groups. Case studies of refugees and asylum seekers may compare the migration streams from Africa to Europe with flows to Australia and within Asia. Trafficking is a major issue in Asia and Africa and possible case studies would include examining and comparing the situation in Southeast or Northeast Asia with that in Europe or Africa. Temporary labour migrants are frequently inadequately protected, especially if they are irregulars. Possible case studies could compare Asian migrants in Japan with Africans in Europe or Mexicans in the US. The issue of vulnerable populations left behind by the emigration of the young and skilled may be examined by comparing the situation in Africa with that in Asian countries, such as the Philippines, Indonesia or Pacific Island countries.

3. Sub-programme on Mobile Lives and Place Making

(Coordinators: Jytte Agergaard and Karen Fog Olwig, Univeristy of Copenhagen)

Background

Throughout the world, mobile livelihoods have become integral to the lives of many, as advances in communication and transport technologies enable people to seek social and economic opportunities outside their local area. Though visa problems still persist, it is now possible to travel easily to explore opportunities in employment, business or education, or to adopt new ways of life. As a result, the "Global City" has emerged as a symbol of cultural diversity and an epitome of the

fluidity of human capital. The rapid growth of metropolitan life styles has been accompanied by the development of diasporic/transnational communities and family/kin based networks, anchored in multiple locations and crossing the rural-urban divide. Thus a counterpart of increased human mobility can be found in multi-local place making processes involving complex cross-cutting local, regional and transnational relationships and associated communities of belonging. Another counterpart to human mobility is human immobility. The interrelationship between mobile and immobile individuals and groups of people is therefore a central aspect of place-making processes.

Objectives

1. To investigate how human mobility intersects with place making processes

2. To study both mobile and immobile groups affected by population movements, in order to document and analyse the impact of these processes on peoples' livelihoods and quality of life.

Approach and method

On the basis of qualitative and quantitative field research the sub-programme will focus on the following areas of inquiry:

- Mobility, immobility and poverty: How do various people perceive and use physical mobility as a resource in their everyday lives, and what kinds of inequality may be produced as a result of their practices? What is the relationship between informal, mobile, cross-cutting networks of inter-personal relations and formal, localized, restrictive systems of legal rights? What is the relationship between the dynamics of local/national movements of people and of cross-border migration flows?

- Travel, belonging and social exclusion: How do mobile people seek to create a foothold in their new residence with regard to well being and social and cultural belonging? What is the relationship between increased global and regional interconnectedness and the apparent growing marginalisation of migrants? How does this challenge existing social, economic, cultural and legal structures, public perceptions and state institutions? Do new forms of identification emerge relating to these social and economic opportunities, as well as inequalities?

- The global city as a location for cultural diversity: Is the global city the 'land of opportunities,' offering space for social improvement and cultural diversity? What changes and adaptations are required of immigrant groups, and members of the receiving populations? Can the global city leverage the strength of each group, and nurture a social environment that attracts the most talented individuals from all corners of the world?

- The rural backyard – land of the old and left behind? How are rural areas in poor regions affected by outmigration? How are remittances invested, and how do the new social economies impact local power relations? Have rural hinterlands become places for native and foreign pensioners and immobile and disadvantaged populations or do they become new economic growth centres and sites of cultural revival?

4. Sub-programme on New Identity Constructions and Economic and Social Processes

(Coordinator: Mette Thunø, University of Copenhagen)

Background

With increasing global mobility and economic globalisation, societies in many parts of the world have come to encompass a wide range of complex social, political and cultural identities. These identities are constantly re-negotiated and contested at local, national, supranational and trans-national levels. Due to the development of economy, culture and changing forms of social inclusion, it is important to combine the examination of economic, political and social processes with thorough studies of cultural change such as constructions and reconstructions of majority and minority identities in the fields of the arts, media and language. Cultural expressions are important arenas for the construction of identities that may shape economic, political and social developments. Identity constructions do not just reflect social and economic conditions, but they may speed up globalisation and migration by encouraging trans-national mobility. As a consequence societies in sending, transfer and destination locations are affected by new identities that may prompt unanticipated economic, political and social effects. Cultural expressions thus offer unique chances to understand newly emerging identities and the inequalities and opportunities which are linked to them and (re)produced by them.
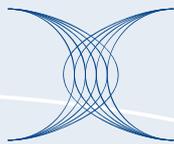
Objectives:

1. To study in a comparative, historical and geographical perspective how cultural, political and social identities are (re)constructed, and how identity formations relate to socio-economic and political developments of opportunities and inequalities.

2. To assess cultural, political and social identity constructions and their implications with respect to inequalities and opportunities in the perspective of core political values of justice such as liberty and equality.

Approach and methods:

This sub-programme will be based both on re-examination of previous research and on new empirical studies. In relation to Objective 1 it will analyse, compare and theorise about the relationship between identity (re)constructions and societal developments in North-America, Europe and Asia. The empirical work will primarily consist of comparative studies of the arts (e.g. literature, film, visual and performing arts, theatre and music), media (e.g. television, movies, newspaper, magazines, popular media), religion (e.g. religious practices, religion in relation to gender and youth) and language (e.g. in spoken language, slang, discourses, educational institutions). Methodology will draw on a range methods of investigation used within the humanities.

Work linked to Objective 2 will clarify and theorise about various political conceptions of liberty and equality in order to examine their implications for the inequalities and opportunities to which the identity constructions analysed in Objective 1 give rise. The examination of selected political conceptions will be undertaken by applying methods of political philosophy.

Ageing, Longevity and Health

One of the main objectives of the global alliance The International Alliance of Research Universities (IARU) is to instigate initiatives and resolve global challenges on the basis of a fruitful international research cooperation between universities within the alliance.

Under the headline "Global Change" the IARU presidents have decided to pursue five specific research topics which call for an inter-disciplinary cooperation across national borders. Ageing, Longevity and Health, the focus of the present proposal is one of the specific topics.

"Ageing, Longevity and Health" – the Background

Ageing is an unavoidable essential process and central in humane endeavor. Decades of declining mortality rates worldwide have increased longevity, and will in the coming 25 years increase the population aged 70+ with 80% worldwide. Together with the ongoing epidemiological transitions, this demographic change generates profound shifts in the societal burden of many disorders. The ageing population will be associated with increased age-associated diseases, disorders that are already at present the cause of most hospital admissions and health care costs. These disorders include cancer (the highest risk factor for cancer is ageing), diabetes (II), cardiovascular disease, neurodegeneration, and many others. Moreover, families, health care systems and insurance schemes will have to deal with an increasing proportion of the population developing with chronic disorders, functional decline and need for care and economical support.

Why Should IARU Prioritize "Ageing, Longevity and Health"?

Biomedical, clinical and public health research is facing a range of challenges related to ageing, life style and infections. In particular, the prevalence of diabetes and neurodegenerative disorders such as Alzheimer's disease and age-related sensory loss are expected to increase significantly. There are huge potential public health and welfare gains to be made in the next two decades if the IARU-collaboration can promote research to understand the etiological and sociological mechanisms involved. This would help develop strategies and advances for prevention therapy and sustainable policies to support our ageing populations. The IARU inter-disciplinary collaboration offers a unique and timely opportunity to exploit the contrasting demographics, labor markets, family patterns and welfare policies in the membership countries.

Prelude to the Research Proposal

On 3-5 October 2006 the University of Copenhagen and the University of Peking hosted a very successful jointly planned workshop in Denmark. The objective of the workshop was to identify common research topics and future collaborations in the field of ageing. During the three day meeting, approximately 70 researchers from seven IARU-universities participated.

The workshop focused on biomedical, clinical and socioeconomic aspects of ageing, disease and health. This resulted in a priority of six specific research sub-topics for future IARU collaborations and coordination.

Brief Summary of the Six Proposed IARU "Ageing, Longevity and Health" Projects

The research proposal addresses a full spectrum of issues ranging from macroeconomics down to the smallest molecule. Thus the proposed IARU ageing projects are:

1: Life Course Issues and Methods (comparative epidemiology)

The IARU research groups have access to large epidemiological cohort-studies and databases that contain certain genetic information and repeated measurements of modifiable exposures related to different chronic disorders in the aged population. In addition to existing cohorts they will be supplemented with register based outcome data, blood samples, neuro-imaging and neuro-physiological data etc. Thus, a major focus is to perform comparative cross-country studies with the different cohorts.

2: International Comparisons of Policies on Chronic Conditions and Long Term Care Needs: Comparative Policy Studies

The IARU countries have very different policies in relation to the control of major risk factors and in relation to the balance between preventive and curative clinical services. An important issue for the collaboration will be to perform comparative studies on how contrasting policies modify the effect of major risk factors on early ageing, functional decline and age-related diseases, including diabetes and neurodegenerative disorders.

3: Patterns of Family Care: Comparative Perspectives

Even with improved prevention and treatment we will certainly be facing a dramatic increase in the elderly population with functional limitations needing support. The IARU researchers will examine how communities, families, and elders themselves provide care under changing economic and political conditions. Focus will be on variations in patterns of care within and between countries, as they relate to demographic histories and health consequences.

4: Distribution of Human Capital and Economic Security / Elderly in the Labor Market

An ageing population not only affects patterns of health policy and care but will also influence the collective arrangements for the economical burden-sharing to pensions, health care, nursing long-term care and individual arrangements in terms of savings and insurance. The IARU collaboration will explore the distributional aspects related to these types of consumption, and will articulate the conceptual foundations for an integrated policy approach to the distributional problems that arise with an ageing population.

5: Evolutionary Medicine

We propose an interdisciplinary research and training program in evolutionary medicine focusing on the co-evolutionary and ecological interactions of human hosts and their pathogens. Key issues

will be how long term epidemiological and demographic transitions in human history have changed susceptibility to disease, how that susceptibility varies geographically, and how natural selection working on trade-offs can explain connections between nutritional disturbances early in life and susceptibility to disease and rate of ageing later in life.

6: Neurodegenerative Processes in Age-related Disease

The epidemiological, molecular and cellular mechanisms of neurodegenerative disorders represent the core of the program. One aim is to identify public health strategies that may reduce dementia rates in the population. Another aim is to focus on the role of damage to DNA and proteins, caused by oxidative stress and inflammation, in age related neurodegenerative disorders, including analysis of damage signaling and DNA repair pathways in Alzheimer's disease. Other focus areas will be on stem cell research, mouse models with altered genetics reflecting disease and neuroimaging. Therapeutic and preventive strategies will be developed through coordination with population studies.

Funding and Potential Funding Sources

An estimated budget for the research project and proposals for potential public and private funding agencies in the countries concerned, are available in the detailed research proposal on pp. 6-7.

Education

One important activity of the research programme is exchange of pre- and postgraduate students – in particular PhD students

– among the partner universities.

Dissemination and communication

The process of generating a cohesive and strong research programme is very active among the 10 IARU universities and their collaborators worldwide. In order to further develop the communication between the researchers, we have established a website – http://ageing.iaru.ku.dk – that soon will be expanded with a platform which enables all participants of a programme to communicate and share documents directly at this platform, including establishing weblogs.

We have already planned the next meeting point for IARU researchers and PhD students interested in this research area. A Summer School will be held in Copenhagen July 2007 dealing with life course epidemiology. This will provide an opportunity for PhD students to be trained in methodology and develop networks for future collaboration.

In order to promote the public engagement, we are in the process of generating a museum exhibit based on a novel concept: Traveling among the partner IARU universities. The exhibition will provide a cultural and historical perspective on current research in age and ageing. It will comprise four interdisciplinary sub-themes: "The Age of Life", "The Long Life", "Signs of Age", and "Eternally Young or Too Old?".

During the workshop held in Copenhagen in October 2006, it became evident that the IARU universities have relevant complementary expertise, resources and interest in the area of ageing,

longevity and health. There was great enthusiasm amongst the researchers for a continued cooperation in this area. The potential exists for a synergistic effort between the IARU universities which can be energized with relatively small additional resources and enthusiastic support from the leadership.

On behalf of the coordinating IARU partners,

Ulla Wewer, Professor, DM.Sci

Dean of the Faculty of Health Sciences

University of Copenhagen

Denmark

Funding

Summary of Estimated Funding Required

The research projects may each be seen as a separate project to be supported individually by IARU finances or as a collected consortium to be funded as a joint research initiative in the field of ageing. The estimates listed below are not based on elaborate funding budgets, but are only for the purpose of providing an initial overall idea of the funding required. Detailed budgets for each project are available in the detailed project descriptions later in this document.

The preliminarily estimated funding for the projects is as follows:

For all the projects the below indicates an estimated budget of: USD 5.118.000

1) Life Course Issues and Methods (comparative epidemiology)

    Data research, grant writing and 2 international PhD courses/summer schools: USD 145.000

2) International Comparisons of Policies on Chronic Conditions and Long Term Care Needs: Comparative Policy Studies

    Network meetings and data research, 2-3 workshops, full or partial support of PhD stipends and funding for researchers/model builders: USD 530.000

3) Patterns of Family Care: Comparative Perspectives Data research, workshops, post doc and PhD stipends: USD 3.588.000

4) Distribution of Human Capital and Economic Security / Elderly in the Labour Market Workshops, travel, post doc and PhD stipends: USD 320.000

5) Evolutionary Medicine 1 initial workshop and 3 sub sequent workshops, 5 senior travel grants and 4 junior travel grants: USD 200.000

6) Neurodegenerative Processes in Age-related Disease Data research, grant writing meeting, 8 travel scholarships for post doctoral and doctoral students, a scientific meeting and workshop: USD 335.000

Summary of Potential Funding Sources

The project budgets are, of course not to be funded exclusively by the IARU-collaboration. Each project will be applying for additional research funding in the major public and private funding agencies in the countries concerned, including among others:

- In the United States of America:The National Institute of Health, National Science Foundation and the Gates Foundation; the US National Institute on Ageing, The Wellcome Trust

  In Switzerland: The SNF and the Roche and Novartis Research Foundations

  In Denmark: The National Research Councils and the National Research Foundation

  In the United Kingdom: The Welcome Trust, BBRSC, MRC and NERC

 In Australia: National Health and Medical Research Council, Australian Research Council

  In Singapore: Singapore National Grants

  In China: The National Social Science Foundation, university funds

The consortium will also represent an attractive platform to apply for EU-Marie Curie Networking activities, EU-Marie Curie Conferences and the EU Marie Curie individual postdoc fellowship program (IntraEuropean, Incoming and Outgoing Marie Curie fellowships).

It will also be important to generate funding opportunities for exchange of pre- and post graduate students.

In the longer run, the consortium would also be attractive for research funding from the thematic research programs of EU and for the career development fellowships of the newly established European Research Council.
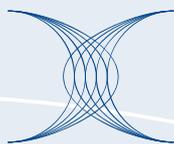
Transformation to Sustainability

19 February 2007

To: IARU presidents

From: the Energy, Resources and the Environment (ERE) Workshop

Subj: Collaborative Research Proposal

We are pleased to forward the accompanying proposal for collaborative research in anticipation of the meeting of IARU Presidents in Canberra in March. The proposed research collaboration "Transformation towards Sustainability" is aimed at building coherent research platforms in three distinct areas that are critical to sustainability and that require international collaboration. Please also note that our proposal makes reference to the proposed International Symposium on Sustainability Science (ISSS) and is accompanied by the concept paper on the symposium prepared by the ERE co-chairs representing the University of Tokyo, the National University of Singapore, and ETH-Zurich. These universities jointly support the start-up of ISSS and will organize the first international symposium on sustainability science. The two components are mutually supportive.

"Transformation towards Sustainability" aims to spawn and nurture collaborative research and education on sustainability within IARU. To become effective, it needs comprehensive mutual knowledge and appreciation of research at the individual IARU members. Mechanisms to gain this knowledge rapidly, and to identify faculty with sustained determination for collaborative research in the project areas need to be created. One such possible mechanism is ISSS.

ISSS will provide a platform for IARU and other international faculty to compete, to become aware and to appreciate each others research. Research collaborations are likely to arise from this in a bottom-up manner. Universities and other research institutions with strong initiatives in the various fields of sustainability will, hopefully, engage in building this endeavor. The best work presented at the ISSS will ultimately gain enhanced distinction and become eligible for ISSS-awards.

Our request to IARU presidents is thus two-fold:

1. Will the university commit resources to create mechanisms within and among IARU universities to facilitate faculty interactions for the purpose of building the proposed collaborative research initiative?

2. Does the university support the creation of ISSS and plan to become a signatory member when sufficient launching funds have been raised by the three initiating universities?

