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**AIC**  
ASEAN-India Centre at RIS

# AIC COMMENTARY

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## ASEAN-India Cooperation through Technical Education Partnerships

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*This commentary discusses the educational cooperation between ASEAN countries and India. It also highlights India's flagship ASEAN PhD fellowship programme and its benefits for the ASEAN countries. Besides, the commentary discusses the possibilities of sharing India's expertise for collaboration and support with ASEAN countries in the areas such as agriculture, telecommunications, information technology, education, marine research, smart and sustainable infrastructure and habitat, advanced biological and healthcare systems and engineering.*

### 1. Introduction

India has strong economic and political relations with Southeast Asia due to its historical, cultural, geographic, religious and ethnic linkages. The major areas of cooperation include tourism, culture, education, transport and communication. Over the years, India's partnership with ASEAN in general and Mekong countries, in particular, has made considerable progress. Under the Indian Technical and Economic Cooperation (ITEC) Programme of Ministry of External Affairs (MEA), over 1500 Cambodian nationals have been trained since 1981. The ITEC has been a very popular programme in Myanmar and the slots for the programme have been increased from 30 in 1996 to 240 in the year 2019-2020. Similarly, Vietnam is today one of the largest recipients of India's ITEC scholarships with over 200 slots presently offered on an annual basis. So far, India has trained about 1500 Lao PDR nationals under ITEC. About 10 Slots for ITEC Defence training had been allotted to Lao PDR for the year 2018-19. More than 600 officers from Thailand have attended various training programmes in India under ITEC scheme. In addition, through the defence training scheme, more than 65 officials from Thai defence forces have undergone training in India since 1986.

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In addition, the Government of India's Mekong-Ganga Cooperation Scholarship Scheme (MGCSS) has offered 50 scholarships every year for students of MGC countries to pursue undergraduate, postgraduate and higher studies in Indian universities.<sup>1</sup> The scholarships are meant for areas of contemporary relevance such as culture, Buddhist studies, ancient history, Sanskrit, Archaeology, IT, vocational training etc. Besides, Science and Technology Collaboration, ASEAN-India Collaborative R&D Programme, ASEAN-India Research & Training Fellowship<sup>2</sup>, ASEAN-India Innovation Platform and other various programmes through which MGC countries are also benefitting.

## **2. Strengthening Research and Education Partnership**

The Government of India is making significant efforts for strengthening ASEAN-India strategic partnership and promoting ASEAN-India dialogue and cooperation in the areas of mutual interests. India is a major global information technology hub with around 75 per cent of global digital talent present in the country. India's software industry can provide support and digital transformation in ASEAN countries. There is enough scope for premier Indian institutes like IITs, the Indian Institutes of Management (IIMs), All India Institute of Medical Sciences (AIIMS), Indian Institute of Science (IISc), National Institute of Science Education and Research (NISER), Indian Institutes of Science Education and Research (IISER), etc. to assist the education systems in the ASEAN countries and to carry out scientific research in partnership with them.

On 25 January 2018, during the 25th anniversary of ASEAN-India Commemorative Summit, the Indian Prime Minister, in the presence of the leaders of all 10 ASEAN countries, announced 1000 fellowships for ASEAN citizens to pursue integrated PhD programmes at prestigious IITs of their choice<sup>3</sup>. This fellowship aims to support research study exclusively for aspirants from ASEAN countries and in commemoration of the 25th anniversary of the warm and friendly ties between India and ASEAN. This is the first initiative, where India's best institutes such as IITs have been roped in for capacity development and foreign science and technology education, and exclusively for ASEAN.

The Ministry Education (MoE) has approved a total outlay of Rs. 300 crore for the programme for over a span of 7 years. In this programme, aspirants from ASEAN countries get a chance to finish their PhD with Government of India funding that will provide a generous research grant and stipend at par with Indian nationals for up to 5 years. The first batch of the ASEAN students was admitted in January 2020. Admissions under the programme will be staggered over three academic years, i.e. 2019-2020, 2020-2021 and 2021-2022, according to the current plan with funding approved for up to 1000 students. Needless to say, this does not guarantee 1000 admission offers. PhDs at IITs are comparable to the best in the world in terms of rigour and academic impact. Accordingly, incoming students will be evaluated for their potential to overcome the challenges involved. Selected students will get a stipend of Rs. 31,000 per month for the first two years and a stipend of Rs. 35,000 for the next three years. Several other benefits include research grant of up to Rs. 170,000 for research expenses such as travel, books, contingency etc. and accommodation Monthly House Rent Allowance.

