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How higher education is accelerating research and innovation across Asia and the Pacific

In universities and research centers across Asia and the Pacific, change is gathering pace. Lecture halls are shaking up the way in which students learn, placing greater emphasis on technology and critical thinking. Laboratories are challenging conventional wisdom, and technology parks are helping shape start-ups and social enterprises. As megatrends such as climate change, digitalization, and ageing populations redefine what it means to learn and work, tertiary education has a new role to play in preparing graduates with the skills and competencies for tomorrow's challenging world.

The Asian Development Bank (ADB) is helping higher education systems lead the way in creating solutions for some of the biggest challenges. As the region transitions to higher-income economies, it is ideas rather than factories that will drive the next wave of growth. Universities, research centres and and innovation start-ups are crucial to ensuring this creativity translates into inclusive and sustainable progress.

From vision to reality

If the region is to transform from labor-intensive to knowledge-based economic models, new approaches to skills development and research are needed. ADB's Strategy 2030 and Asia 2050 reports place education, science, and technology right at the heart of this transition. But many tertiary education systems are struggling with a lack of funds and outdated curricula, restricting the extent to which they can be a part of this shift.

This is where ADB's unique role comes into play. By investing in programs that modernise curricula, update teaching methods and build stronger links with industry, ADB is helping universities lead change rather than follow it, repositioning tertiary education as a key player in the innovation ecosystem.

Building the foundations for future learning

University campuses are more than just a physical space for lessons. If well-designed, they can inspire curiosity, help students connect, as well as keep education going even in times of crisis.

In the Solomon Islands, higher education has taken a decisive step into a greener, more sustainable future. The newly completed University of the South Pacific (USP) Solomon Islands Campus, supported by ADB's Higher Education in the Pacific Investment Program, has set a benchmark for tertiary education in the Pacific and is the first climate-resilient, solar-powered tertiary campus in the region.



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Built in one of the world's most climate-vulnerable nations, the campus is an example of innovation. Designed with rainwater harvesting systems and disaster-resilient architecture, it serves as a model for future green design in small island states. The open courtyards and accessible grounds promote inclusion for learners of all abilities, and with an increased 4,000 student capacity, female enrolment has risen significantly and now accounts for over half of student intake.

Across the region, ADB is helping countries build learning environments that reach more people, respond to environmenal realities, and inspire learners to shape their own future.

Quality and relevance at the heart of learning

While new facilities inspire learning, it's the quality of teaching that truly drives change. Across Asia and the Pacific, countries are recognizing the urgent need to improve the quality and relevance of higher education programs to meet the rapidly-evolving needs of labor markets. ADB's Second Strengthening Higher Education Project in Lao PDR has helped graduates gain new skills demanded by the diversifying economy. Four major public universities have upgraded not only their facilities but also their curricula, with more than 1,100 faculty members trained in modern teaching methods. New centers of excellence now focus on applied research in key sectors such as agriculture, tourism, and water management, while entrepreneurship models have been introduced across multiple degree programs. The result is a more responsive learning environment that facilitates greater interaction with local industries.

In Bangladesh, ADB is helping three leading universities tackle the critical shortage of skilled resources as part of its Improving Computer and Software Engineering Tertiary Education project. New courses integrate artificial intelligence, robotics, and the Internet of Things, while start-up initiatives connect students with companies to work on innovative joint research programs. With a focus on increasing womens participation and providing hands-on experience, it is expected to significantly enhance graduates' employment success, as well as upskill and reskill mid-career workers.

Ecosystems of innovation: Creating the spaces where ideas thrive

When students have the opportunity to share their knowledge and explore new ideas, innovation thrives. In Indonesia, ADB is helping universities become catalysts of innovation, prioritizing business opportunities that can address key challenges, such as youth unemployment. By including entrepreneurship education into higher learning, the approach is developing the skills, competencies, and mindsets needed to boost inclusive growth across the country.

One program that does this is the <u>Promoting Research and Innovation through Modern</u> and <u>Efficient Science and Technology Parks Project</u>. This ADB investment is helping to strengthen science and technology parks at four major universities – Bandung Institute



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of Technology, Gadjah Mada University, IPB University, and the University of Indonesia. The project is accelerating the upgrade of research facilities, initiating start-up incubation facilities, and funding research in priority areas, including renewable energy, electric vehicles and health sciences. Along with mentorship schemes and commercialization support, the parks have generated more than 260 start-ups, highlighting the country's growing capacity to turn ideas into economic realities.

Creating research universities: The engines of 21st-century growth

Further north, in Mongolia, a focus on science and technology subjects as the backbone for growth and competitiveness is reshaping the country's entire higher education system. The ADB's Research University Sector Development Program gave support to the Ministry of Education and Science in designing reforms to strengthen research capacity and embed science and innovation across all courses.

With the objective of transforming Mongolian universities into research-driven institutions connected to industry, a roadmap lays the groundwork to support the shift to a knowledge-based economy. With a specific focus on harnessing the opportunities of the green and digital transition, the program also included climate-resilient and green building standards for future educational infrastructure.

Research universities foster a culture of inquiry and innovation, and programs like this can help Mongolian universities move from being primarily teaching institutions to drivers of discovery and innovation.

Where systems connect, change accelerates

As well as helping countries stregthen their national systems, ADB is supporting regional cooperation, particularly in higher education and green skills development.

The <u>Central Asia Regional Economic Cooperation (CAREC)</u> initiative focuses on improving agricultural university programs, making them climate-smart to support the green transition across the region. The development of shared qualification standards, joint degree programs, and the establishment of a regional labor market information platform will help align education with the evolving needs of the regional workforce.

By harmonizing qualifications and skills recognition, the program is laying the foundation for the development of a regional education and innovation ecosystem. It is cooperation like this, linking knowledge, partnerships, and policy, that is helping bolster resilience and productivity across Asia and the Pacific.

Learning to invent the future





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While the challenges facing the region are significant, these projects tell a shared story of progress reflecting ADB's role in helping countries shift toward knowledge-based, high-skilled economies. With the right support, Asia's universities can unlock human potential and turn knowledge into impact. Progress across the region will not only be measured by what students learn and the certificates they achieve, but also by what they create, discover, and build for their communities and countries.

Case study details

Project	US\$	Status	Link to project data sheet
Higher Education in the Pacific Investment Program, Solomon Islands	15.4 million	Active	https://www.adb.org/projects/42291- 026/main
Second Strengthening Higher Education Project, Lao PDR	39.9 million	Closed	https://www.adb.org/news/adb-help- lao-pdr-improve-quality-higher- education-and-tvet
Improving Computer and Software Engineering Tertiary Education Project, Bangladesh	100 million	Active	https://www.adb.org/projects/50140- 002/main
Promoting Research and innovation through Modern And Efficient Science and Technology Parks Project (PRIMESTEP), Indonesia	138.52 million	Active	https://www.adb.org/projects/55063- 001/main
Research University Sector Development Program, Mongolia	800,000	Closed (2022)	https://www.adb.org/projects/52013- 001/main
Central Asia Regional Economic Cooperation (CAREC)	2 million (TBC)	Active	https://www.adb.org/projects/54234- 001/main