Transformation to Sustainability:
A proposal for collaborative research to IARU presidents from the IARU working group on energy, resources, and the environment

Vision

IARU presidents have requested proposals for collaborative research to support activity that will position IARU for leadership on the theme of "global change and sustainability". The workshop on Energy, Resources, and Environment proposes to undertake such collaborative research in three related areas of concern: land use; food and water systems; and energy and the environment. The research will examine environmental impacts due to human activities and potential solutions to identified problems at local, regional, and global levels.

Drawing on and extending beyond existing strengths and programs, the proposed initiative will serve two goals. First, it will produce new knowledge on unsolved urgent problems facing human-kind today within a shorter timeframe than is now possible. The trans-university approach to the research will allow the R&D teams to leverage off expertise that may not be found within the parent institution, but which is present in a partner institution. Second, and following from the first goal, the proposed collaboration aims to put IARU at the forefront of sustainability science and to position the IARU partners as leaders in research for sustainable development.

Accumulation of such knowledge cannot, however, be the end goal. There will also be a need to disseminate effectively such knowledge. In concert with the proposed research collaboration, a proposal is also made to hold an international symposium for sustainability science (ISSS) at regular intervals to serve as the outreach platform. Three IARU universities (the University of Tokyo, National University of Singapore, and ETH-Zurich) have already pledged their support for this undertaking. The symposium will engage individuals and build the community of top-flight scientists working on and committed to sustainability science and its application to addressing obstacles to sustainability.

Need

The proposed trans-university research is aimed at identifying knowledge gaps in key areas of sustainability and to point the way to filling such gaps. Despite the tremendous amount of knowledge generated in the last third of the 20th century on the environment and energy resource issues, this knowledge has not led to the solution of some of our most pressing problems. In large part this failure is due to the present tendency to dissect large issues and to then address the parts without subsequent attempts at reassembling the system again and thereafter seeking holistic solutions.

The proposed initiative builds on existing research capabilities and will emphasize the strengths that each of the IARU universities can contribute synergistically to the project. Further, it will not duplicate but, rather, contribute to and build upon existing international collaborations on sustainability.

Research areas

Specific research questions will be identified by faculty responding to this initiative. It is proposed a mechanism be created to facilitate and support faculty interactions for the development of specific research initiatives in three areas:

1. Land use and ecosystem functions
    a. Urban and rural development interaction, synergies and conflicts
    b. Land use changes in a spatially explicit framework

2. Food systems and water resources
    a. Appropriate water usage
    b. Sustainable consumption and production
    c. nutrient conservation and soil conservation

3. Energy and environment
    a. Energy and material flows
    b. Anthropogenic effects on natural cycles
    c. food and bioenergy

Cross-cutting considerations

In developing a framework to undertake research in these categories, faculty would be encouraged to look across categories and explore their inter-relationships. Cross-cutting questions will seek to better understand the relationships between eco-functions and eco-services, economic wealth and ecological wealth, local and global interactions, and dynamic linkages in decision-making. The research will integrate expertise from the humanities and social sciences, including economic, social, political, cultural, and legal implications of practices both in place and proposed.

Trans-university research in these areas will bring top-flight scientists together to identify unsolved problems, develop innovative methodologies and competencies, build robust sustainability science, and create new knowledge. It will also sensitize our students to sustainability issues in a global context; build sustainable campuses at IARU institutions which can serve as showcases of capability and commitment, and position IARU for leadership in this area.

Approach

A step-wise procedure for undertaking this work is proposed. In the first instance, the group recommends creating a mechanism to identify the tools, approaches, and "best practices" available in each participating university. This, in turn, will lead to identification of research and knowledge gaps as well as the trans-university platforms for research within IARU. Participating faculty will be asked to identify and share available resource platforms in order to carry out comparative case studies and common analyses across cases by all institutions involved, and to identify fundamental principles and ensure wise development of conceptual frameworks.

Mechanisms to support faculty interactions will include e-networks, face-to-face forums, and participation in the international symposium for sustainability science (ISSS). The ISSS is intended to serve as both a platform for IARU faculty to meet, and to allow IARU faculty to meet colleagues from non-member universities and industry, and to reach out to policy-makers and the public.

Resources needed

The Energy, Resources, and Environment workshop proposal is two-fold:

• To launch collaborative research through support of faculty interactions and working groups

• To support development of the ISSS referred to in this proposal and elaborated in a separate document

Given our proposal to develop collaborative research and to identify and address "unsolved problems/grand challenges" in sustainability, we ask the universities which decide to participate in this initiative to make an investment of about 100K USD within their own institutions to identify faculty and research resources, to support faculty interactions, and for participation in joint faculty workshops in 2007. The workshops will serve as discussion and planning platforms for faculty across institutions. In addition, they will expand and delineate research aims and projects in white papers as well as define overall research budget requirements to conduct the research.

International Symposium on Sustainability Science (ISSS)

Concept paper by Olaf KÜBLER, Rolf PROBALA, Thomas MÜLLER, Wun Jern NG and Kazu-hiko TAKEUCHI – revised short version, 24 February 2007

Need for solutions in sustainability

In order to cope with indisputable issues like global warming and rural to urban migration, it is necessary to shift the focus from one of discussion and concern to one of discussion and iden-tification of solutions for sustainability issues. However, to do so effectively would require not only a better understanding and management of complexity but also a new and more sensitive balancing of public good and private benefit. The latter would need to be done beyond the pro-vincial level since it is the globe and the global society which face the challenges. Sustainability science is the study and elucidation of such issues.

The mission of ISSS is to raise global attention and promote education, research and action on crucial issues central to sustainability. The legitimacy to propose new ways for a sustainable future stems from the consensus of a global community of international scholars and leaders in government, business and society united by ISSS.

ISSS – a bridge between sciences and society

ISSS shall be an international conference cycle focusing on identification of issues, under-standing these issues, and generating solutions which may arise from new concepts. It follows the general idea of "science meets science, and science meets society". This is facilitated in the following way:

• ISSS shall foster trans-disciplinary sustainability research that offers insights and solu-tions for sustainability problems.

• ISSS shall be a forum where groundbreaking findings by sustainability scientists are presented and discussed with opinion leaders from business, governmental administra-tions, NGOs, and public media.

• to promote thematic development and to raise public attention each symposium shall focus on a specific predetermined sustainability topic.

- to attract high-impact submissions and to give them distinction and prominence, the best contributions shall be awarded generous support (1 post-doc year) towards their further research program.

Format of ISSS

ISSS shall consist of 5 (in a later phase 6) elements:

- Grand Challenge to Sustainability;
- Scientific Conference;
- Sustainability Fair;
- Awards in the form of research support;
- World Sustainability Address;
- World Sustainability Price (a big prestigious prize and ceremony in a later phase).

Grand Challenge to Sustainability

Every ISSS shall focus on a particular sustainability topic and this shall be declared the challenge theme. The symposium shall be led by the "Grand Challenge to Sustainability" address delivered as a keynote speech at the beginning of the event. The theme for the Grand Chal-lenge shall be defined and chosen 2 or 3 years ahead. Ideally, the Grand Challenge, the topics of the award winning papers, and the Address should form a coherent entity.

It will be the vision and ingenuity of IARU and the participating institutions ("signatories"), to provide the themes of the Grand Challenges. By way of illustration, a conceivable Grand Chal-lenge could be "intelligent energy utilization and substitution".

Scientific Conference

The scientific conference shall be organised to focus on the tentative topics of ISSS. The 7 which have been identified preliminarily are (subject to change according to the Grand Chal-lenge):

- energy use;
- natural resources and environment;
- water and food;
- civil infrastructure;
- rural and urban development;
- transportation and mobility;
- economic, social, political, and legal implications.

4 original papers shall be presented in each session. These shall be selected via a peer-review process by the scientific expert teams in the respective domains. For tight integration every session shall incorporate presentations from the natural sciences and engineering with corre-sponding contributions from the social sciences - and vice versa.

The 4 papers in a session shall compete for an ISSS award and success shall be determined by the World Sustainability Council during the course of the conference. Another 6 papers in each discipline shall be presented at the Sustainability Fair. This would allow all top-ten contri-butions in each discipline to be presented at an ISSS.

Sustainability Fair

The Sustainability Science Fair is a forum, where papers are presented that did not make it into the scientific sessions. It is also a platform for universities, companies and NGOs to present their findings and views on sustainability. Signatory institutions and donor companies shall be allocated space for exhibition.

Awards

In the initial phase of 5 years, there are 2 categories of material recognition:

- 7 ISSS Awards in the proposed fields with a prize sum of 100'000 Euro each for groundbreaking progress in sustainability science or engineering ("forward looking"); 21 ISSS Medals of 10'000 Euro for the remaining 3 papers in each session of the Scientific Conference.

- 42 invited presentations at the Sustainability Fair.

Success dependent and given robust evidence for the existence of a sufficient number of great scientific "heroes in sustainability", a prestigious World Sustainability Prize of 1 Million Euro for an outstanding contribution to global sustainability with lasting impact ("backward looking") shall be created to launch a second phase of ISSS.

The World Sustainability Address

The World Sustainability Address is the quintessence of an ISSS and shall be published at the end of the symposium. The address shall be jointly drafted by the World Sustainability Council and a student delegation of all ISSS-universities. It draws on the Grand Challenge and the presentations given at the Scientific Conference and is therefore more than a technological fix for a certain problem. The address has to offer suggestions for societal and political implemen-tation of the proposed measure/s. The address is envisaged to be an urgent and precise advice to act and shall be jointly presented by the president of the World Sustainability Council and a representative of the student delegation.

Organisation

ISSS shall take place in an annual (or biannual) rhythm rotating through Europe, Asia, Australia, the Americas, and Africa. Each ISSS is organised by the ISSS head office in collaboration with the hosting ISSS university. An ISSS can also be convened at a non-ISSS university in part-nership with the responsible hosting ISSS institution. The number of participants is envisaged in the range of 300 to 500 persons. The first ISSS is proposed to be convened in 2009.

IARU as backbone of ISSS

For ISSS to accomplish its mission, support from the most prestigious universities and research institutions in sustainability research is essential. The International Alliance of Research Uni-versities (IARU) is well suited to initiate and promote this endeavour, but, in order to achieve wide international acceptance, it is proposed to invite a number of other outstanding universi-ties presently not with IARU to join the effort. Whether non-IARU universities be accorded the same level of participation/ownership is open to debate with the possibility of an associate status being mooted.

Contributions of ISSS universities

The 3 initiating universities shall search for the donors and raise the funds for the Research Awards/Support (and, later, Prize). All ISSS-universities shall nominate the chairpersons of the scientific expert review teams and the members of the student delegations for the symposia. These universities shall also provide the financial basis for the ISSS office (secretariat) which shall be responsible for coordinating the fundraising and organising the symposia. ISSS-universities shall be responsible for hosting the conference in turn.

Donors as partners for ISSS

A very limited number of companies, foundations or private persons committed to sustainability and to supporting ISSS shall be invited to be part of the ISSS organization. They shall donate 10 Million Euro towards awarding research support for the best contributions amounting to 1 Million Euro at each event over a period of 10 years. For an envisioned second phase, of ISSS (starting after 5 successful years) donations in similar magnitude shall be raised, to cre-ate a prestigious prize (1 million Euro) and to confer it in a special ceremony.

The donors' benefits shall include high international visibility and reputation in terms of social responsibility, contact with brilliant scientists, early access to outstanding scientific results, and association with a network of world renowned universities.

Uniqueness of ISSS

We believe that this combination of Grand Challenge, several awards to acknowledge the po-tential of proposed solutions/findings, and the World Sustainability Address is an ideal setting to capture scientific as well as public interest for sustainability. Creating, for a later phase, a pres-tigious World Sustainability Prize to honour the heroic achievements for global sustainability will maintain and boost interest and highly competitive participation.

There are 3 key elements which would give ISSS its unique character. ISSS is not just another scientific conference. It is designed as

- an interface between science and society;

- a world class scientific meeting with highest quality in every field;

- a platform where sustainability issues are pursued in close interaction by natural, tech-nical and social scientists.

To our knowledge no other conference has a similar independent and innovative format.

Next steps

- end of March 07 (meeting of IARU Partners in Canberra): final decision to start ISSS;

- end of April 07: elaboration of business plan, list of signatories to be invited, pool of do-nors to be addressed.
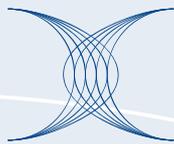
Regional Perspectives on Global Security

Proposal

It has been developed by a group of IARU scholars who convened at a workshop in Cambridge in November 2006, and have since worked closely and cooperatively to develop the proposal under the leadership of Prof Christopher Hill of Cambridge and Professor Hugh White of ANU.

The Program aims to harness the unique combination of diverse regional expertise and global coverage of the IARU membership to undertake a program of comparative research into a range of global security issues from a series of regional perspectives. It starts from the important proposition that threats to security differ widely from region to region and from society to society, with each threat eliciting a variety of responses. We believe that IARU is uniquely placed to highlight this phenomenon by drawing on the regional expertise of its member institutions and generating comparative research projects that are grounded in the regional context.

Approach

The program adopts an open-ended definition of security which is crucial for maintaining the interdisciplinary and comparative nature of the project, as well as its global focus. But our distinct focus is on *cross-national security issues* - security problems which cut across state boundaries, and involve multiple states and non-state actors. By adopting a cross-national approach, we aim to bridge the global-regional gap that has characterised much of the literature of security. While our regional diversity allows us to study regions and elucidate their distinctive characteristics, our cross-national approach allows us to explore how regional and global security issues are connected. Thus, we move beyond the limitations of the more conventional 'regional' studies of security, which tended to study areas in isolation. In addition, the program adopts a *comparative regional approach*. By studying cross-national issues in a comparative regional framework, the IARU Comparative Regional Security programme will identify the principles which will enable us to address shared and common security problems. This work should be valuable in informing practical policymaking around the world. Finally, the approach proposed is *actively interdisciplinary*, bringing together diverse specialisations including international security, economic risk analysis, the technical safety of systems, and policing and domestic order. The Program will aim to facilitate the integration and mutual translation of these previously unrelated bodies of knowledge.

Structure

The Program proposes to focus on the following *five areas for research*:

1. *Changes in the distribution of power,* particularly in the context of the rising political influence of 'rising powers' such as China, India, Brazil and the potential challenge they may pose to the American unipolar order. The Program is particularly interested in examining different regional approaches to shifts in the global distribution of power, including regional variations in dealing with rising powers and strategies for dealing with rising powers

2. *Security Institutions*, especially exploring the variations in institutional designs across various regions, allowing better understanding of the possibilities for enhanced cross-regional cooperation in tackling common security issues. Specific topics include institutional design and praxiological dimensions.

3. *Identity and Cultural Issues*, particularly examining the intersection between security cultures. Cultural issues are integral components of other research areas identified in this report, and we expect significant scope for collaboration between the various research teams. Specific research projects might include comparative security culture and multicultural issues.

4. *Threats emanating from changes in technology*, including the way technology changes affect patterns of resource competition, weapons of mass destruction, security implications of technologically-driven environmental issues, and ethical issues connected with technological change in areas such as surveillance technology.

5. *Borders, boundaries and territory: practical and ethical challenges,* including questions of praxis, such as how states protect borders in an age of migration, and the status of regions as security actors in their own right, and the normative dimensions of security, such as the tension between security and liberty, the place of 'common culture' in protecting security, the balance between internal and international security, and the relationship between security and the diverse systems of world politics.

Process

It is proposed that the Program should be pursued by the establishment of five inter-regional, multidisciplinary research clusters, one for each of the five areas of research outlined above. Beginning in 2008 the research clusters would refine projects for collaborative work, and through a multi-year process of conferences and publications produce substantive work in each area, as well as building connections between the work in each area to explore overarching themes and conclusions. The clusters would provide excellent opportunities for PhD scholars, and might need to draw in expertise from non IARU institutions, especially in the developing world, and from policymakers.

Funding

The proposed Program appears to fit well with the priorities and agendas of a number of major grant-making foundations, as well as national research funding bodies. We believe that with appropriate support from IARU, the program stands an excellent chance of attracting funding support from these bodies.

Global Change Projects: Discussion paper on options to move forward

Presidents will have discussed the proposal generated by the workshops convened on the four topics under the IARU's Global Change research agenda at the beginning of the 2007 meeting. It is important that there is some agreement on a process through which the IARU can move from the existing proposals to development of fully detailed research programs suitable to take to funding agencies.

The proposals considered by Presidents at this meeting were prepared, as requested, as papers for consideration by Presidents to allow them to evaluate the potential for the IARU to add a dimension to the research that would not otherwise be possible. As such they are designed primarily to persuade that the research is both feasible and worth doing. For those with recognised potential, the next step is to develop proposals to the stage where external funding could be obtained, which might include, inter alia:

- An assessment of the capacity of IARU to undertake the research;

- Development of detailed and defensible costings;

- A statement explaining the value that the IARU can add to the proposed research;

- Details of the outcomes that might come from the research and how it might be relevant to major global issues;

- A plan that details how the research will be managed over a five year time frame; and

- Some possible ways in which the research might be structured/managed that make best use of the combined capacity of IARU partners.