The IIT Delhi<sup>4</sup> has been designated by MoE as the coordinating IIT for the ASEAN PhD fellowship programme. Several prestigious ASEAN universities have expressed their enthusiasm for working together with IITs. This Fellowship programme will certainly strengthen the deep and historical ties between India and ASEAN by contributing to the development of human resources in ASEAN countries. It will also strengthen the research ecosystem of IITs, while enhancing international student diversity at the IITs, contributing to greater global recognition of the IIT brand.

IITs are apex institutions for engineering education and research. The main objective of IITs is to impart world-class education in engineering and technology, to conduct research in the relevant fields, and to further advancement of learning and dissemination of knowledge. Educational institutes in India are contributing significantly to education and research in various fields of basic sciences and humanities. Besides, it is contributing to specific areas of cutting edge and interdisciplinary research in science and technology, such as space technology, where ASEAN countries are facing many challenges in their pursuit of a space programme. These countries look to space powers such as the USA, Japan, China and India for developing their space programmes. More importantly, PhDs at the IITs through ASEAN Fellowship Programme can help access the knowledge of space technology and this knowledge and technology can spread across the ASEAN countries.

Biotechnology is another area where ASEAN PhD Fellowship will immensely help candidates those who want to pursue research in modern biotechnology in IITs. This will stimulate the spread of knowledge and technology to enhance efficiency, productivity and cost-effectiveness of agriculture, nutritional security, molecular medicine, scientific and technological empowerment of human resource across ASEAN countries.

IIT provides critical research inputs in all aspects of energy sectors as well as innovative technologies for energy systems by providing solutions to generate clean energy and develop energy systems to meet future energy demands. The areas include renewable energy systems, nuclear energy, oil and gas, energy efficiency, etc. IITs at Delhi, Madras, etc. have set up a centre to facilitate research in renewable energy and entire domain of solar energy research. Mentoring students through the ASEAN PhD Fellowship programme will help in the development of science, technology and innovation for the increasing use of renewable and alternate energies in the ASEAN states. With the research expertise in climate and environmental sciences, IITs will help in creating an active R&D network through ASEAN PhD Fellowship program that will be useful for ASEAN member states.

### **3. Opportunities**

The capacity of ASEAN countries like Cambodia, Myanmar and Lao PDR higher education institutions, university-based research capability, S&T and research outputs are relatively low.<sup>5</sup> IITs collaborate with many international institutions and organizations in the form of faculty exchange, student exchange, joint research and development projects. Some specific observations and ideas for Mekong subregion nations are described below.

Cambodia has more than 40 public universities and a number of private universities offering programmes in science, technology, agriculture, education and medicine. However, there are limited trained scientists and engineers and their doctoral programmes are also limited to very few specializations. Indian private sector companies have made their presence in the automobile, mining, and pharmaceutical sectors in Cambodia. In Cambodia, India can help set up indigenous research and PhD programmes, human resource development particularly for faculty members and train for that. It can provide technical advice on agriculture production and development in Cambodia. Indian universities can collaborate with public and private units in Cambodia to enhance agricultural engineering and technology research and set up Agro-research programmes in Cambodia. Given that Indian institutions, especially IITs, have developed their research and doctoral programmes from scratch, they have valuable experience that can be leveraged by Cambodia, facilitated by the ASEAN PhD Fellowship Programme. For example, alumni fellows of the programme, can be further trained, in collaboration with Cambodia, to kickstart major education and R&D programmes.

In Myanmar, Engineering & Technology and emerging technologies like biotech, nanotech, automation and AI/IT are still in developing stage. Collaboration from Indian universities in these areas of sciences to promote collaborative research across Institutions need to be generated. In Myanmar, several Indian companies have made investments in the energy sector. India can help to develop a partnership in priority areas like materials science, telecommunications, information technology, renewable energy, hydropower, etc. It can help to develop mutual industrial relationships in selected technology areas with a focus on R&D partnerships. Further, India, specifically IITs through this programme can provide extensive opportunities for advanced doctoral training for the current faculty members with a master level qualification in its multitudes of universities. Thus, the programme, and IITs, can become a key partner in developing Science and Technology education and R&D leadership in Myanmar.

According to UNCTAD publication on Science, Technology & Innovation Policy Review, areas critical for Thailand's development are supporting innovation in small-scale agriculture and promoting the development of human resources in science, technology and innovation.<sup>6</sup> India can develop close cooperation with Thailand in defence, security, education and S&T. It can provide support for faculty collaboration and Indian universities can help to develop a partnership in areas such as agriculture, energy, environment, smart and sustainable infrastructure and habitat, advanced computational systems, artificial intelligence and data science.

