

Genesis of IITs

I read the editorial¹ 'IIT, MIT and the evolution of institutions'¹ only recently at the same time that I acquired a copy of the recently published *Sixty Years in the Service of the Nation – An Illustrated History of IIT Kharagpur*². The editorial, full of references to IIT Kanpur, has only a passing of mention of IIT Kharagpur, the first IIT to be set up in 1951, about 7 years before the next one at Mumbai. Thus I think some supplementary information is called for.

The comment by Balaram that IIT Kharagpur 'got no direct advice from MIT' is correct, but where did the idea of MIT as a model originate? Strangely in the colonial era, it came for A. V. Hill, a Nobel Prize winner in Medicine from the UK, who was deputed by the Royal Society and who wrote in his report, 'there is no institution as yet in the UK comparable in magnitude, in the quality of equipment and in excellence of teaching and research work with MIT at Cambridge or indeed several similar institutions in the USA ...'. It was after this that Ardeshir Dalal, a Member of the Viceroy's Council in charge of the newly created Department of Planning and Development, visited MIT and announced in September 1944 that an 'Indian MIT' would be set-up.

The name Indian Institute of Technology was arrived at after much debate, one of the suggestions being 'Higher Technological Institute (Kharagpur)'. Fortunately the Education Minister, Maulana Azad and J. C. Ghosh, the first Director, suggested the present name which gave it an all-India flavour. The problems of site selection, guided by the Sarkar Committee Report, are also presented in the volume mentioned above. The report proposed a site near an industrial hub. After much vacillation, the Chief Minister of West Bengal, B. C. Roy clinched the deal by offering the vacant Hijli concentration camp with surrounding land owned by the government. Kharagpur was also a railway junction at the intersection of the Bombay and Madras lines, quite a locational advantage in those days.

In hindsight, it was just as well that there was no umbilical chord tying it to any particular Western institution. Cambridge, Mass, is far removed from Hijli, Kharagpur, which required a purely residential institute. The founding fathers in their wisdom also had an eye for national needs. Thus priority was given to Departments of Agricultural Engineering, Architecture and Regional Planning, Chemical Engineering, Geology and Geophysics, Naval Architecture and in 1956, Mining Engineering was established. For long it remained the only IIT with these departments. It may be recalled that Subhas Bose as Congress President in an interview given to M. N. Saha for the Indian Science News Association in 1938, emphasized that the country needed experts in mining, metallurgy, geology and chemical engineering.

IIT Kharagpur began with a totally global approach with foreign assistance through UNESCO, from the UK through the Colombo Plan, and from USA through the Technical Cooperation Program (TCP). Thus the first visiting professors, including founders of some departments, were eminent scientists from USA, the UK, USSR, Germany, France, Poland and Norway. The exchange programmes also facilitated visits of staff from IIT Kharagpur. It transpired that most of the US faculty came from the University of Illinois (UIUC), which has a similar ambience with excellence in agriculture, as well as physics and electrical engineering. Thus many of the best students found their way to UIUC. The permanent faculty as well as students at IIT Kharagpur were drawn from all over India, there being quotas for less-developed states. Ghosh brought quite a few faculty and staff with him from the Indian Institute of Science, Bangalore. Among the research students was C. N. R. Rao, who spent a year before being encouraged by Ghosh to go to USA.

The new pathways in technological education in India were laid at IIT Kharagpur. These included the semester system of teaching and evaluation, the

residential requirement for both students and faculty who had clearly specified 24 × 7 duties, tutorial system – now fallen by the wayside – not to mention the rigour in teaching, discipline, punctuality and absence of parochialism embedded in the IIT ethos.

IIT Kharagpur at Hijli has a historical legacy being the site of the infamous concentration camp, which saw the incarceration of freedom-fighters without trial; and of the shooting down of two prisoners in September 1931, whose bodies were taken to Kolkata by Subhas Bose and Jatin Sengupta. Tagore addressed the memorial meeting at the foot of the Ochterlony Monument and wrote his famous poem, *Prasna* addressed to the Almighty. Gandhiji visited Hijli in November 1937 to try and dissuade the prisoners from their path of militant nationalism. History records that his attempt failed. Much of this is recorded in the Hijli Shaheed Bhavan which houses the Nehru Science and Technology Museum, and also in the Diamond Jubilee publication mentioned above.

The editorial¹ points out that it took MIT 70 years to emerge from an undergraduate teaching institution to its present position as a leading research institute. It is also not unique – it should be remembered that much of the electronics and IT revolution occurred around Stanford and Berkeley. The oldest IIT has just completed 60 years. All the IITs have produced students that the country can be proud of. We still have a long way to go, but freedom was not won in a day.

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1. Balaram, P., *Curr. Sci.*, 2011, **100**, 599–600.
 2. *Sixty Years in the Service of the Nation – An Illustrated History of IIT Kharagpur*, Orient Blackswan, New Delhi, 2011.
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