A balance of the following mechanisms might be considered to action this in each case:

- Appoint a senior and well regarded academic(s) as project leader (or "academic champion") to both attract interest from researchers and lead discussion on research directions;

- Appoint an administrator/manager (or "bid manager") to assist the project leader and take charge of the process, organise workshops, convene meetings, prepare documentation etc;

- Convene planning workshops over the next twelve months to bring together interested academics to refine ideas, build assessments of capacities and develop costings:
    o these workshops might be at the topic level or include a higher level workshop that looks at how the various topics might come together in a coherent approach to global change;
    o at the conclusion of the first workshops, leaders might be appointed to carry on the project development;

- These workshops could take the form of high level, "Dahlem" type workshops (see Attachment A), which might lead to improved coherence of research, provide more structure to proposals and increase "buy-in" from IARU researchers; or

- Another path might result in the development of international centres of excellence (see Attachment B). This model would envisage individual funding from national agencies to a nodal structure of researchers working together on a coherent program of research with common methodology.

Each of the above approaches would require seed funding. This funding might come from:

- increased annual contributions by IARU members;

- contributions (perhaps on some sort of agreed pro-rata basis) from those partners who choose to participate in each project; or

- a special levy on IARU members in 2007.

It is envisioned that IARU member funding would be used to leverage external funding.

Presidents may also like to consider establishing a "board" of some kind to oversee and coordinate the IARU research agenda. Directors of each project might report to this board (or they might comprise the board), which would have responsibility for determining priorities, approving funding allocations and applications, ensuring coherence and consistency across projects etc.

Attachment A

Proposal for an IARU Consolidation Conference

The IARU is currently exploring research agendas under the theme of Global Change with workshops having been convened on the four topics:

- Longevity and Health
- Movement of People
- Security
- Energy, Resources and Environment

Reports on these workshops will be presented to IARU presidents at their meeting in March 2007. A consolidation conference would not subsume these workshops and their continuing activities. A Dahlem style conference would aim to achieve a sense of common ownership of the IARU research agenda(s) and develop a well informed and considered approach to the crucial interdisciplinary elements of the research.

The outcome would be a research agenda for the IARU for the next five to ten years which would include commonly agreed frameworks, allocation of responsibilty for taking elements forward and agreement on how to link the elements together. It would sharpen the IARU's approach to its research agenda.

What is a Dahlem style conference?

For a number of years a series of conferences have been held in Dahlem (a suburb of Berlin) which aim to promote an interdisciplinary exchange of ideas and cooperation in research among international scholars. The conferences last for five days and focus on problem-oriented themes with an emphasis given to the perceptions, open questions, and existing controversies in the field. Perspectives taken at the conferences are distilled in group reports, where the identification of future research directions are highlighted.   Reports are then published in the Dahlem Conference Report series to disseminate the results and ideas of each conference to the scientific community at large.

Each conference has a central topic and brings together forty to fifty researchers. The conference is divided into four major themes which are discussed independently and then brought together. The Dahlem conferences have a structured and well-tested approach which could be easily applied to the IARU context.

What might an IARU consolidation conference look like?

IARU might run a week-long Dahlem style consolidation conference on the topic of Global Change in early 2008. This would require appointment of a steering committee, comprising say six people with two joint chairs. This committee could meet in mid 2007 and be responsible for designing the conference agenda, identifying two or three critical questions and identifying four major themes within the overarching theme. It is likely that the existing four IARU themes would be selected. Dates and a venue for the conference would also be decided. It is suggested that the

conference not be held on an IARU campus to ensure hosts are able to focus on the conference without distraction.

Each IARU member might nominate 4-5 participants. These participants would need to people with the ability to influence university research directions and allocation of resources and the authority to make things happen. Directors of Research Schools or Centres, well regarded senior academics, Deans or members of university executives might be appropriate. Each university would need to ensure that its representation was complementary and comprised of people who are inclined to work collaboratively.

Short background papers would be prepared by each university on each of the four themes (a total of forty papers). The reports prepared by the groups already working on the four sub-themes would provide an important foundation. At the conference, four working groups would meet individually and with each other. Rapporteurs would be appointed for each working group.

How might the conference be funded?

The conference could be funded from IARU member contributions, including economy airfares for participants, accommodation, meals, venue and costs of preparing the final report. It is estimated that the workshop would cost in the vicinity of USD80,000.

It is preferable to fund all costs from member contributions to avoid participants having to find funds to cover travel etc from within their individual budgets.

How would this fit with existing workshops?

We anticipate that the outcomes of the existing workshops will be considered by IARU presidents and those proposals identified as being high priority would be supported and work would continue after March 2007. The work done at and as a result of these workshops would feed into the Consolidation Conference. Research proposals that attract funding would continue to be supported.

Attachment B

IARU global centres of excellence

Funding

In recent years many research funding agencies around the world have become interested in funding transnational research initiatives. Among those agencies involved in developing plans for such concentrations of research activity are those in IARU member countries (for example, the Australian Research Council, the US National Science Foundation, the UK Research Councils, the European Research Council, the National Natural Science Foundation of China, the Danish Research Councils, and the Japan Society for the Promotion of Science).

These agencies have identified co-funded international centres as having the potential to build strength in areas of strategic importance and to support novel approaches to international research partnerships. It is therefore highly likely that competitive research funding will become available to support such initiatives in the IARU member countries. In addition, international organizations such as WHO and UNESCO and foundations such as the Bill and Melinda Gates Foundation and the Ford Foundation have been increasingly focusing research funding in larger global cross-institutional initiatives.

There is therefore clear justification, in terms of the potential for research funding, for the Global Change research projects to include a longer term goal of building 'global centres of excellence'.

Structure

There are diverse ways of conceiving and naming transnational research initiatives (for example, as global 'institutions', 'networks' or 'centres') and are there different ways of conceptualising their operation, such as through nodes, virtual institutes, research hubs or tangibly in buildings. Depending on the form each initiative takes, an IARU global centre would have a number of nodes in alliance member institutions. These might operate either virtually (linking diverse multidisciplinary networks of researchers within each institution) or through connecting and enhancing pre-existing research institutes. Each IARU centre would have a Director and node convenors/leaders along with an international advisory board.

Benefits

There are many advantages associated with building international research cooperation through global centres of excellence, such as gaining a higher profile for research endeavours and improving the dissemination of results. Furthermore, through such a research-intensive transnational flow of information and researchers, there would be opportunities to enhance training for postgraduate students and early career researchers. IARU global centres would further global research innovation and boost capacity to exert an influence on the next generation of ideas, knowledge and technologies world-wide.

In sum, the development of IARU global centres of excellence would enable members of the alliance to:

- increase the scale and focus of research endeavours in areas of global importance;

- access a larger pool of funding to develop expertise, new fields of research, and new practices and models of research;

- target resources to activities and objectives that have been identified as being of the highest priority to each member institution; and

- involve the most outstanding researchers in large-scale, sustainable, collaborative international projects.
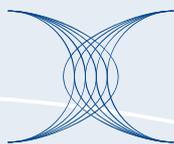
Proposed 2007-2008 Agenda for the IARU Project on Women in the Academy

In September of 2006, the IARU Working Group on Women in Higher Education met in Cambridge, England. The report of that meeting, prepared by the Cambridge representatives, has been circulated separately. Before we met, each of the cooperating universities was asked to compile data about the roles of women in their institution. This allowed us to compare experiences and to identify both convergences and differences in the roles played by women and men as faculty and students. We were also able to sketch the structural organization of each university as a workplace and research organization, which should prove useful to future IARU projects.

The report summarizes the major findings of that meeting. The women who met recognized that gender remains an important variable in universities, associated with status, career trajectories, fields of research, and curricular opportunities. They also recognized that universities had much more to learn about the effects on higher education of the incorporation of women as faculty and senior administrators, and in turn, of the effects on women of gaining entry to such positions.

In addition to the report, we compiled a working bibliography (Attachment 1), which was circulated to members of the Alliance so that all could develop a richer understanding of the research on women in higher education.

After the meeting, the co-leaders from Cambridge and Yale discussed how best to shape an ongoing agenda. We now propose a second two-day meeting, hosted at Yale in the late spring of 2008, that will consist of two related research workshops that continue the work begun in Cambridge. The two workshops are outlined below: one focuses on "Demographics and Best Practices for Advancing Women in the Academy," the second on "Citizenship, Equality, and Opportunity: The Role of the University in a Globalizing World."

Demographics and Best Practices for Advancing Women in the Academy

This workshop will build upon the work begun last summer to deepen our demographic knowledge of the roles played by women and men at each of the IARU member organizations. We found that most of our institutions have not yet developed robust databases or sophisticated institutional research tools that would allow analyses about the important issues of gender. We also have not compiled information about the various innovations developed to respond to the problems identified. This workshop would present strategies for gathering such information in two related sessions:

What Data to Collect, How, and Why?

A module led by colleagues at Berkeley, which has been a leader in institutional research and the development of sophisticated institutional assessment programs. We think every IARU member could benefit substantially from a "how to" session on data compilation. Using Berkeley's existing methodologies, a meta-analysis of parallel data for all IARU participants would be enormously useful. We would benefit from having Berkeley review their approach, their data processes, and their administrative protocols for "mining" these data to advance women in their university.

What Can We Do Given What We Know Now?

The second session would focus on what can be learned from the reports and projects of the many disciplines, as well as individual universities, that have created committees about the status of women and developed proposals and projects. At least in the United States, the insights gained discipline by discipline or university by university are not yet integrated into a body of knowledge that would permit IARU and other universities to share best practices.

Two recent examples from the United States are the report of the National Academy of Sciences, Beyond Bias and Barriers: Fulfilling the Potential of Women in Academic Science and Engineering, and materials developed by the Committee on the Status of Women in the Economics Profession. For example, to respond to the status issues of women in economics, a grant from the National Science Foundation now supports substantive mentoring programs in which senior women run small, subfield-specific workshops with junior women in their particular field and create long-term peer mentoring groups. The National Academy of Sciences report suggests that similar and additional actions be taken by universities, professional societies, funding agencies, governmental agencies, and Congress—drawing from best practices and case studies from individual U.S. institutions. The University of Cambridge has developed a project, "Women & the Sciences," as another initiative that is institutionally based. For this session, each of the IARU members would be asked to present examples of programs and initiatives that target institutional structures and practices in order to advance and support women faculty, and analyses of which interventions are working and which are not.

Citizenship, Equality, and Opportunity: The Role of the University in a Globalizing World

Our conversations in Cambridge and subsequently have led us to appreciate that an important topic lies at the intersection of IARU's efforts to facilitate our universities' understanding themselves better, and to undertake important, trans-institutional scholarship of interest to faculty at IARU universities.

As the leading research universities are becoming more global in terms of their faculty and student composition and their curriculum, important questions arise about the import of those changes on a university's historic role of defining itself in relationship to the nation-state in which it resides.

The university has been both a site for generating the identities of nation-states and of cities, and a source of citizenship for some individuals who cross borders for schooling. From the great universities of Italian city-states to the major educational institutions of state universities today, education has been used as a means of attracting capital and establishing dominance through research and scholarship. Further, special rules exist in some countries that grant or deny students the ability to emigrate for education. Becoming a teacher, scholar, or student at a global university provides an entrée to citizenship in that nation.

What lines do and should citizenship rules draw across bodies of prospective students, faculty, and staff? How, as an empirical matter, do women and men from various countries or federations participate in movements across nation-states? What are the implications of this movement of persons for different nations around the globe? What resources and risks do global markets for education present to nations competing in a world economy?

For example, what will be the long-term consequences for any of the IARU universities if over half of their Ph.D. students come from another continent and return to it? Does the Erasmus arrangement in Europe help to create a European citizenship or affect individuals' or universities' senses of their own citizenship? What about multiple allegiances, such that persons hold professorships in two universities, or universities pool their workforces?

At a practical level, the questions can be translated as: Who comes, who goes, who stays, as students and faculty, and how does their work shape the educational missions of universities? These questions must be asked with particular focus on gender and nationality: are women and men of various countries coming, going, and staying at the same rates?

These questions are rooted in important scholarly work by faculty on the IARU campuses on the topic of citizenship more generally. Some "cosmopolitans" celebrate the end of citizenship while others insist that the nation-state remains a vibrant and important source of social ordering. Increasingly, persons can reside in one country and vote in another, or vote in two. People, like universities, are key players in making or unmaking national identities and in bridging or reaffirming status inequalities.

Yale proposes to take primary responsibility for this segment of the conference. Our proposal is to bring together scholars—from within the IARU group and beyond—to present papers and have roundtable discussions on some of the many issues raised by the topic of "Citizenship, Equality, and Opportunity: The Role of the University in a Globalizing World." In drawing together scholars from different disciplines to share perspectives on some of the issues outlined above, we will produce both a volume of published papers and the potential for curriculum offerings, including the possibility of having parallel courses taught at Alliance universities that bring together students and professors for workshops and conferences. Further, given the overlap between the issues raised here and some of the concerns of the IARU research group on "Human Mobility," we may also be able to have inter-research group coordination within IARU.

Such a conference would require financial and institutional support. Our current estimate is that the amount should be between $62,500 and $72,500, in addition to the travel paid by each of the IARU members to bring their own faculty to the workshop. The budget is detailed below.

Proposed budget

Proposed budget for two-day conference sponsored by the iaru women in higher education steering committee: $62,500–72,500

Proposed participants for "Demographics and Best Practices for Advancing Women in the Academy" and for "Citizenship, Equality, and Opportunity: The Role of the University in a Globalizing World":

12 invited scholars to present papers or commentary

75 participants (IARU participants, invited scholars, local Yale faculty)

Estimated expenses

Travel

IARU participants (paid by IARU participants)

12 invited scholars (8 international, 4 national —USA) $ 20,000

Accommodations (2–3 nights)

12 invited scholars	$ 9,000
Honoraria (invited scholars; $ 1,000/person)	$ 12,000
Meals: breakfast (x2), lunch (x2), dinner (x1); 75 people	$ 11,500
Materials, including announcement, conference services, readings in advance, brochures, and work to begin moving the papers into a set of published conference proceedings	$ 10–20,000

Steering Committee of the IARU Women in Higher Education Task Force

Kim Bottomly, Deputy Provost, Yale University

Judith Resnik, Arthur Liman Professor of Law, Yale University

Kate Pretty, Pro-Vice Chancellor, University of Cambridge

Felicity Cooke, Head of Equality & Diversity and Senior Assistant Registrary, University of Cambridge

Nancy Lane, Project Director, University of Cambridge Women in Science, Engineering and Technology Initiative, University of Cambridge

Alice Agognino, Roscoe and Elizabeth Hughes Distinguished Professor of Mechanical Engineering, University of California, Berkeley
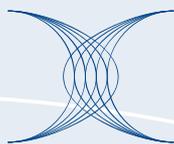
IARU workgroup on graduate education – "Tomorrow's professors and professionals"

1. Introduction

The University of Copenhagen hosted the graduate education workshop on 11th September 2006. ANU and NUS took the lead in planning the workshop.

2. Participants

Eight IARU universities[1] attended the workshop on Graduate Education.

3. Workgroup discussion

The workgroup revisited the Singapore workshop of January 2006, and continued the discussion on what excellence in graduate education meant, particularly PhD education. The discussions were organized into two sections:

a) *PhD for what?* The discussion revolved around the relative importance given by different institutions to preparing PhD graduates for research, industry and academia.

b) *What kind of PhD experience?* Each participating university characterized the PhD experience at their university and the specific challenges faced. Common issues were surfaced, including the appropriate balance between concentrating on the discipline's research knowledge and developing generic skills; and between offering desirable curriculum, duration of study and duration of funding.

4. Areas of continued interest from the graduate education workshop are:

Some areas of possible continued interest from the graduate education workshop were discussed at the end of the workshop, and furthered electronically since then.

a) There was express interest to involve graduate students in IARU activities. Several universities have shared information on graduate education projects or activities that graduate students from other universities can participate in. The following will be publicized on the IARU website and via other means:

- Graduate research student conferences in specific research areas (e.g. at ANU, Cambridge, NUS, Oxford, Yale)

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1   Australian National University, ETH Zurich, National University of Singapore, UC Berkeley, University of Cambridge, University of Copenhagen, University of Oxford, Yale University

- Annual (December) conference at Oxford's Centre for Excellence in Preparation for Academic Practice

b) Develop a collaborative project for interested universities on various aspects of PhD education e.g.

