AMPLIFYING IMPACT

TRANSFORMATIVE SOLUTIONS TO ASIA-PACIFIC CHALLENGES
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The Association of Pacific Rim Universities (APRU), established in 1997, is a network of leading universities for the Asia-Pacific region. As the voice of knowledge and innovation, APRU brings together thought leaders, researchers, and policy-makers to exchange ideas and collaborate on effective solutions to the challenges of the 21st century.
AMPLIFYING IMPACT

TRANSFORMATIVE SOLUTIONS TO ASIA-PACIFIC CHALLENGES

EXECUTIVE SUMMARY

Full report available September 2018 at www.apru.org

APRU IMPACT REPORT

2018
This report reflects the positive impact of bringing together the social sciences and humanities with science and technology disciplines to address global challenges. Furthermore, it demonstrates the necessity of doing so if real solutions are to be found that are tailored to a wide diversity of contexts.

Underlying the critical issues of the Asia-Pacific region is the relationship of research and technological discovery to inequality in all of its many forms: economic, race, gender, social class, differential vulnerability to climate change, and health threats. Research universities are uniquely placed to respond, owing to their comprehensive range of capabilities and their deep links to their own societies. Many of the case studies in this report exemplify this role of social responsibility.

This second impact report naturally builds upon the first report, which mapped the research expertise of APRU member universities in order to provide an evidence base of their capabilities with respect to specific regional issues. It demonstrates the various models of cooperation that actively inform policy and practice through a neutral, international platform that encourages partnership and innovation.

The report also highlights the amplifying effects of an international network of leading universities that builds cooperation across the region and across borders of nations, discipline, language and culture – even in spite of tensions between countries and the competitive pressures of commercial interests.

The intersection of all these factors in an evolving context where actions are both local and global has given new salience to the APRU network. Collaboration with international organizations, governments, and business increases the impact of all we do and is building a new dimension to the international architecture of the Asia-Pacific region.

This report samples only a few of the many initiatives undertaken by our members and the network. It is intended as a basis for discussion and debate, as well as the development of new ideas, and lays the foundation for the creation of additional partnerships for research and policy impact.
Preface

A trend of profound significance is shaping global science, running counter to heightened nationalism and the shift away from multilateral cooperation. A massive expansion in international scientific collaboration over the last 30 years has produced a system of open networks that, unexpectedly, does not mirror global geopolitical power and is not directly subject to national governance or evaluation regimes, yet enhances the quality of national science.  

More study is needed to better understand this new global system and its influence on national science policy. However, it appears that the complexity of the global challenges facing humanity is partly responsible for this phenomenon. Most nations now participate in international research networks, rather than just a core of advanced economies. These networks focus around topics, geographical regions, or international relations contexts, and are affected by factors such as equipment location (telescopes, particle accelerators), access to specific physical zones and resources, dispersal of talent, and the financial opportunities of cooperation.  

This research suggests that the increased usefulness of APRU as an international network across the vast, diverse Pacific Rim derives from the many complex, cross-border challenges and the international research collaborations of its member universities intersecting with this new global system. Leveraging or even creating the underlying networks focused on specific questions, APRU acts more and more as a super-connector for solutions to global issues at both the policy and research levels.  

This trend in global science provides the framework for this Impact Report, which examines a range of models for international collaborations on key challenges for the Asia-Pacific region: climate change, artificial intelligence (AI) and its implications, disaster risk and recovery, sustainable cities and landscapes, global health, women in leadership, and aging populations. Over 20 years, APRU has developed into a resilient network of collaboration and trust, producing significant outcomes in education, research, innovation, and policy impact. This report focuses on APRU’s achievements in interdisciplinary projects. The case studies and metrics aim to provide an evidence base for debating how to create even greater impact. We know we are just at the beginning of the journey.  

A major theme is the necessity for collaboration between the social sciences and humanities (SSH) disciplines and the science, technology, engineering, and mathematics (STEM) disciplines. To this end, this report looks at capabilities in the SSH disciplines and ways in which they work with STEM disciplines.  