Lao PDR is presently developing S&T policies, strategies, innovation infrastructure, and utilization programmes. Its S&T human resources, investments and outputs are very low. Disciplines like basic sciences, agriculture and related sciences, medical sciences, engineering & technology, and emerging technologies like biotech, nanotech, automation etc. are still in developing stage. So, there is a high potential for research and education programmes in these sectors. In Lao PDR, Indian investments are concentrated mainly in the agricultural plantation and mining sectors. Various research fellowships and collaboration from Indian universities in areas like agriculture, water resources, information and

communication technology can be implemented, with an initial push coming through the ASEAN PhD Fellowship Programme. There are also opportunities for India to create Indian businesses in technology advisory and setting up global campuses in Lao PDR. To deliver global impacts, joint teaching/research programmes can be explored and alumni of the ASEAN PhD Fellowship Programme can be the founders of such initiatives.

India has a long-standing development partnership with Vietnam. Many Indian firms have made significant progress in Vietnam's oil exploration and renewable energy market. To deepen its exceptionally friendly and cordial relations, India can extend cooperation to Vietnam in the fields of science and technology. Vietnam has been investing much for several decades in human resource development and in R&D for vaccines, energy efficiency, food processing and climate change programmes. Collaboration in these S&T areas can help in promoting capacity development in both countries. India can aim to develop a partnership in specific areas like marine research, nanotechnology and new materials, automation, environmental protection and natural disaster prevention, advanced biological and healthcare systems and engineering and space technology. Expertise and strong research programmes in each of these disciplines are already flourishing at IITs, as described above. The ASEAN PhD Fellows will get exposure to all of this while pursuing their PhDs. They can utilize the expertise and network so acquired for further development back home in cooperation with India.

#### **4. Conclusion**

The gaps in various sectors in Mekong countries offer many opportunities for India and there is significant scope to expand technical programmes, educational cooperation and research collaborations in these countries. A large number of programmes are implemented with the objectives of supporting science and technology, promoting education cooperation, and providing research scholarships. Through ASEAN PhD fellowship program, the single largest capacity development initiative of India, aspirants from ASEAN countries will get an opportunity to work at IITs in different socio-economic sectors. Through this program, India-ASEAN strategic partnership in the technical education sector will grow stronger in the future, meeting the expectation of the people in the new period. Besides, faculty members from ASEAN universities and stakeholders from other institutions, including those in the government and non-profit sectors are welcome to explore collaborations and joint research projects with a part of the funding coming from the ASEAN PhD Fellowship Programme. There are many fast-emerging new sciences around the world which are interdisciplinary or multidisciplinary that require multiple skills to succeed. Collaboration is the key to success in these sciences and hence mechanisms to promote collaborative research across individuals, disciplines and Institutions need to be formulated. New collaborative research projects in areas like agriculture, information technology, advanced healthcare systems, science and technology should be undertaken between India and Mekong countries.

## Endnotes

1. Refer, for example, AIC-RIS (2017)
2. Refer, for example, [www.aistic.gov.in/ASEAN](http://www.aistic.gov.in/ASEAN) website for more information
3. Refer, for example, <http://asean.iitd.ac.in> website for more information on ASEAN PhD Programme
4. Indian Institute of Technology Delhi is one of the twenty-three IITs created to be Centres of Excellence for training, research and development in science, engineering and technology in India. IIT Delhi has been designated by MoE as the coordinating IIT for the ASEAN PhD fellowship programme.
5. Refer, for example, ASEAN (2017)
6. Refer, for example, UNCTAD (2015)

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## About AIC

Considering the work of the ASEAN-India Eminent Persons Group (AIEPG), and its Report with recommendations for forging a closer partnership for peace, progress and shared prosperity, the Heads of the State/Government of ASEAN and India at the ASEAN-India Commemorative Summit 2012, held at New Delhi on 19-20 December 2012, recommended the establishment of ASEAN-India Centre (AIC), which was formally inaugurated by the Hon'ble External Affairs Minister of the Government of India on 21 June 2013 at RIS. AIC serves as a resource centre for ASEAN Member States and India to fill the knowledge gaps that currently limit the opportunities for cooperation. AIC is closely working with the Indo-Pacific Division of the Ministry of External Affairs (MEA), Government of India to undertake and disseminate evidence-based policy research and provide policy recommendations.

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