- PhD completion rates and duration (ANU, ETH Zurich, Cambridge, Copenhagen, NUS, Yale)

c) Develop graduate student exchange for interested universities, depending on specific research areas and on a limited basis for some (ANU, ETH Zurich, Cambridge, Copenhagen, NUS, Yale)

d) Develop joint graduate degree programmes (carefully, arising out of research activities, with specific IARU universities and not across-the-board, and if departments express interest) (ANU, ETH Zurich, UCB, NUS)

e) Share URLs about each university's PhD programme on the IARU website (links have been provided and have been placed on the IARU website)
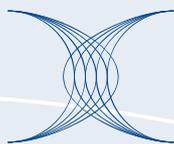
IARU Workgroup on Undergraduate Education – "The Transforming Power of Undergraduate Education"

1. Introduction

The University of Copenhagen hosted the undergraduate education workshops on 12th September 2006. ANU and NUS took the lead in planning the workshop.

2. Participants

Seven IARU universities[1] attended the workshop on Undergraduate Education.

3. Workgroup discussion

The workgroup discussions centered on three main topics, drawing on the responses to a questionnaire survey led by ANU and NUS to compare IARU universities' approaches to undergraduate curriculum. Nine universities participated in the survey.[2] The three main topics were:

a) Curriculum: The contrasting purposes of more liberal and more prescribed curriculum

b) Undergraduate education for what? Research, professional, educational and life-long purposes of undergraduate education

c) Undergraduate Learning Environments: Formal and informal types of learning.

4. Areas of continued interest from the undergraduate education workshop are:

Some areas of possible continued interest from the undergraduate education workshop were discussed at the end of the workshop, and furthered electronically since then.

a) It was agreed that it would be useful to build a small number of URL's in the IARU web site linked to each member's sites, covering:

- statements about graduate attributes or qualities, or the high-level aspirational purposes of undergraduate programs;

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1   Australian National University, ETH Zurich, National University of Singapore, UC Berkeley, University of Cambridge, University of Copenhagen, Yale University
2   The exception was Peking University.

- links to "best educational practice" or similar sites to sustain the internal conversations in our universities;

- links to reports or policies that celebrate the importance of teaching in our research-intensive universities.

b) The meeting identified the possibility of sharing existing e-learning courses across IARU. Areas suggested included academic integrity (Yale and NUS), academic inquiry (NUS), research ethics (ANU) and citations and plagiarism (Oxford). Other universities may have other resources they would like to share. The links have been mounted on the IARU website.

c) The meeting identified the possibility of interested IARU universities collaborating to develop learning courses together, with students participating in the same classroom across time and space (e.g. via blackboard or its equivalent, or video-conferenced classrooms). The following are areas of identified interest by two or more universities: environmental sustainability, women's studies, and research skills and projects.

d) The meeting expressed interest to find ways of involving students in IARU activities.

e) The meeting expressed interest in a future workshop on how teaching can be more valued within the faculty culture of research-intensive universities. Could IARU explore the recognition/reward system for teaching, as well as graduate supervision?
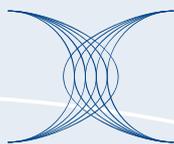
Principles for Campus Sustainability

There is a growing international awareness that changes are necessary to ensure the long term sustainability of our global community. Universities have an important role in this change process, in particular through the development of the strategies and technologies that can help protect the environment, as well as promoting social justice and economic equity.

The International Alliance of Research Universities (IARU) acknowledges the important contributions its members make to sustainable development, but it also accepts that there is an obligation to lead the community by example. Therefore, the Alliance has agreed on the following principles related to the institutional performance of each University (consistent with the overall principles established for the IARU):

1) That Alliance members are committed to being world leaders in campus sustainability and to that end, will establish programs that promote best practice in institutional environmental performance, as well as developing synergies between education, research and the commitment to sustainability. While each University's program will be designed to meet its operational priorities, as well as its regional priorities and legal obligations, in general there will be an emphasis on the key issues of resource consumption, greenhouse gas emissions and biodiversity conservation.

2) That Alliance members are committed to developing environmental literacy among staff and students.

3) That programs will be developed that integrate, wherever practical, academic and operational activities to enhance campus environmental performance; as well as promoting practical research and teaching opportunities that improve the learning experience and foster environmental literacy.

4) That Alliance members will exchange relevant information and expertise on issues of campus sustainability and Education for Sustainability.

5) That Alliance members will establish appropriate indices for sustainability performance.

Objectives

The Alliance has agreed that the following objectives will be achieved over the period 2007-2008:

Target Date: 2007

1. The Alliance members will nominate an officer/s to act on their behalf in respect of campus sustainability matters involving Alliance partners. This group will establish an appropriate network for the exchange of relevant information, as well as identifying opportunities for collaboration on campus sustainability issues.

2. A review of campus sustainability programs will be completed, detailing current organisational structures, environmental priorities, key programs and initiatives that integrate academic and operational activities.

3. A campus sustainability exchange program open to students and staff will be established. This program will allow selected students and staff to work on campus sustainability projects at other member Universities as part of a practical learning/development experience. Though the focus will be on participation in campus sustainability programs, where practical the student exchanges could be part of a more formal education program with relevant credit provided.

4. Identify existing synergies between education, research and commitment to sustainability, with particular emphasis on exploiting opportunities for the exchange of information and expertise between Alliance members.

5. Identify the key environmental issues for each University, including major building programs and changes in the regulatory environment.

Target Date: 2008

6. Establish an index for measuring environmental performance across Alliance Universities. The measures to be agreed by the Presidents and annual reports to be presented to the annual Presidents' meeting.

7. Review sustainability education in the curriculum and provide to Presidents a report that details gaps and highlights good or best practice at Alliance Universities.

8. Complete case studies on best practice initiatives undertaken by Alliance members (including new technology and design), and identify opportunities for exchange of information or expertise.
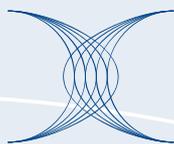
A possible IARU initiative on sustainable campuses

When we are together in Canberra, I hope we can spend a few minutes considering a possible initiative that some of our universities might pursue jointly to give world-wide prominence to the pressing issue of global warming. Most of our institutions have faculty members engaged in research that is tackling many aspects of the growing environmental challenge. What has been missing is a way for our universities to show leadership by taking a public stand that would simultaneously draw attention to the issue and offer a conspicuous example to the next generation of leaders – our students. By making significant institutional commitments to reducing our own emissions of greenhouse gases (GHGs), we could underscore that all individuals and institutions must play a role in reversing the deterioration of our environment.

Such action would be a welcome refutation of the widely held view that university presidents are failing to be forceful participants in addressing the crucial public issues of our time. By banding together to show leadership in the critically important area of global warming, we could attract international attention that might inspire both for-profit businesses and NGOs, to join the cause.

What I would envision is a "manifesto" that Presidents would sign to commit their institutions to a specific goal of reducing GHG emissions by 2020 or sooner. The goal for reduction might vary from one institution to another depending on its own situation. The precise details are less important at this point than the general concept, which is to lead a broad coalition of institutions around the world to more responsible environmental behavior.

I hope that we can consider how each of our universities might join in this important work of ameliorating global warming by adopting a significant goal for reducing GHG emissions between now and 2020. For example, rapidly growing institutions might consider a 10% reduction in GHGs from today's levels, or perhaps a policy of "no growth" in GHG emissions, which others of us might aim for something akin to the Kyoto goals: a 10% reduction from 1990 levels. For example, President Komiyama from Tokyo has already indicated we will be signing.

I enclose a brochure describing the measures that Yale is taking to reduce GHG emissions to 10% below our 1990 level by the year 2020. This is an extremely ambitious goal, requiring a reduction of more than 40% from our current level. We believe that we can achieve this target at a cost that is well below 1% of our operating budget, but we recognize that many institutions, especially those that are growing more rapidly, would find such a target infeasible or prohibitively expensive. I also enclose a table describing the commitments made to date by a number of other U.S. universities and colleges.

At our meeting in Canberra I hope we will consider whether IARU as a whole might commit to resisting global warming. But even if the group as a whole does not wish to commit, I would appreciate hearing from any of you who do wish to join this effort. A number of leading U.S.

universities are likely to be making a major announcement before summer, but I believe that the impact of this announcement would be far more significant if the initiative were truly global. If you are interested in learning more about such a possibility in advance of our meeting, please send me the name of your deputy who should be contacted and we will provide further information to him or her.

Richard Levin, President of Yale University
February 22, 2007

Yale's Greenhouse Gas Reduction Strategy

...creating a sustainable future

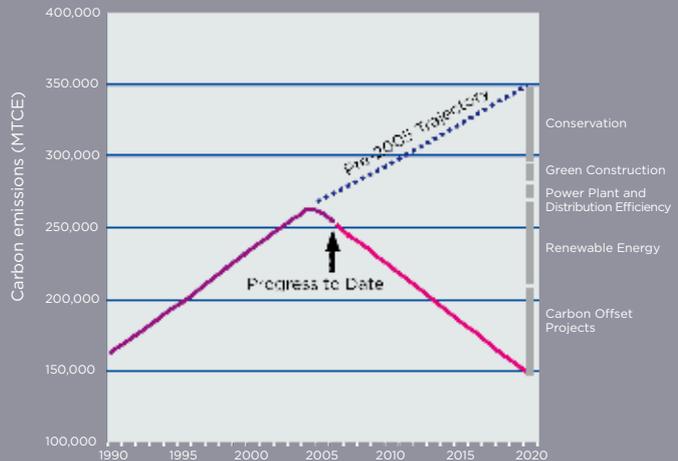# Yale's Greenhouse Gas Reduction Strategy 2005–2020

...creating a sustainable future

Yale University has a long tradition of leadership in the consequential societal issues facing each generation. In keeping with this tradition, Yale University has challenged itself to aggressively respond to perhaps the most challenging issue facing our world today: global warming. We hope that by openly sharing our efforts, including our goal, strategies and results, Yale's actions will lead to similar commitments to greenhouse gas reductions by other institutions of higher learning.

In October 2005, Yale committed to the goal of reducing greenhouse gas emissions to **10% below 1990 levels by the year 2020**.(1) To meet this goal, Yale will need to reduce its 2005 greenhouse gas emissions by 43%. At the same time Yale will expand from the current 13.5M gross square foot campus by nearly 15% by 2020. The challenge facing our University is the same as the challenge facing the industrialized world: to drastically reduce emissions while also planning for future growth and development.

(1) This is consistent with the "Climate Change Action Plan adopted by the New England Governor's and Eastern Canadian Premiers". By comparison, the Kyoto Protocol prescribes a reduction to 7% below 1990 levels by 2012.

Emissions Reduction Strategy

In 2020, by meeting its greenhouse gas reduction goal, Yale will have reduced its projected "business-as-usual" emissions by over 200,000 metric tons of carbon equivalent.

Carbon Emissions Intensity
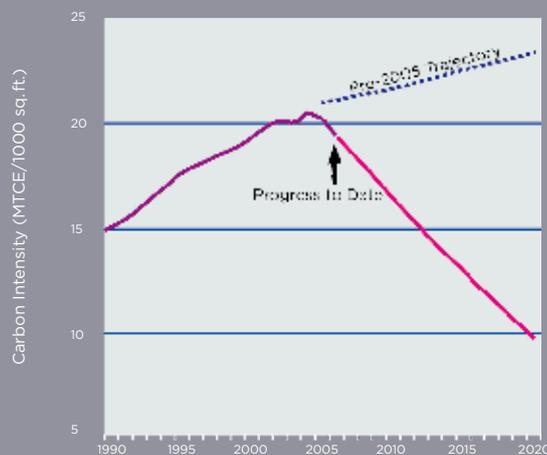
In 2020, if Yale's emissions goal is met, campus greenhouse gas emissions on a per square foot basis will be less than half of Yale's 2004 emissions.

Yale University Greenhouse Gas Reduction Strategy 2005–2020

Greenhouse Gas Reduction Strategy

Yale's priority is to achieve greenhouse gas reductions via implementing initiatives on its campus and owned land, with the balance of planned reductions being achieved via partnering with outside entities. Currently it appears that as much as half of all reductions will be achieved on Yale's campus and land. As new, cleaner technologies emerge in this expanding industry, this percentage may significantly increase.

Alternative energy projects requiring significant capital investment by the University are evaluated on the basis of "resulting carbon reduction per dollar of interest and amortization incurred." Projects yielding the largest return are undertaken first so that emission reductions can be achieved as quickly as possible.

The net impact of this greenhouse gas reduction program is to reduce Yale's annual per square foot greenhouse gas emission from its high in 2004 by nearly 55% in 2020. The program is ambitious and it impacts all parts of Yale's campus. Meeting our goal will require the active participation of all of Yale's community, faculty, students, and staff. Current information regarding Yale's progress can be found at www.yale.edu/sustainability.

Yale's current plan is to achieve greenhouse gas reductions in the following ways:

STRATEGY	GOAL	TO DATE
Conservation within existing buildings	(55,000) MTCE	(13,823) MTCE
Sustainable construction of new buildings	(9,000) MTCE	
More efficient on campus production & distribution of energy	(9,000) MTCE	(1,134) MTCE
Renewable energy	(65,000) MTCE	(529) MTCE
Direct participation in off-campus carbon offset projects	(65,000) MTCE	
Total Reduction by 2020	(203,000) MTCE	(15,486) MTCE
Projected 2020 GHG Emissions if no action taken	340,000 MTCE	
GHG Emissions in 2020	147,000 MTCE	

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(2) MTCE = "Metric Tons of Carbon Equivalent", the international standard of measure of greenhouse gas emissions.

Yale University Greenhouse Gas Reduction Strategy 2005–2020

Progress To Date

STRATEGY	IMPLEMENTED AND IN PROGRESS	IN DESIGN
Conservation & Community Engagement	• Reduced air change rate in labs • Recommissioned HVAC systems in 90 buildings • Occupancy sensors tied to lighting in all residential college common spaces and at 85 buildings • Programmable thermostats at all "small buildings" not tied to central control system. • Window replacement at Calhoun College & Strathcona • Campus-wide set-point adjustments • A 10% reduction in energy use in the residential colleges was rewarded with the purchase of 10,000 mWh of renewable energy certificates offsetting 2/3 of their electrical energy use • 2000 compact fluorescent bulbs distributed to undergraduate students in the residential colleges • More than 2000 students signed an Yale Energy Pledge to reduce energy use	• Heat recovery systems at all lab buildings • Students are preparing to reduce energy use by another 5% in the FY'07 • 2000 additional compact fluorescent bulbs will be distributed to students in the residential colleges • A new program is being developed to target residents in graduate student housing
Sustainable Design & Construction	• Three LEED certified buildings meeting energy standards 30% below ASHRAE 90.1	• Eleven buildings [new construction and renovation] are candidates for LEED design and certification encompassing approximately 1.5 million square feet
Campus Energy Production & Distribution	• Increased efficiency of chilled water flow via elimination of previously undetected construction • Reduction in winter chilled water production • Consolidation of electrical loads optimizing transformer utilization	• Installation of 14.2 MW cogeneration plant at SPP, the Medical Center power plant
Renewable Energy & Alternative Fuels	• 250 kW fuel cell • 42 kW photo voltaic installation of Divinity School • Yale Shuttle Fleet running on an ultra low sulfur diesel and 20% biodiesel blend [80,000 gallons]	• Researching opportunities to integrate hybrid and other clean fuel vehicles into the campus fleet

Yale University operates two power plants, the Central Power Plant, a cogeneration facility that can supply 18 megawatts of electricity, 340,000 pounds per hour of steam and 14,600 tons of chilled water to the Central and Science Campuses; and, the Sterling Power Plant, a thermal energy facility that can supply 350,000 pounds per hour of steam and 19,900 tons of chilled water to the Yale School of Medicine and the Yale-New Haven Hospital.

♻ *Printed on recycled paper.*

Yale University Greenhouse Gas Reduction Strategy 2005–2020
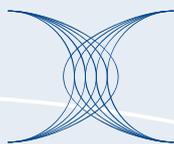
IARU Global Summer College

A Proposal

The International Alliance of Research Universities (IARU) brings the opportunity to enhance the educational programs and international experience of the universities' students. Individual IARU universities already have many bilateral arrangements that foster student exchange. At the inaugural IARU Presidents' meeting on 13-14 January 2006 the Presidents raised the need to go beyond occasional bilateral arrangements, and so to foster IARU students' access to the expertise and learning opportunities of individual IARU universities. One way of doing this is through multi-lateral summer programs, offered under the umbrella of an IARU Global Summer College.