The social sciences and humanities are essential for comprehending social, political, economic, and environmental contexts; as well as understanding different perspectives, languages and cultures; for critiquing society and its conventions; and contesting historical assumptions. These two fields are vital resources at a time of rapid change, technological innovation, heightening tensions and conflicts, and political or commercial interests influencing notions of the common good, public ethics, and social values. The need for the SSH disciplines is especially attested to by the ubiquity of digital media, developments in AI and the use of big data. The social implications are unknown and likely to be pervasive. Core issues include framing the right questions, and interpreting and validating results. These tasks require knowledge, skills, and insights applied across disciplinary boundaries of both the SSH and STEM disciplines.  

The impact of today’s technology so deeply touches upon the very existence of humanity that, at a minimum, the inclusion of the SSH disciplines lessens the chances of unintended consequences. More optimistically, such collaborative models will provide timely solutions to key questions about the health of the planet and the survival of the human species.

Christopher Tremewan
Secretary General
KEY FINDINGS

The effective application of new technologies to Asia-Pacific challenges requires increasing capabilities in international, interdisciplinary and cross-sector collaboration.

Emerging interdisciplinary models of cooperation between STEM and SSH disciplines draw on the APRU network to amplify their effect.

In countries where capacity is most limited, the need for SSH expertise – which takes into account unique cultural, linguistic and historical contexts – is often greatest.

APRU is bridging gaps in regional SSH capacity, supporting and connecting emerging researchers around the Pacific Rim to shape a more sustainable future.

The share of funding for SSH disciplines has declined in most countries across the Asia Pacific, even though there is wide acknowledgement of their relevance to solving critical issues.

Over 38% of research output by APRU members is collaborative internationally, a rate far in excess of Asia-Pacific and global averages, which demonstrates high connectivity within the global system of research networks.

The rate of cross sector collaborations has increased amongst APRU members by around 8% based on publications, demonstrating the network’s growing amplification potential.

Citations are significantly above the global average across all disciplines including SSH and STEM, demonstrating APRU members’ strength of academic performance, confirming APRU’s credibility as a knowledge partner.

Focus on interdisciplinary research is rising globally, with recognition of the need to draw on both STEM and SSH expertise to address society’s challenges. Over the past decade there has been an 85% increase in publications that mention interdisciplinarity, compared to a 31% rise in publications overall (1).

(1) in the Scopus database
EXECUTIVE SUMMARY

Today’s challenges, from climate change to migration, from health and population aging to the impact of AI, transcend borders and cannot be solved by one country alone. Yet multilateral cooperation is under threat.

For more than 20 years, the Association of Pacific Rim Universities (APRU) has brought together experts and leaders from across 17 societies. The geographical reach of APRU’s network is unique as the only university alliance spanning the Americas, Asia and Australasia.

LEVERAGING NETWORK EFFECTS

This network of 50 leading research institutions provides a platform for partnerships with international organizations, governments, business, and local communities on global issues impacting the Asia-Pacific region; a region that is home to almost half the world’s population and the most dynamic economies.

APRU has an extensive and diverse research capacity with over 150,000 researchers across the region, and in some disciplines, such as psychology, a surprisingly high percentage of the total Pacific Rim research capacity. Networks associated with some of the programs shown in Figure 1 provide a strong foundation of connections between these researchers and other regional stakeholders. The APRU Global Health Network, for example, now brings together over 1,000 stakeholders from over 25 economies to consider challenges such as the rise of non-communicable diseases in the region.

Through relationships of trust established over two decades, APRU is able to harness creativity and source solutions from across its membership to contribute towards solutions to existing and new challenges. A recent example in this report describes work to raise awareness of The United Nations’ 2030 goals for a sustainable ocean. APRU is also able to raise the visibility of such issues, both amongst student bodies and more widely through partnerships, for example, with the media (e.g. The New York Times).