The questions immediately raised by this bold vision are numerous. They include:

1. Coordination of summer term calendars

2. The relationship of Global Summer College offerings to undergraduate or graduate programs of individual universities, including questions of credit

3. Business and educational models for delivery

4. Cross-university faculty and staff collaborations.

The advantages of such Summer College programs include:

1. Collaborative "global classroom" learning, bringing together students from a wider variety of institutions than is normally possible under current exchange programs

2. Broad access to specialized regional or methodological expertise, particularly in the later years of undergraduate study, at the level of graduate coursework and at early stages of research training

3. Introduction to unique faculty, fieldwork and library resources that foster students' research capabilities

4. Acceleration of student learning programs, where summer credit is available.

In Summer 2006 the National University of Singapore successfully piloted a joint program with Yale University. With the benefit of that experience Yale University and the Australian National University are exploring new avenues of cooperation in environmental studies, of which a multi-lateral summer program might be one.

This proposal seeks the Presidents' support:

1. To investigate and propose possible solutions to current obstacles to summer-college planning and credit recognition across the IARU

2. To develop some model offerings for Summer 2008

3. To hold an IARU workshop in September 2007 to forge a framework for IARU Global Summer College offerings, and to draw on the rich experience of IARU members in international study.

Yale University and the Australian National University offer themselves as lead institutions on this project.
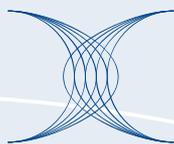
A Proposal for IARU Collaboration on a Global Poverty Alleviation Initiative

Background

At Berkeley we established the Blum Center for Developing Economies in March 2006 as the focal point for the university's efforts to address global poverty. The Center was made possible by a generous founding gift from alumnus Richard C. Blum. Its mission is to increase the well-being of poor people in developing countries by designing, adapting and disseminating scalable and sustainable technologies and systems and by educating and inspiring a new generation of global citizens. The Blum Center addresses the needs of the poor in developing countries by leveraging the University of California's knowledge and expertise and preparing students with the theoretical understanding, applied skills and experiential learning that enable them to become agents of change in the struggle against global poverty.

The Center uses a rigorous, multi-disciplinary approach that corresponds to the complex nature and the intricate web of factors that cause poverty. It integrates innovation and social entrepreneurship to develop appropriate, sustainable solutions to the toughest poverty challenges. The Blum Center brings real-world issues faced by the poor and international development practitioners to the lab and classroom. With its combination of disciplinary depth and breadth, cutting-edge thinking and UC Berkeley's unique culture of global engagement, research and reflection are translated back into real-world applications that solve real problems.

The Center's focus on partnership, on capacity building of local partners and on factors affecting decision-making and behavioral change improves outcomes, increases efficiency and enhances the chance of long-term sustainability. Rigorous monitoring and evaluation methodologies promote responsive implementation and maximize both short-term results and long-term impacts.

Components of the Blum Center

Research Initiatives

Up to six initiatives/projects are being launched during the Center's first three years, two of which began in 2006. To receive funding consideration, an initiative must be designed in collaboration with experienced local partners and exhibit a "demand-led" approach that identifies specific needs through dialogue with the poor themselves. The projects leverage UC's distinctive capabilities, approaches, and capacities. The Center strategically targets its support to leverage funding from multiple sources, pursing a trajectory of innovation that is expressly designed to attain significant impact and long-term, sustainable, results.

Student Service-Learning

The Center expects to engage more than one thousand students in service-learning and applied research activities within the first five years. UC Berkeley is well equipped to leverage its faculty expertise and its engaged student-body to produce highly productive and transformative experiences with significant poverty alleviation impacts. The Blum Initiatives include a strong student service-learning component, with careful attention to preparing and supporting students in their fieldwork. The Center identifies and promotes other opportunities for Berkeley students to work shoulder to shoulder with their colleagues in developing countries in high-impact programs that support the efforts of the poor and the organizations serving them. Assessments and student-led debriefing sessions will bring student experiential learning back to campus to further infuse the university community's understanding, capacity and commitment.

Poverty Curriculum

UC Berkeley and the Blum Center are developing a curriculum program to educate students in the knowledge, ethics and practice of global poverty alleviation. A poverty survey course, initially offered in the 2006 fall semester and open to both graduates and undergraduates, is at the heart of this curriculum. A minor degree program is being launched in 2007, with plans to develop a range of new poverty-focused classes. A senior seminar program and graduate degree/certificate programs are under consideration. A collection of Blum Center-sponsored courses serve to channel and to prepare students for service-learning opportunities within the Blum initiatives.

Suggestions for Partnership with the International Alliance of Research Universities (IARU)

The Blum Center for Developing Economies at the University of California, Berkeley will be glad to consider collaboration with the IARU partner universities in each of the three strategic areas listed above as well as for the setting up of an annual conference. Below are our thoughts on how such a partnership would be conceptualized. We hasten to add that the following are only initial ideas, open to discussion and refinement.

Research Initiatives

There are currently two major research initiatives underway (described in the Appendix): the Initiative on Safe Water and Sanitation, and the East Africa Health Care Initiative We would be glad to include partners in these efforts as well as to collaborate on launching additional initiatives in areas such as environmentally friendly energy solutions, low cost therapeutics for neglected diseases, high yield and sustainable agriculture, etc. using innovative technologies arising from the fusion of bio-info and nano technologies. Partnerships would include joint participation in our innovation process: research on technology alternatives followed by joint experiments with prototypes, their subsequent maturation to field experiments and then their transition into scalable, sustainable solutions in the developing world.

Student Service Learning

We would encourage IARU universities to develop or expand their own student service-learning opportunities in which students would participate in hands-on poverty alleviation programs. UC Berkeley, under IARU auspices, might serve as secretariat, technical support and clearing

house for a network of such programs under which students from the various partners would work shoulder-to-shoulder with peers from sister institutions. Berkeley's Service Learning Center has developed techniques for translating such service experiences into learning objectives that correspond with students' academic program. We would be interested in evolving this Service Learning methodology based on experiences of the partner universities and through the proposed network.

Curriculum Development

The Blum Center has invested in the development of a minor degree program in Global Poverty and Practice. It includes core courses in both theory and methods/tools and requires a practical hands-on work/volunteer experience related to poverty issues. In the year to come we expect to develop a similar Designated Emphasis program at the graduate level related to poverty alleviation. The minor and the Designated Emphasis are designed to supplement existing academic programs for students with a disciplinary specialization. The purpose is to broaden perspectives and to inspire students to apply their disciplinary skills to issues affecting the poor. At the same time, the programs encourage an appreciation for and the skills needed to work as part of multidisciplinary efforts to solve complex problems. The development of new poverty-relevant courses at both the undergraduate and graduate levels is an intensive undertaking. Opportunities exist with the IARU partners to co-develop courses and course work modules (with the necessary academic scaffolding) as well as to establish a speaker exchange program for key faculty.

Annual IARU Conference on Global Poverty Alleviation

With the maturation of new methodologies and research initiatives, there is a need for a scholarly meeting to present new ideas and to exchange experiences among researchers. Such a meeting could be led by IARU partners (possibly held in rotation among the campuses), but could also be thrown open to other researchers and other stakeholders.

# APPENDIX: Current Blum Field Initiatives

The Initiative on Safe Water and Sanitation was developed by a multi-disciplinary team of UC Berkeley faculty representing the College of Engineering, Energy and Resources Group, the College of Natural Resources, the School of Public Health and the Haas School of Business. At the heart of the initiative is the design and dissemination of appropriate technologies and management systems to aid the 1.3 billion people worldwide who live without access to safe water and the 2.4 billion without access to sanitation services. The project focuses on the development, production, dissemination and evaluation of a portfolio of low-cost, small-scale water treatment systems.

In this pilot phase, approximately 30 students, organized in multi-disciplinary teams, are providing field support to six water and sanitation projects spread across the globe including Bangladesh, India, Sri Lanka, Kenya, Ecuador, Guatemala and Mexico. The projects are being implemented in partnership with international and local organizations including the CDC, WHO, Cantaro Azul in Mexico, Sarvodaya in Sri Lanka, and the Kenyan Ministry of Water.   The initiative's objectives include the training at least 25 hygiene and safe water educators in local communities, building stronger relationships with non-governmental organizations and local partners, and disseminating the initiative's results so that others can use them.   It also incorporates plans for the development of conceptual understanding and skills of approximately 50 UC Berkeley students through a class on safe water and sanitation.

The East Africa Healthcare Initiative is built on the premise that access to quality health care is a key component of poverty eradication. Improved health status requires accessible and effective health services as well as preventive measures at the individual, family and community levels. These in turn depend on timely access to accurate information. The project will improve health care delivery and access to health information through the introduction of the communication and computing capacity of mobile phone technology to assist health workers and community members in Uganda and Rwanda. Local partners include Mbarara University of Science and Technology in Uganda, the Kigali Institute of Technology (Rwanda) and National University of Rwanda.

During the current stage of the project, two multi-disciplinary teams of four students each will work in Nakaseke District, Uganda. The project is co-led by a professor of electrical engineering and computer science, and a professor at the Haas School of Business, with advisory support from faculty representing several other departments on campus.

An initial goal of the initiative is to inform software design and the optimal operational use of improved "smartphones" for communication, data collection and information sharing. The project teams will work with the selected health professionals and community volunteers to integrate mobile phone technology into the local health care system, including its use for emergency "911" type service, remote medical consultations and health-related help-line services
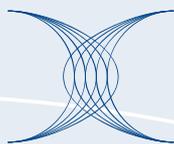
The International Health System Scorecard
A University Consortium Project to Measure and Improve Health System Performance

Proposal

We propose a collaboration of the faculties associated with the universities in the international consortium to measure and improve health system performance in each of the respective countries. This project builds upon the groundbreaking work of the Commonwealth Fund Commission on a High Performance Health System. The Commission's National Scorecard on U.S. Health System Performance is the first-ever comprehensive means of measuring and monitoring health care outcomes, quality, access, efficiency, and equity in one report. The publication of these findings is an important contribution to evidence-informed health policy and management in the United States. The goals of the international collaboration are to:

1. Adapt the system performance measurement categories, specific measures, and benchmarks identified for the US context by the Commonwealth Fund Commission, making them relevant to each health system and the health, economic, cultural, political, and organizational issues that influence the performance of the respective systems;

2. Produce an International Scorecard on health system performance;

3. Convene an annual conference to report the progress each country is making toward the established benchmarks and discuss the barriers to improving health system performance as well as policy and management strategies for improving performance in the near term.

The first-year scorecard report on the US health system performance illustrates the ways in which such information can help inform health policy and health systems management. The US national scorecard indicates that America's health system falls far short of what is attainable, especially given the resources the nation invests. Across 37 indicators of performance, the U.S. achieves an overall score of 66 out of a possible 100 when comparing actual national performance to achievable benchmarks (see table in the attached Commonwealth Fund report for scores on 37 key indicators). Scores on efficiency are particularly low.

Overview of the Scorecard

The Commonwealth Fund Commission on a High Performance Health System has developed a National Scorecard on U.S. Health System Performance (see the table in attached document for scores on 37 key indicators). The Scorecard assesses how well the U.S. health system is performing as a whole relative to what is achievable. It provides benchmarks for the nation and a mechanism

for monitoring change over time across core health care system goals of health outcomes, quality, access, efficiency, and equity.

Scores come from ratios that compare the U.S. national average performance to benchmarks, which represent top performance. If performance in the U.S. was uniform for each of the health system goals, and if, in those instances in which U.S. performance can be compared with other countries, it was consistently at the top, the average score for the U.S. would be 100. But, the U.S. as a whole scores an average of 66. Several different measures or indicators were examined for each of the goal areas and dimensions of health system performance. There are wide gaps between national average rates and benchmarks in each of the dimensions of the Scorecard, with U. S. average scores ranging from 51 to 71.

By showing the gaps between national performance and benchmarks that have been achieved, the Scorecard offers performance targets for improvement. And it provides a foundation for the development of public and private policy action, and a yardstick against which to measure the success of new policies.

Scorecard Highlights and Leading Indicators

The table summarizes U.S. average rates on 37 indicators, their benchmark comparison rates—typically those achieved by the top 10 percent of countries, states, health plans, hospitals, or other providers—and the U.S. average score, calculated as the ratio between U.S. performance and benchmark rate. In just a few instances the benchmarks represent targets, rather than achieved top performance. The sources of the benchmarks are shown in the table in the attached Commonwealth Fund report.

Some major findings include:

Long, Healthy, and Productive Lives: Total Average Score 69

- The U.S. is one-third worse than the best country on mortality from conditions "amenable to health care"—that is, deaths that could have been prevented with timely and effective care. Its infant mortality rate is 7.0 deaths per 1,000 live births, compared with 2.7 in the top three countries. The U.S. average adult disability rate is one-fourth worse than the best five U.S. states, as is the rate of children missing 11 or more days of school because of illness or injury.

Quality: Total Average Score 71

- Despite documented benefits of timely preventive care, barely half of adults (49%) received preventive and screening tests according to guidelines for their age and sex.

- The current gap between national average rates of diabetes and blood pressure control and rates achieved by the top 10 percent of health plans translates into an estimated 20,000 to 40,000 preventable deaths and $1 billion to $2 billion in avoidable medical costs.

- Only half of patients with congestive heart failure receive written discharge instructions regarding care following their hospitalization.

- Nursing home hospital admission and readmission rates in the bottom 10 percent of states are two times higher than in the top 10 percent of states.

Access: Total Average Score 67

- In 2003, one-third (35%) of adults under 65 (61 million) were either underinsured or were uninsured at some time during the year.

- One-third (34%) of all adults under 65 have problems paying their medical bills or have medical debt they are paying off over time. And premiums are increasingly stretching median household incomes.

Efficiency: Total Average Score 51

- National preventable hospital admissions for patients with diabetes, congestive heart failure, and asthma (ambulatory care sensitive conditions) were twice the level achieved by the top states.

- Hospital 30-day readmission rates for Medicare patients ranged from 14 percent to 22 percent across regions. Bringing readmission rates down to the levels achieved by the top performing regions would save Medicare $1.9 billion annually.

- Annual Medicare costs of care average $32,000 for patients with congestive heart failure, diabetes, and chronic lung disease, with a twofold spread in costs across geographic regions.

- As a share of total health expenditures, U.S. insurance administrative costs were more than three times the rates of countries with the most integrated insurance systems.

- The U.S. lags well behind other nations in use of electronic medical records: 17 percent of U.S doctors compared with 80 percent in the top three countries.

Equity: Total Average Score: 71

- On multiple indicators across quality of care and access to care, there is a wide gap between low-income or uninsured populations and those with higher incomes and insurance. On average, low-income and uninsured rates would need to improve by one-third to close the gap.

- On average, it would require a 20 percent decrease in Hispanic risk rates to reach benchmark white rates on key indicators of quality, access, and efficiency. Hispanics are at particularly high risk of being uninsured, lacking a regular source of primary care, and not receiving essential preventive care.

- Overall, it would require a 24 percent or greater improvement in African American mortality, quality, access, and efficiency indicators to approach benchmark white rates. Blacks are much more likely to die at birth or from chronic conditions such as heart disease and diabetes. Blacks also have significantly lower rates of cancer survival.

System Capacity to Innovate and Improve: Not Scored

Innovations in the ways care is delivered—from more integrated decision-making and information sharing to better workforce retention and team oriented care—are necessary to make strides in all dimensions of care. Investment in research to assess effectiveness, develop evidence-based guidelines, or support innovations in care delivery is low. The current federal investment in health services research, estimated at $1.5 billion, amounts to less than $1 out of every $1,000 in national health care spending. Ideally a national Scorecard would include indicators of the system's capacity

to innovate and improve, but good indicators in this area are not currently available—itself a problem. The international consortium would attempt to identify such indicators of system capacity to innovate and improve.

Summary and Implications

The Case for a Systems Approach to Change. The Scorecard results make a compelling case for change. Simply put, the US falls far short of what is achievable on all major dimensions of health system performance. The overwhelming picture that emerges is one of missed opportunities—at every level of the system—to make American health care truly the best that money can buy.

And let there be no doubt, these results are not just numbers. Each statistic—each gap in actual versus achievable performance—represents illness that can be avoided, deaths that can be prevented, and money that can be saved or reinvested. In fact, if just those gaps that are described in the Scorecard were closed, the Commonwealth Fund estimates that the US could save $50 billion to $100 billion per year in health care spending and prevent 100,000 to 150,000 deaths. Moreover, the nation would gain from improved productivity. The Institute of Medicine, for example, estimates national economic gains of up to $130 billion per year from insuring the uninsured.

The US Scorecard data suggest a number of health policy and management strategies to improve system performance:

- Universal coverage and participation are essential to improve quality and efficiency, as well as access to needed care.

- Quality and efficiency can be improved together; we must look for improvements that yield both results. Preventive and primary care quality deficiencies undermine outcomes for patients and contribute to inefficiencies that raise the cost of care.

- Failures to coordinate care for patients over the course of treatment put patients at risk and raise the cost of care. Policies that facilitate and promote linking providers and information about care will be essential for productivity, safety, and quality gains.

- Financial incentives posed by the fee-for-service system of payment as currently designed undermine efforts to improve preventive and primary care, manage chronic conditions, and coordinate care. We need to devise payment incentives to reward more effective and efficient care, with a focus on value.

- Research and investment in data systems are important keys to progress. Investment in, and implementation of, electronic medical records and modern health information technology in physician offices and hospitals is low—leaving physicians and other providers without useful tools to ensure reliable high quality care.

- Savings can be generated from more efficient use of expensive resources including more effective care in the community to control chronic disease and assure patients timely access to primary care. The challenge is finding ways to re-channel these savings into investments in improved coverage and system capacity to improve performance in the future.

- Setting national goals for improvement based on best achieved rates is likely to be an effective method to motivate change and move the overall distribution to higher levels.

The US health system needs to focus on improving health outcomes for people over the course

of their lives, as they move from place to place and from one site of care to another. This requires a degree of organization and coordination that is currently lacking. Whether through more integrated health care delivery organizations, more accountable physician groups, or more integrated health information systems (in truth, likely all of these), we need to link patients, care teams, and information together. At the same time, we need to deliver safer and more reliable care.

Furthermore, the extremely high costs of treating patients with multiple chronic diseases serve as a reminder that a minority of very sick patients in the U.S. account for a high proportion of national health care expenditures. Payment policies that support integrated, team-based approaches to managing patients with multiple, complex conditions—along with efforts to engage patients in care self-management—will be of paramount importance as the population continues to age.

By assessing each nation's health care against achievable benchmarks, the International Scorecard, in a sense, tracks the vital signs of these health systems. Many of the policy and management strategies identified via analysis of the first US Scorecard will likely also be found in other countries represented in the research collaborative, given the countries' similarities in population demographics and economic development. However, variations in the financing, organization, and delivery of health care in each country and each nation's unique cultural, behavioral, and economic characteristics are likely to generate differing levels of performance across some indicators. Perhaps the greatest value of this collaborative research is the opportunity it provides for health policy and management analysts to learn from shared examination of the barriers to health system performance identified in each country and the various examples of successful strategies and structures that facilitate high performing health systems.

Citation

The Commonwealth Fund Commission on a High Performance Health System, Why Not the Best? Results from a National Scorecard on U.S. Health System Performance, The Commonwealth Fund, September 2006

EXECUTIVE SUMMARY

Why Not the Best?

RESULTS FROM A NATIONAL SCORECARD ON U.S. HEALTH SYSTEM PERFORMANCE

The Commonwealth Fund Commission on a High Performance Health System

September 2006

ABSTRACT: Created by the Commonwealth Fund Commission on a High Performance Health System, the *National Scorecard on U.S. Health System Performance* is the first-ever comprehensive means of measuring and monitoring health care outcomes, quality, access, efficiency, and equity in one report. Its findings indicate that America's health system falls far short of what is attainable, especially given the resources the nation invests. Across 37 indicators of performance, the U.S. achieves an overall score of 66 out of a possible 100 when comparing actual national performance to achievable benchmarks. Scores on efficiency are particularly low. This report explains how the Scorecard works, describes results for each domain of performance, and discusses implications for policies to improve quality, access, and cost performance.

Executive Summary

Once upon a time, it was taken as an article of faith among most Americans that the U.S. health care system was simply the best in the world. Yet growing evidence indicates the system falls short given the high level of resources committed to health care. Although national health spending is significantly higher than the average rate of other industrialized countries, the U.S. is the only industrialized country that fails to guarantee universal health insurance and coverage is deteriorating, leaving millions without affordable access to preventive and essential health care. Quality of care is highly variable and delivered by a system that is too often poorly coordinated, driving up costs, and putting patients at risk. With rising costs straining family, business, and public budgets, access deteriorating and variable quality, improving health care performance is a matter of national urgency.

The Commonwealth Fund Commission on a High Performance Health System has developed a National Scorecard on U.S. Health System Performance (see Table 1 on pages 10 and 11 for scores on 37 key indicators). The Scorecard assesses how well the U.S. health system is performing as a whole *relative to what is achievable*. It provides benchmarks for the nation and a mechanism for monitoring change over time across core health care system goals of health outcomes, quality, access, efficiency, and equity.

Scores come from ratios that compare the U.S. national average performance to benchmarks, which represent top performance. If performance in the U.S. was uniform for each of the health system goals, and if, in those instances in which U.S. performance can be compared with other countries, we were consistently at the top, the average score

See also C. Schoen et al., "U.S. Health System Performance: A National Scorecard," *Health Affairs* Web Exclusive, September 20, 2006, for scoring exhibits and analysis. For additional results and methods, see *National Scorecard on U.S. Health System Performance: Technical Report*. For charts for all indicators, see *National Scorecard on U.S. Health System Performance: Complete Chartpack* and the accompanying *Technical Appendix* with indicator details and data sources. These Commonwwealth Fund reports are available for free download at www.cmwf.org.

for the U.S. would be 100. But, the U.S. as a whole scores an average of 66 (Figure 1). Several different measures or indicators were examined for each of the goal areas and dimensions of health system performance. There are wide gaps between national average rates and benchmarks in each of the dimensions of the Scorecard, with U. S. average scores ranging from 51 to 71.

By showing the gaps between national performance and benchmarks that have been achieved, the Scorecard offers performance targets for improvement. And it provides a foundation for the development of public and private policy action, and a yardstick against which to measure the success of new policies.

SCORECARD HIGHLIGHTS AND LEADING INDICATORS

Table 1 summarizes U.S. average rates on 37 indicators, their benchmark comparison rates—typically those achieved by the top 10 percent of countries, states, health plans, hospitals, or other providers—and the U.S. average score, calculated as the ratio between U.S. performance and benchmark rate. In just a few instances the benchmarks represent targets, rather than achieved top performance. The sources of the benchmarks are shown in the Table.

Some major findings include:

Long, Healthy, and Productive Lives: Total Average Score 69

- The U.S. is one-third worse than the best country on mortality from conditions "amenable to health care"—that is, deaths that could have been prevented with timely and effective care. Its infant mortality rate is 7.0 deaths per 1,000 live births, compared with 2.7 in the top three countries. The U.S. average adult disability rate is one-fourth worse than the best five U.S. states, as is the rate of children missing 11 or more days of school because of illness or injury.

Quality: Total Average Score 71

- Despite documented benefits of timely preventive care, barely half of adults (49%) received preventive and screening tests according to guidelines for their age and sex.

- The current gap between national average rates of diabetes and blood pressure control and rates achieved by the top 10 percent of health plans translates into an estimated 20,000 to 40,000 preventable deaths and $1 billion to $2 billion in avoidable medical costs.
- Only half of patients with congestive heart failure receive written discharge instructions regarding care following their hospitalization.
- Nursing home hospital admission and readmission rates in the bottom 10 percent of states are two times higher than in the top 10 percent of states.

Access: Total Average Score 67

- In 2003, one-third (35%) of adults under 65 (61 million) were either underinsured or were uninsured at some time during the year.
- One-third (34%) of all adults under 65 have problems paying their medical bills or have medical debt they are paying off over time. And premiums are increasingly stretching median household incomes.
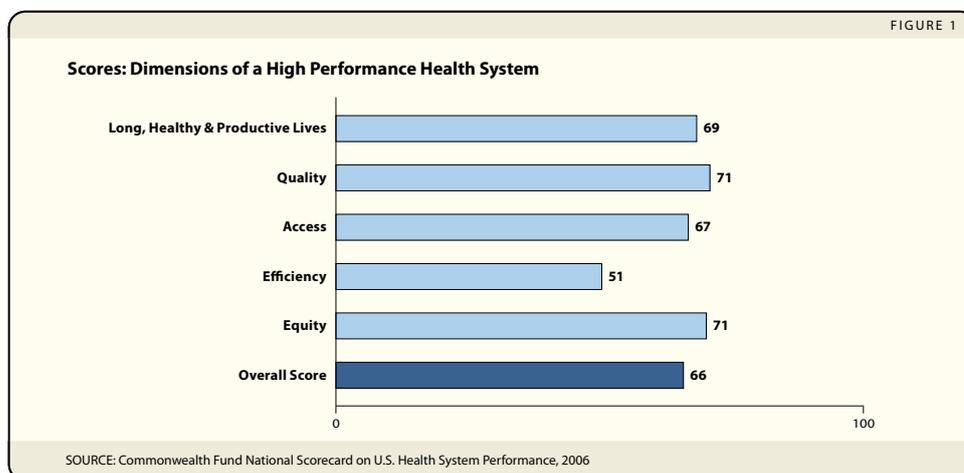
Efficiency: Total Average Score 51

- National preventable hospital admissions for patients with diabetes, congestive heart failure, and asthma (ambulatory care sensitive conditions) were twice the level achieved by the top states.

- Hospital 30-day readmission rates for Medicare patients ranged from 14 percent to 22 percent across regions. Bringing readmission rates down to the levels achieved by the top performing regions would save Medicare $1.9 billion annually.
- Annual Medicare costs of care average $32,000 for patients with congestive heart failure, diabetes, and chronic lung disease, with a twofold spread in costs across geographic regions.
- As a share of total health expenditures, U.S. insurance administrative costs were more than three times the rates of countries with the most integrated insurance systems.
- The U.S. lags well behind other nations in use of electronic medical records: 17 percent of U.S doctors compared with 80 percent in the top three countries.

Equity: Total Average Score 71

- On multiple indicators across quality of care and access to care, there is a wide gap between low-income or uninsured populations and those with higher incomes and insurance. On average, low-income and uninsured rates would need to improve by one-third to close the gap.
- On average, it would require a 20 percent decrease in Hispanic risk rates to reach benchmark white rates on key indicators of quality, access, and efficiency. Hispanics are at particularly high risk

FIGURE 1

Scores: Dimensions of a High Performance Health System

Dimension	Score
Long, Healthy & Productive Lives	69
Quality	71
Access	67
Efficiency	51
Equity	71
Overall Score	66

SOURCE: Commonwealth Fund National Scorecard on U.S. Health System Performance, 2006

of being uninsured, lacking a regular source of primary care, and not receiving essential preventive care.

- Overall, it would require a 24 percent or greater improvement in African American mortality, quality, access, and efficiency indicators to approach benchmark white rates. Blacks are much more likely to die at birth or from chronic conditions such as heart disease and diabetes. Blacks also have significantly lower rates of cancer survival.

System Capacity to Innovate and Improve: Not Scored

Innovations in the ways care is delivered—from more integrated decision-making and information sharing to better workforce retention and team-oriented care—are necessary to make strides in all dimensions of care.

Investment in research to assess effectiveness, develop evidence-based guidelines, or support innovations in care delivery is low. The current federal investment in health services research, estimated at $1.5 billion, amounts to less than $1 out of every $1,000 in national health care spending. Ideally a national Scorecard would include indicators of the system's capacity to innovate and improve, but good indicators in this area are not currently available—itself a problem.

National Scorecard on U.S. Health System Performance				TABLE 1
Indicator	**U.S. National Rate**	**Benchmark**	**Benchmark Rate**	***Score: Ratio of U.S. to Benchmark***
1. Mortality amenable to health care, Deaths per 100,000 population	115	Top 3 of 19 countries	80	*70*
2. Infant mortality, Deaths per 1,000 live births	7.0	Top 3 of 23 countries	2.7	*39*
3. Healthy life expectancy at age 60, Years	16.6	Top 3 of 23 countries	19.1	*87*
4. Adults under 65 limited in any activities because of physical, mental, or emotional problems, %	14.9	Top 10% states	11.5	*77*
5. Children missed 11 or more school days due to illness or injury, %	5.2	Top 10% states	3.8	*73*
6. Adults received recommended screening and preventive care, %	49	Target	80	*61*
7. Children received recommended immunizations and preventive care*	Various	Various	Various	*85*
8. Needed mental health care and received treatment*	Various	Various	Various	*66*
9. Chronic disease under control*	Various	Various	Various	*61*
10. Hospitalized patients received recommended care for AMI, CHF, and pneumonia (composite), %	84	Top hospitals	100	*84*
11. Adults under 65 with accessible primary care provider, %	66	65+ yrs, High income	84	*79*
12. Children with a medical home, %	46	Top 10% states	60	*77*
13. Care coordination at hospital discharge*	Various	Various	Various	*70*
14. Nursing homes: hospital admissions and readmissions among residents*	Various	Various	Various	*64*
15. Home health: hospital admissions, %	28	Top 25% agencies	17	*62*
16. Patients reported medical, medication, or lab test error, %	34	Best of 6 countries	22	*65*
17. Unsafe drug use*	Various	Various	Various	*60*
18. Nursing home residents with pressure sores*	Various	Various	Various	*67*
19. Hospital-standardized mortality ratios, Actual to expected deaths	101	Top 10% hospitals	85	*84*

Indicator	U.S. National Rate	Benchmark	Benchmark Rate	Score: Ratio of U.S. to Benchmark
20. Ability to see doctor on same/next day when sick or needed medical attention, %	47	Best of 6 countries	81	58
21. Very/somewhat easy to get care after hours without going to the emergency room, %	38	Best of 6 countries	72	53
22. Doctor–patient communication: always listened, explained, showed respect, spent enough time, %	54	90th percentile Medicare plans	74	74
23. Adults with chronic conditions given self-management plan, %	58	Best of 6 countries	65	89
24. Patient-centered hospital care*	Various	Various	Various	87
25. Adults under 65 insured all year, not underinsured, %	65	Target	100	65
26. Adults with no access problem due to costs, %	60	Best of 5 countries	91	66
27. Families spending <10% of income or <5% of income, if low-income, on out-of-pocket medical costs and premiums, %	83	Target	100	83
28. Population under 65 living in states where premiums for employer-sponsored health coverage are <15% of under-65 median household income, %	58	Target	100	58
29. Adults under 65 with no medical bill problems or medical debt, %	66	Target	100	66
30. Potential overuse or waste*	Various	Various	Various	48
31. Went to emergency room for condition that could have been treated by regular doctor, %	26	Best of 6 countries	6	23
32. Hospital admissions for ambulatory care sensitive conditions*	Various	Various	Various	57
33. Medicare hospital 30-day readmission rates, %	18	10th percentile regions	14	75
34. Medicare annual costs of care and mortality for AMI, hip fracture, and colon cancer (Annual Medicare outlays; deaths per 100 beneficiaries)	$26,829; 30	10th percentile regions	$23,314; 27	88
35. Medicare annual costs of care for chronic diseases: diabetes, CHF, COPD*	Various	Various	Various	68
36. Percent of national health expenditures spent on health administration and insurance, %	7.3	Top 3 of 11 countries	2.0	28
37. Physicians using electronic medical records, %	17	Top 3 of 19 countries	80	21
OVERALL SCORE				**66**

* Various denotes indicators that comprise two or more related measures. Scores average the individual ratios for each component. For detailed information on the national and benchmark rates for individual components, please refer to C. Schoen et al., "U.S. Health System Performance: A National Scorecard," *Health Affairs* Web Exclusive, Sept. 20, 2006. See also the box on page 31. AMI = acute myocardial infarction; CHF = congestive heart failure; COPD = chronic obstructive pulmonary disease

Commonwealth Fund National Scorecard on U.S. Health System Performance, 2006.

SUMMARY AND IMPLICATIONS

The Case for a Systems Approach to Change

The Scorecard results make a compelling case for change. Simply put, we fall far short of what is achievable on all major dimensions of health system performance. The overwhelming picture that emerges is one of missed opportunities—at every level of the system—to make American health care truly the best that money can buy.

And let there be no doubt, these results are not just numbers. Each statistic—each gap in actual versus achievable performance—represents illness that can be avoided, deaths that can be prevented, and money that can be saved or reinvested. In fact, if we closed just those gaps that are described in

the Scorecard—we could save at least $50 billion to $100 billion per year in health care spending and prevent 100,000 to 150,000 deaths. Moreover, the nation would gain from improved productivity. The Institute of Medicine, for example, estimates national economic gains of up to $130 billion per year from insuring the uninsured.