INTERDISCIPLINARY SOLUTIONS AND CAPACITY-BUILDING

The case studies in this report demonstrate how APRU research universities are responding to the complexity of global challenges by engendering new models of collaboration across the disciplines of social sciences and humanities (SSH) and science, technology, engineering, and mathematics (STEM). APRU also brings an understanding of a wide diversity of socio-economic contexts and cultural perspectives to its interdisciplinary platforms and initiatives.

APRU members collectively have significant capacity in SSH disciplines, which increasingly intersect with STEM disciplines – not only in health policy, business, psychology and economics, but also in areas that have conventionally been thought of as the preserve of science and technology.

Members and APRU programs described here are therefore bringing together new combinations of expertise, for example: engaging the humanities to improve the sustainability of life in today’s cities, or understanding how digital technology and AI will transform the future of labor. Collaborations with Google on AI provide one example of work in this area. APRU members are bridging gaps in regional capacity, and supporting and connecting emerging researchers to their peers around the Pacific Rim to shape a more sustainable and inclusive future.
OPPORTUNITIES AND IMPACT

The ability to relate research and education to international public policy means APRU has increasing relevance, reach and impact beyond academia. Holistic solutions to regional challenges require ongoing cross-sector and international dialogue. This requires structures and mechanisms to bring players together, and to build trust between those involved. Yet, in many areas, neutral international conveners are lacking. APRU maintains political neutrality without emphasis for one economy over another, and does not hold a stake in any particular solution. Through its closely-knit network, it also offers a level of dynamism and response not always possible in larger intergovernmental organizations. The network focuses on key areas where other players are lacking, or where the group can realize the greatest impact.

With over 20 years of experience in leading interdisciplinary programs (Figure 1), APRU has long been bringing together academics, policymakers and practitioners from across the Pacific Rim. Such experience is described in detail in Chapters 2 and 4. This report provides an evidence-base of work to date, highlights the evolution of the organization, and showcases examples which may help further tap potential amongst members.

Activities within APRU create opportunities for bright minds to come together from diverse backgrounds. Each program has its own focus, but all engage in complementary activities involving research, capacity-building, and informing policy and practice.

APRU’s key advantage as a convener on regional challenges is the responsibility of its members for educating students across the region. The 2 million students currently enrolled in member institutions have a voice in society and also constitute the future leaders of government, business and industry. Through the network, institutional leaders are able to discuss the future of higher education and how to address future capacity needs, both with each other and with regional partner. Programs under APRU’s umbrella work to address skills gaps and formulate best practices for education and training (e.g. for healthcare professionals).

The network also acts as an agent of change, both through thought leadership and through example, across a range of issues. This is evidenced in APRU Presidents’ commitments to gender equity developed through the Asia-Pacific Women in Leadership Program, and in statements on employee wellbeing and smoke-free campuses through the Global Health Program. One chapter focuses on the Global Health Program: an area of high importance across all economies with a strong history of interdisciplinary collaboration.
AMPLIFYING THE ASIA-PACIFIC VOICE OF KNOWLEDGE AND INNOVATION

APRU’s contributions to society are amplified through external partnerships. Connections to policy, industry, and international dialogue are key points of value for the membership. At the same time, partners benefit from access to the resources of many universities through one point of contact. An essential strength of the network lies in its diversity and its ability to harness and synthesize these resources for external parties, which adds significant value.

Repeated and growing engagement with partners over time (as shown in Figure 2), highlights both the partnership value and maturing nature of APRU as an organization. It has also led to APRU members working towards building new models for collaboration to enable timely and responsive input. APRU strongly advocates for evidence-informed policy and, through such relationships, brings research to bear on policy formation.

This report offers case studies and metrics to resource the further development of effective responses to the key issues of our time by research universities, multilateral organizations, business, government, and communities acting in partnership.

Figure 2: APRU partnerships since 2007. These have grown as the organization has matured. Colors of branches relate to each Pacific Rim Challenge (see key).
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