The central messages from the Scorecard are clear:

- Universal coverage and participation are essential to improve quality and efficiency, as well as access to needed care.
- Quality and efficiency can be improved together; we must look for improvements that yield both results. Preventive and primary care quality deficiencies undermine outcomes for patients and contribute to inefficiencies that raise the cost of care.
- Failures to coordinate care for patients over the course of treatment put patients at risk and raise the cost of care. Policies that facilitate and promote linking providers and information about care will be essential for productivity, safety, and quality gains.
- Financial incentives posed by the fee-for-service system of payment as currently designed undermine efforts to improve preventive and primary care, manage chronic conditions, and coordinate care. We need to devise payment incentives to reward more effective and efficient care, with a focus on value.
- Research and investment in data systems are important keys to progress. Investment in, and implementation of, electronic medical records and modern health information technology in physician offices and hospitals is low—leaving physicians and other providers without useful tools to ensure reliable high quality care.
- Savings can be generated from more efficient use of expensive resources including more effective care in the community to control chronic disease and assure patients timely access to primary care. The challenge is finding ways to re-channel these savings into investments in improved coverage and system capacity to improve performance in the future.

- Setting national goals for improvement based on best achieved rates is likely to be an effective method to motivate change and move the overall distribution to higher levels.

Our health system needs to focus on improving health outcomes for people over the course of their lives, as they move from place to place and from one site of care to another. This requires a degree of organization and coordination that we currently lack. Whether through more integrated health care delivery organizations, more accountable physician groups, or more integrated health information systems (in truth, likely all of these), we need to link patients, care teams, and information together. At the same time, we need to deliver safer and more reliable care.

Furthermore, the extremely high costs of treating patients with multiple chronic diseases, as detailed in this report, serve as a reminder that a minority of very sick patients in the U.S. account for a high proportion of national health care expenditures. Payment policies that support integrated, team-based approaches to managing patients with multiple, complex conditions—along with efforts to engage patients in care self-management—will be of paramount importance as the population continues to age.

By assessing the nation's health care against achievable benchmarks, the Scorecard, in a sense, tracks the vital signs of our health system. With rising costs and deteriorating coverage, leadership to transform the health system is urgently needed to secure a healthy nation.

Scorecard Methodology

The Scorecard assesses U.S. national performance relative to benchmarks, with a maximum score of 100. For each indicator, we identified the benchmark rate based on rates achieved by top countries or the top 10 percent of U.S. states, hospitals, health plans, or other providers. The choice of benchmarks reflected the specific indicator and availability of data. For example, for hospital clinical care, the benchmark is the best hospitals, but for potentially preventable admissions, the benchmark is the top 10 percent of states or regions. Where patient data were available only at the national level, we compared national rates to experiences of high-income, insured individuals, choosing the benchmark group least likely to face barriers because of costs.

Benchmarks generally reflect the performance achieved by top-performing groups although there are a few instances where benchmarks use target rates. Four access benchmarks aim for logical policy goals, such as achieving 100 percent of the population to be adequately insured. We also used targets for two quality indicators—getting all basic preventive care and mental health care—since even best attained rates fell below clinically accepted guidelines. For these, we set targets of 80 percent to allow for less than perfect scores and still aim for significant improvement.

To score, we calculated simple ratios of U.S. national averages compared with benchmarks. Where higher rates would indicate a move in a positive direction, we divided the national average by the benchmark. Where lower rates would indicate a positive direction—e.g., mortality or medical errors—we divided the benchmark (lower rate) by the U.S. average.

To summarize scores by dimension, we averaged indicator ratios. For equity, we compared experiences by insurance coverage, income, and race/ethnicity on a subset of the main indicators, and a few equity-only indicators that we added to highlight certain areas of concern. We used the percent of the group at risk (e.g., percent not receiving recommended care, percent with no primary care provider, percent uninsured) to calculate risk ratios. Specifically, the ratios compare rates for insured relative to uninsured; high-income to low-income, and whites to African Americans and Hispanics.

See *National Scorecard on U.S. Health System Performance: Technical Report* and *National Scorecard on U.S. Health System Performance: Complete Chartpack and Technical Appendix* for additional information on benchmarks and scoring.

Excellence in Electronic Publishing

The role of the academic press in disseminating to the scholarly community the outcomes of research and scholarship conducted within universities is long established and well respected. The recent transition of presses from a conventional print to a digital publishing environment has further strengthened this role, at least in terms of an enhanced ability to reach a much wider, global readership, as has a growing commitment to open access or the provision of uncharged access to electronic formats via the Web. In short, a willingness to entertain new business models together with the emergence of advanced supportive technological capability has served to lower or eliminate the barriers to access inherent within traditional scholarly publishing practices.

This new environment may be seen to provide IARU with a rare opportunity both to showcase the quality of research and scholarship undertaken within member universities and to demonstrate its commitment to achieving the widest possible dissemination of its combined scholarly output. All members either support or have previously supported local academic presses. Most of these presses have moved to publishing in both print and electronic modes. The adoption of a purely open-access business model is less common, except in the case of the Australian National University's ANU E Press < http://epress.anu.edu.au >. A good example of a hybrid business model is that used within the California Digital Library in which 2,000 titles published by the University of California Press are made available electronically without charge to University faculty, staff and students < http://content.cdlib.org/escholarship >. A subset of 518 titles are available in electronic formats to the public on an unrestricted open-access basis.

In taking advantage of this opportunity, it is proposed that IARU assemble a small collection of titles as an exemplar of the nature and quality of the scholarly work published by its member institutions. Under this proposal, member universities would be invited to select ten titles by university authors from their current lists which are available in an electronic format and to which they would be willing to provide access on an uncharged basis. Although the titles within the collection would be presented on a separately branded page on the IARU website, the content would remain on local university servers. The full text would be accessed via links from the IARU web page. In this way member universities would retain full control over their titles and maintain comprehensive logs of usage.

As has been suggested, the proposal is in part promotional in intent. It seeks to showcase the quality of the scholarship and research undertaken within member universities. Given the distributed model it adopts, the proposal may be seen as promoting not simply the IARU alliance but also the individual presses to whose websites readers will be directed in accessing titles within the collection. The proposal also demonstrates the technical expertise which underpins digital publishing in innovative academic presses. And finally it provides IARU with an opportunity to affirm its support for open access in scholarly communication in an appropriate, modest but very effective way.

Interdisciplinary integration: Concepts and methods for tackling complex global problems

Proposed by:

Professor Gabriele Bammer, The Australian National University
Professor Steve Rayner, University of Oxford
Professor Gertrude Hirsch Hadorn, ETH-Zurich
Professor Rob MacCoun, University of California at Berkeley
Professor Mary Jacobus, University of Cambridge

Progress on complex global problems requires improved knowledge and action. Universities working together have a critical role to play in drawing on disciplinary and interdisciplinary expertise to develop the best available knowledge, as well as making it available to decision makers in the most effective ways. But how do we best harness expert understanding and how do we most usefully support decision makers?

The growth of interdisciplinarity in universities is starting to generate answers to these questions, but our capacity remains fragmented. This is largely because of limited cross-fertilization between different kinds of interdisciplinary initiatives. There is little opportunity for learning between the various interdisciplinary science or social science and humanities clusters, let alone between areas studying problems in environment, security or population health, or in public policy more generally. There is also little learning across the intellectual traditions and decision making systems of different countries.

The IARU is well placed not only to significantly advance understanding about integrating and implementing expert knowledge, but also to apply this understanding to major real world problems through its four research themes.

We propose an IARU initiative to capitalise on the substantial skills within and across member universities in concepts and methods for:

- integrating expert discipline- and practice-based knowledge for a richer understanding of complex problems

and

- implementing this improved understanding in effective policies, practice change and technological advancement.

We propose to work closely with the four existing IARU themes – Movement of People; Longevity and Health; Energy, Resources and Environment; and Security – to both document and strengthen their skills in generating and applying cross-disciplinary knowledge.

This proposal is forwarded by leading interdisciplinary researchers from five of the member universities. We are actively recruiting collaborators from the other IARU members, as well as developing strong networks of interdisciplinary researchers within each of our universities.

We propose a workshop (tentatively for October 2007, located at the James Martin Institute for Science and Civilization, Oxford University) to bring together the foremost researchers of interdisciplinary integration to share theories and methods. In addition, leaders of current IARU themes will be invited to participate to explore the application of the most advanced concepts and techniques in their projects. Finally, the workshop will invite participation from the brightest early-career interdisciplinary researchers at each IARU institution to provide them with collaboration and networking opportunities.

The primary areas to be covered are:

- Integration methods and collaboration;
- Research decision support for policy, practice and technological innovation;
- Generating and applying creative ideas for change;
- Managing ignorance and uncertainty;
- Problem framing and boundary setting; and
- Making explicit the values base.

Such a workshop will:

- advance the development of interdisciplinary integration as an emerging discipline;

- set in place effective collaborations to strengthen the application of interdisciplinary integration concepts and methods in IARU projects on Movement of People; Longevity and Health; Energy, Resources and Environment; and Security, and

- document exemplars of the application of interdisciplinary integration to complex real world problems.

The workshop will produce an edited book of proceedings and well as an opportunity to develop new project proposals. It will also provide a strong support base for early career researchers working in interdisciplinary areas.

There are no existing forums for high-level exchange of ideas about interdisciplinary integration. This proposal will enhance the reputation of IARU in undertaking cutting-edge research on global problems and stamp IARU as a leader in high-quality research and teaching in interdisciplinary integration.

29 January 2007
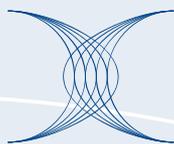
The Corporate Governance and Regulatory Implications of the Global Private Equity Boom

Project Summary

At the height of the last leveraged buyout boom it was argued that we were witnessing the demise of the public corporation. Private equity providers have once more become increasingly influential actors. Once again, its proponents claim to have solved the perennial core governance problem associated with the separation of ownership and control. Private equity generates its own potentially systemic problems, however, not least of which is the partial bypassing the elaborate corporate governance, financial reporting and disclosure obligations imposed on public corporations in the aftermath of scandal. Regulators in the United States, Australia and the United Kingdom have expressed concern that unrestricted expansion increases the risk of market manipulation and macro-economic instability. There is evidence to suggest that an increasing proportion of securitised debt has been on-sold within Asia-Pacific, particularly to and through major Chinese banking and investment corporations with primary listings in Hong Kong.

The research project evaluating the impact of the asset class across a number of critical pressure points within the corporation and between it and those providing the intermediating services required to remain or exit the public market. The research agenda has three major components. First, an extensive empirical investigation of the private equity market is conducted. This complex mapping allows for a more granular assessment of the structural determinants of private equity (e.g. who are the major operators, how do they operate, what constitutes the optimal debt-equity ration and what prompts recalibration, what factors stimulate private equity expansion?)

The second stage identifies and assesses the existence and extent of latent, emergent and extant risks posed by the expansion of private equity within and between critical corporate governance nodes. These include the corporation (e.g. conflicts of interest between senior management, the board and shareholders over whether to accept private equity entreaties and, if so, at what price); the professions who provide intermediating services (e.g. conflicts between fiduciary duty to the corporation and self-dealing); and ultimately the governance of the market itself. The third stage evaluates differential regulatory responses to these risks. This is the cross-referenced to data on money flows to ascertain the relative strength of particular drivers in stimulating or stymieing private equity expansion (e.g. degree of technocratic and wider political contestation, relative capacity to influence the ideational and wider regulatory policy agenda).

Key Personnel

Professor Justin O'Brien at the Centre for Applied Philosophy and Public Ethics will lead the project in conjunction with Professor Keith Houghton, Convenor and Dean of the College of Business and Economics. Already established links with the College of Law (e.g. Professor Stephen Bottomley) will be strengthened to ensure interdisciplinary depth within ANU itself. Our

primary international partners will be the Boalt School of Law/Hass Business School, UC Berkeley (Professor Lauren Edelman) and the Centre for Socio-Legal Studies/Said Business School at the University of Oxford (Professor Doreen McBarnet). The program of study has been scoped, however, to ensure participation of each member of IARU. It will be of particular interest to Yale (School of Law/School of Management: Professor Jonathan Macey) and to Cambridge (Professor Simon Deakin, School of Law). Given the importance of Asia-Pacific and in particular the Chinese 'red-chips' with primary or secondary listings on the Hong Kong market as conduits for securitised debt, we also intend to reach out to Peking University, the University of Tokyo and the National University of Singapore.

Key Objectives

1. Produce a systematic survey of planned and executed private equity transactions on a global basis with a particular emphasis on Australia, the United States and the United Kingdom in the first instance. This includes mapping the nature, priorities and modus operandi of each major private equity provider.

2. Examine the processes through which acquired debt is securitised, with particular reference to the transfer of obligations to and within the Asia Pacific region.

3. Compare and contrast the efficacy of existing regulatory frameworks. In particular, assess whether and, if so, how control systems respond to the particular risks identified. This includes a detailed assessment of how each level of control operates in practice (e.g. internal governance procedures, the impact of industry and professional codes of conduct, the relative performance of disclosure and prudential based regulatory agencies or those market actors with formal delegated monitoring, surveillance and disciplinary roles).

4. Evaluate the impact of private equity on wider corporate governance design, with particular emphasis on whether and, if so, how providers influence the trajectory of regulatory policy. Specifically, examine whether and, if so, under what conditions this process impacts on and is, in turn, impacted by wider public policy or political imperatives.

Key Outcomes

1. The research develops linkages already forged between researchers from the ANU, Berkeley and the University of Oxford through the planning of the Dynamics of Capital Governance workshop. The event, which has been co-sponsored by the ESRC and the ARC, will form a platform to delineate further the parameters of the proposed body of research. Our first major output will be a workshop at ANU in November 2007. This will be followed by a major conference in late 2009.

2. Each will feature a mixture of leading academics and practitioners. These events will position the contributing universities as centres of excellence in the study of this most controversial asset class. The ongoing collaboration will be channelled into grant applications to research funding councils in each jurisdiction, making the network self-sustaining.

3. The workshop and the conference will result in two edited collections (to complement the edited collection arising from the Dynamics of Capital Market Governance workshop). In addition, Professor O'Brien will complete a monograph, provisionally entitled, 'Back to the Future: Private Equity and the Modern Corporation.'

4. The research agenda has been scoped to feed directly into teaching programs. CAPPE and the College of Business and Economics are working closely with industry partners to develop executive and full-time courses in corporate governance and financial regulation. The development of this international network will generate an influential body of research to fit directly into the teaching programs. In addition, it enhances our direct contact with leading regulatory agencies in each jurisdiction along with key institutional actors. Most importantly, the integrated and inter-disciplinary nature of this project will provide the empirical evidence to impact directly on the global policy debate.
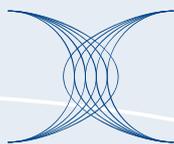
Outcomes of Inaugural IARU Presidents' Meeting in Singapore on 13-14 January 2006

Agenda Item (i)   Election of Chair 2006 - 2007
Election of Chair-elect 2008 - 2009

Professor Chubb was elected Chair for 2006-07.

Election of the chair-elect for 2008-09 will take place at the 2007 IARU Presidents meeting.

Agenda Item (ii)   Key Initiatives in Member Universities

Members were advised that Tokyo would celebrate its 130th anniversary in 2007 and Cambridge its 800th in 2009.

• It was agreed that Tokyo would host activities related to the research theme, which it would be leading (Energy, environment, food and water (including urban/rural issues)) during 2007.

• It was agreed that Cambridge would host the 2009 IARU Presidents meeting (subject to the agreement of IARU Chair for 2008-09).

The meeting agreed that there was danger in focussing too much on research – universities need to prepare undergraduates to be able to do research. It was agreed that this could be taken up as a proposal for action under agenda item (vi).

Discussion of possible models for summer vacation (May-August) programs resulted in the identification of two models:

a) Students from member universities travel to a host member university and undertake a summer school program with students from the host university – could last for between six and twelve weeks. This could involve anywhere between two and ten member universities; and

b) A corporation or government agency provides internship opportunities for a cohort of students from all member universities – perhaps two from each for a total of twenty;

It was agreed that each university interested in running summer schools along the lines of a) above would provide a half-one page proposal to the IARU secretariat by end March 2006. These proposals should cover issues such as visas, insurance etc. These would be collated and sent to member universities who would indicate which programs might be of interest, with a view to participation in 2007.

Out of session, Berkeley undertook to approach companies such as Intel and Cisco to gauge interest in possible internship opportunities along the lines of b) above.

Agenda Item (iii)   IARU Research Proposals

The IARU group agreed to pursue four separate research themes and identified member universities, which would take each forward.

- Movement of people
  Oxford and Berkeley

- Ageing (longevity) and health
  Copenhagen and Peking

- Energy, environment, food and water (Including urban/rural issues)
  ETH Zurich, Tokyo and NUS

- Security
  ANU and Cambridge

It was agreed that each of these themes would involve some combination of substantive research and "studies of studies" if that was more appropriate.

It was agreed that some proposals would be IARU initiatives that involve only IARU member universities and others would be projects that IARU might facilitate, involving both IARU member and other universities.

The following process for taking forward the research proposals was agreed – it was noted that it was crucial that the IARU add value through its activities:

1. Lead universities would work together to define the areas of research

2. Workshops would be convened – scheduled to be around August-September 2006. These would be attended by both senior and junior researchers

3. The purpose of workshops would be to define research (identify maybe three most important areas) and encourage:

   - Strategic advice to the Presidents

   - Identifying opportunities for substantive research (or studies of studies)

   - Identifying opportunities for graduate students

   - How to use the outcomes of the research to influence policy makers

4. Workshops would not be exclusive to IARU members – where experts from non-IARU universities are identified and interested, they can be invited to participate.

5. The separation of the science from the politics would be important.

It was anticipated that outcomes of these workshops would be formally documented for discussion at the 2007 IARU Presidents' Meeting.

It was agreed that these workshops would be funded from internal resources.

It was agreed that sourcing external funding to support the activities of the IARU would be very important – Professor Shih noted the opportunities that the substantial increase in Singapore's National Research Foundation's (NRF) funding represented.

Agenda items (iv)	Strategies to Gain Research Funding Support
Agenda item (v)	Intellectual Property Issues That Could Arise Through Joint Research Projects
Agenda Item (vi)	Societal Benefit for Higher Education and Value of Funding Research Universities

Discussion of these three agenda items was conflated. Three more themes for IARU activity were identified along with member universities, which would take the lead in their development.

* Understanding women in universities Around the globe
  Yale and Cambridge

* Transforming power of undergraduate Education
  ANU, NUS and Cambridge

* Graduate education
  NUS, ANU and Yale (if champion available)

All members expressed support for these three proposals. The meeting noted that there was an opportunity presented by the change in Singapore's Y12 approach to look longitudinally at Singapore Y12 graduates' experiences at member universities. The possibility of taking the PISA measures and adapting them for undergraduate education was also raised.

Each proposal will process along similar lines, first identifying what the IARU should be doing and what it wants to achieve and then sharing approaches and experiences with a view to learning from each other.

Agenda item (vii)   Benchmarking

It was agreed that each member university would (based on the agenda paper) identify (in priority order) the five issues concerning which they would be most interested in exchanging information/ benchmarking. Response should be provided to the IARU secretariat by end February, which will collate responses and prepare a short paper proposing a mechanism to get things going.

Agenda Item (viii)   Any other business

There were no items raised.

Agenda item (ix)   Date of next meeting

The next IARU Presidents' meeting will be at the Australian National University in Canberra on Wednesday March 28th and Thursday March 29th, 2007.

A one-day workshop on undergraduate education, at which IARU Presidents could participate, will be scheduled for Tuesday March 27th. Other workshops may also be scheduled around these dates.

Meeting of Senior Research Deputies
ETH Zurich, 18- 19 September 2006

All presentations are available on the IARU website. Common themes emerging from the individual presentations are summarised below.

Chair's introduction (Professor Lawrence Cram)

- The infrastructure of a university affects its ability to create cooperative relationships – both within the university and with other IARU members.

- There are challenges and tensions when developing governance arrangements – increased "top down" power for Presidents/VC's versus increased "bottom up" power for schools, centres etc

- IARU members support excellence in teaching and research differently at different institutions. Bottom-up approaches seem to be the default. Do successful "top down" approaches exist?

- IARU institutions each get their funding from very different sources.

- It is important that IARU access international funds – how might IARU tap into funding that individual institutions cannot access.

- Benchmarking IARU institutions responses to change could facilitate better arguments for implementing change at individual institutions.

- IARU needs to find mechanisms to engage faculty and students.

Fostering cross-disciplinary research (Discussion led by Mr Charles Tambiah)

Discussion from presentation:

- The IARU could use existing relationships for collaborative research and provide the infrastructure for cross-disciplinary research.

- The challenge is building trust with key researchers in the initial phase when the research project has not been defined. Leading researchers do not necessarily need to be involved from inception - junior researchers could develop IARU research platforms.

- The IARU could establish a facilitator role to assist researchers involved in the IARU research projects (funded by the participating universities paying a proportion of the salary). We need to create opportunities, not try to force them.

- A collaborative process has the potential of creating a Centre of Excellence which could assist when trying to secure funding.

- A key factor is the choice of problem – if we look at problem based issues such as malaria it will be easier than broad topics such as cell biology.

- It may be better to build infrastructure and networks in smaller increments, proving the value of the IARU before getting into big projects.

- Top down approaches are difficult to manage – need to identify opportunities for individual researchers without necessarily having set outcomes in mind.

Frameworks for collaboration - common problems and solutions, mechanisms to facilitate collaborative research, general understanding of constraints in each country/region – such as contract jurisdictions, intellectual property laws etc (Discussion led by Ms Rachel Vance)

Discussion from presentation:

- The IARU could initiate the development of an international arbitration process for research misconduct

- There would be benefits from sharing institutional experiences of academic misconduct and benchmarking existing legal processes.

- IARU could consider developing a broadly based Research Ethics framework (not developed around the medical sciences).

- IARU might develop a proforma for the transfer/exchange of material for non-commercial use

Proposed:

i.   Benchmark legal processes at IARU institutions for academic misconduct.

ii. Circulate/share research integrity documents between IARU institutions – perhaps followed by a workshop.

iii. Establish a network of legal offices across the IARU.

iv. Develop a common agreement and/or proforma for the transfer of material for non-commercial use.

v.   Circulate some questions on intellectual property environments among members.

Mechanisms to manage and direct research to achieve university strategic objectives (Discussion led by Professor Barry Halliwell)

Discussion from presentation:

- Excellence is often ahead of its time and thus not appreciated or recognised/rewarded.

- IARU institutions have some obligation to protect the past.

- It would be interesting to explore the question "Where do new research agenda's come from?"

- Could there be benefit in sharing existing "establishing excellence" information (salary systems, hidden benefits and appealing workplace conditions). This might include how to attract/keep best staff, incentives for excellence etc. These best practices could be circulated among the IARU members or areas could be encouraged to travel to individual institutions.

- IARU needs to develop mechanisms to support early career researchers.

Crisis management - the role of universities in assisting government to respond to crises - eg avian influenza, earthquakes/tsunamis, wars/civil unrest in neighbouring countries (Discussion led by Professor Lawrence Cram)

Item not discussed.

Summary and a way forward towards the IARU Presidents meeting in March 2007 and the mechanism for preparing it (IARU secretariat or a sub-committee of research deputies?)

The IARU matters discussed in this meeting can be usefully considered from at least seven distinct perspectives:

1. **Presidents' view:**

   - Members have common cause, and share some visions and goals

   - Companionship in difficult positions

   - Creation of new opportunities

   - New ways of thinking

   - Offering new relationships and approaches

   - Address grand challenges/problems in a new context

   - Internationalisation – opening up/new views

2. **Infrastructure view:**

   - Physical
     - o Accommodation for IARU visitors
     - o Offices for IARU visitors
     - o Access and development of labs and equipment
     - o Creating and sharing libraries, databases and collections

   - Logistical
     - o Travel (including immigration)
     - o Communication
     - o Transfer of material (through equipment and agreements)
     - o Common access to websites and Internet

   - Institutional policy and legislative matters

- o Legal/commercial
- o Ethical/research integrity
- o Risk management
- Academic contexts
  - o Transfer of credit
  - o Recognition of learning
  - o Behaviour of visitors and students

3. **Faculty (Education and Research Services) view:**
   - Retention and revitalization of staff
   - Employment conditions
   - Sharing staff development opportunities
     - o Junior faculty
     - o Seed funding for early career researchers
     - o Special training opportunities
   - Engagement across IARU
   - Researchers
     - o Supporting endangered research (unusual pieces of research)
     - o Reviews
   - Educators
     - o Sharing courses, pedagogy
   - Service/Administration – benchmarking resource allocation and function

4. **Undergraduate, Postgraduate and Research Students' views:**
   - Fulfil dreams
   - Create opportunities
   - "People of the world"
   - Diversity of experiences and perspectives
   - Risk taking
   - Networking for skill development, later colleagues
   - Seminars on an international scale

5. **Senior Officers' views:**
   - Integration and coordination
   - Build capability and share experiences
   - Selectivity of engagement
   - Facilitation

- Planning
- Creative distribution of resources
- Renewal and revitalization
- Benchmarking

6. **International view:**
   - Benchmarking and data
   - Codes of practice, policies, procedures
   - Universities transcend nations
   - Public attitudes and support in our countries; trends
   - Balancing in each National Innovation System across
     o Basic – Applied
     o Industry – Blue Sky
   - Innovate the concept of a university – what is the future for universities?

7. **Problem-solving (market-based) view:**
   - Mode 1 – Mode 2 research methodologies (Gibbons)
   - "Students" or "Clients"
   - Funding bodies
     o Differentiation of agendas
   - Operating in the public sphere: beyond the "ivory tower"
   - The importance of non-economic values/agendas
   - Endangered disciplines
   - Encouraging the "really new"
     o Maintaining and updating the "liberal arts" education
     o Graduates of the future

Action required:

i. Members asked to send their research integrity documents to the secretariat by end of October for circulation.

ii. Members asked to participate where possible in the benchmarking of legal processes for academic misconduct. The ANU legal area will circulate an initial list to other IARU legal areas seeking feedback for the development of a survey.

Meeting of Senior Officials
ETH Zurich, 20 September 2006

Research projects/Other projects

Challenges currently:

- Difficult to engage academics who already have research agendas

- Academics are reluctant to commit to broad research projects, participation may occur once the research themes are defined.

- Academics within some communities are not aware of the IARU

- At this stage few institutions have allocated funding for the initial collaboration stage

Participants suggested that direction be provided to organisers about expectations of outcomes from the workshops. These should include:

- Preparation of an intellectual case

- A session dedicated within the remaining workshop to the preparation of a costings model and the identity of suitable funding bodies.

- Opportunities to involve research students, and early career researchers should be explored.

- Shortly after the workshops lead universities should prepare written reports to the secretariat (there may be some additional liaison between the secretariat and the lead universities ensuring comparable reports).

- Secretariat will circulate to the IARU members with significant lead time to the Presidents meeting.

It was proposed that the secretariat with the assistance of representatives of IARU members (from US, UK, Japan/China) seek external seed funding from US funding bodies such as Ford and Rockefeller Foundations to support the IARU's international collaboration agenda (expressly for international collaboration in terms of travel and workshop/conference funding – say $50,000 per workshop). The approach would seek to use the US$100,000 of secretariat funding to leverage additional funding. This would be arranged to take advantage of the presence of appropriate IARU representatives in the US. John Lie to assist in this.

It was agreed that workshops (including the one on the role of women and the education meetings) would be able to bid for up to US$10,000 to take their workshop outcomes to a document ready for consideration by Presidents in March. The secretariat will prepare some simple guidelines. Bids

would be assessed by the secretariat with two senior officers co-opted to assist. Material for the Presidents meeting should include some scoping of costs and possible sources of funding (including local sources).

Finance and sponsorship

It was agreed that members would provide their research protocols (with particular reference to acceptable sources of funding) to the secretariat (or, where preferred, simply identify sensitive areas via a set of dot points). The secretariat would then compile a IARU protocol that takes account of each member's sensitivities.

Website

Participants were positive about the website and opportunities to both utilise it as an information sharing mechanism within the IARU and as a place where non-members can learn about the IARU.

Membership

The extension of IARU membership will be revisited at the meeting of the senior officers in 2007.

Chair for 2008 and 2009

Senior officers to send any expressions of interest to the secretariat by the end of October. It was agreed that one outcome that would be well supported would be for the current Chair to extend his term by another one or two years. Participants agreed that the Chair be approached about this, should there be no expressions of interest from other Presidents. There was some agreement that a two-year term might be too short to have an effective impact.

Secretariat in 2008 and 2009

Two options were explored, one in which the secretariat moves with the presidency, and the other in which the secretariat stays with ANU for a longer period. There are benefits and problems with either option and the matter was unresolved. After discussions with the Chair the secretariat will circulate options about the location of the secretariat for 2008-2009 and the long-term alternatives of the location of the secretariat.

Presidents' meeting at ANU in March 2007

It was agreed that the program should include at least one quarter of a day for informal discussions. The secretariat will send an email with a draft program (including the proposed agenda and possible related events) to the Presidents seeking feedback.

Presidents' meetings in 2008 and 2009

Agreed Cambridge will host 2008 meeting. Anticipated if the Chair changes the meeting in 2009 will be held on the campus of the Chair elected. If no change to chair then at a location to be advised.

Senior Officers meeting in 2007

Agreed Tokyo will host 2007 meeting. Tokyo will provide the secretariat with possible dates in mid to late September, which will be circulated to determine the most suitable date(s).

Financial Report /Annual contributions

Annual contributions from members will remain at US$20,000 for 2007.

USD100,000 will be used for leveraging in the seed funding proposal. It is proposed that the remaining amount is used for assisting the lead universities developing their research proposals for the Presidents meeting.

Agreed expectations:

- The research projects would bid for USD10,000 where it was required.

- A small group (three people including the secretariat) would vet the expenditure

- The secretariat will draft guidelines about the appropriate use of the USD10,000 funding

Registration of name /logo

Agreed the secretariat will register the trademark in the eight countries where IARU member universities are located.

Publications

No action required

Staff Exchanges

It was agreed that this represented a good opportunity to learn from each other's experiences. Yale has already developed a useful list for assisting visiting staff to Yale which could be circulated to members interested. This type of activity will take place under the umbrella of IARU staff mobility. Members will support/encourage staff to become involved.

Student Exchanges

NUS tabled the NGS-IARU Scholarship proposal seeking feedback from the IARU. Members will respond directly to Professor Halliwell.

It was proposed the IARU umbrella existing exchange activity (particularly at PhD level) which would allow recognition of existing mobility and deepen the alliance (may be useful when seeking external funding for international collaboration). Opinion was divided on the merits of this approach.

It was agreed that each member would produce a map of their activity interaction with other IARU members. When these are combined each will learn about things of which they were unaware. At the end of the process, we should have a good snapshot of where we are now. Members to get a first effort to the secretariat by end-December.

Joint/dual degrees

Opportunities for Post Doc or graduate students could be tied into the proposed IARU research activities.

Benchmarking

Agreed the current benchmarking activities should be linked to the agreed legal data collection agreed at the senior research deputies meeting. No need to initiate more at this stage.

Responding to crises

Yale is willing to share their extensive crisis management materials with IARU members. Any additional activity in this area could be developed bilaterally between interested partners. It was suggested that this might be best taken up among those with responsibility for these issues – perhaps registrars or their equivalents.

Public policy statements

Presidents to discuss in March, 2007.

Summer Schools and Internship Programs

John Lie will follow up and approach Intel and Cisco in the first instance.

Presentation by Professor Kuebler on proposal for annual sustainability prizes

Professor Kuebler presented his proposal for the IARU to establish prizes for sustainability similar to Nobel Prizes. There was doubt expressed about the advisability of the IARU adopting such a politically sensitive agenda at this time. The point was also made that this was a bit premature given that IARU had not yet developed a research agenda around sustainability. Participants agreed to wait on reactions from expert academic representatives at the meeting on energy, resources and environment scheduled to take place over the next two days.

Action required:

i.   Leads of the remaining workshops to be advised to ensure that a costings model and the identity of suitable funding bodies and other agreed requirements are included in material prepared for Presidents in March.

ii.   Secretariat will circulate all research proposals to the IARU members with significant lead time to the Presidents meeting.

iii. Secretariat with the assistance of a select group seek external seed funding using the USD100,000 (from annual contributions) as leverage.

iv.   Members asked to send their research protocols to the secretariat (or identify sensitive areas).

v.   Chair IARU - members to send expressions of interest to the secretariat by the end of October.

vi.   Secretariat to approach current Chair on his views about extending his term.

vii. Secretariat will circulate options about the location of the secretariat for 2008-2009 and the long-term alternatives of the location of the secretariat.

viii. Secretariat will send an email to the Presidents seeking feedback for the 2007 Presidents meeting agenda and associated activities.

ix.   Tokyo to provide to the secretariat for circulation possible dates for the 2007 Senior Officers meeting to be hosted in mid - late September.

x.   Annual contributions to remain at $20,000.

xi.   Secretariat manage the process of vetting requests for seed money to assist in the research proposals being developed for the Presidents meeting in March and co-opt assistance as required.

xii. Secretariat to draft guidelines about the appropriate use of the USD10,000 funding

xiii. The secretariat will register the IARU trademark in the eight countries.

xiv. All IARU members will map their existing relationships, with the aim of increasing awareness of existing activities among partners and send these to the secretariat by the end of the year.

xv.   Members to provide comment to NUS about the proposed NGS – IARU Scholarship

xvi. Agreed the current benchmarking activities should be linked to the agreed legal data collection

xvii. John Lie (Berkeley) to follow through with the Internship Programs proposal.