

# Foreword

India's higher education has long been schizophrenic—some fine institutions, and almost all the others of a rather poor quality. On the one hand, the older Indian Institutes of Management (IIMs), the Indian Institute of Science, some of the Indian Institutes of Technology (IITs), and possibly four or five others, are among the few—the very few—that have won global recognition and peer respect. On the other hand, there are thousands of universities that churn out a few million badly educated, unemployable graduates each year, and next to nothing by way of quality research. Even in the best institutions, the amount and quality of research is hardly comparable with that in leading global universities. If they have made a name for themselves, it is more through the quality and achievements of their graduates, rather than through their research output. The ambition of having many Indian universities in the top 500 global ones, and at least a few in the top 100, has remained a dream.

Apart from government committees, a few scholars have looked in detail at the state of university-level education in India. However, such studies have rarely focused specifically on research in these institutions and how it can be nurtured. In many countries, the importance of research has been recognized through the creation of 'research universities'—institutions that generally have a strong education programme but where the primary focus is research. In the best of these places, the two are linked, and a synergistic relationship develops as an upward spiral. Such research universities were set up in Europe and USA over a century ago. Over the last two decades or so, a few other countries (notably China) have tried to emulate them.

India has been a slow (or even non-) starter and has less than 10 universities ranked in the top 500 of the Times Higher Education (THE) ranking. Global rankings have some drawbacks and flaws but are undoubtedly reflective of the overall standing of a university. The poor rankings of Indian universities are, therefore, worth taking note of, even though they reflect many external constraints, including those relating to foreign faculty and international students. Fortunately, there is growing awareness in India about the need to generally upgrade the quality of higher education and the importance of research—not only for its own sake but also as a vital input for the economic growth and development of the country. India can reap the true benefit of its demographic dividend only if the vast number of people entering the workforce (around 9 million each year) are well-educated.

For a country of India's size and ambition with regard to its global role, research universities that can generate human resources and IPRs (Intellectual Property Rights) at scale (and high quality) are a necessity. While many aspects may be unique to India, there is much that India can emulate—and even more that it can learn—from the experience of others.

An important issue for research in universities relates to research projects and funding. In most countries, much of the research funding goes to universities. A substantial part of the R&D spending by the government—including that related to defence and strategic sectors—as also by private industry, goes to universities as projects and grants. This has encouraged research and ensured funding support, leading to the growth of research universities. It has promoted cutting-edge work in universities and built strong industry-academia connections.

In India, on the other hand, a very large proportion of R&D funds goes to dedicated research laboratories/organizations within the government, and only small amounts find their way to universities. These not only absorb large funds but also researchers, making it difficult for universities to attract funds or people. This is changing, but only slowly. Meanwhile, industry-academia

connections are yet weak and not conducive to industry-relevant research.

These factors have greatly inhibited the development of research universities, as also of a research culture in other universities. The recent thrust towards greater research in universities has focused attention on factors that would help to create the right institutional setting for this. Many of the obstacles have been long-recognized and inhibit not only research but also the overall quality of universities. The first of these is at the overall level: over-centralization and over-regulation. In a country as diverse as India, it is obvious that a central diktat, a one-size-fits-all model, will not work effectively. Yet, this is the long-prevalent approach. Not only do central regulators like the University Grants Commission (UGC) and All India Council for Technical Education (AICTE) issue detailed instructions, but the Ministry of Human Resources Development (HRD) also often issues even more specific ‘orders’. This completely erodes the autonomy of universities, and—as always—standardization means lowering all to the least common denominator. Excellence, the hallmark of research, is the obvious casualty.

Financial autonomy is crucial. In India, practically all central and state universities are dependent on yearly government grants, and their fees are capped and set at levels that make financial independence infeasible. Around the world, there are a number of alternative models, but India has so far stayed with the yearly grant model, rather than moving to a formula-based financial support model. An important part of financial autonomy is with regard to the deployment of funds: can they be used for special research grants to faculty, or to reward the publication of papers, or for professional development (society memberships, conference travel, buying books), or for performance-based incentives?

Centralized and standardized admission tests are another challenge. In many universities abroad, even when such a standard test is used, individual universities add their own supplementary tests to decide on admission. In India, on the other hand, the

model is the IIT–Joint Entrance Examination and a single ‘merit list’, common to all IITs. The IIMs have followed a different model, supplementing the standard Common Admission Test with their own screening and interviews, but there is pressure to regress to the IIT common/single-merit list.

Another factor is the trend of creating single-discipline institutions. While this method has resulted in some high-quality institutes—notably in management, law, design, technology and science—it is not conducive to innovation (which typically happens at the interface of or interaction between two disciplines), nor to the growing cross-disciplinary products (and needs) that are emerging. Most top global research universities are multidisciplinary.

These and other factors severely inhibit innovation and excellence in the Indian higher education system. Amidst this, the IIM Act, passed by the parliament two years ago, came as a breath of fresh air reflecting new thinking in governance and financial autonomy. It is far from ideal, and many of the suggestions made to provide greater autonomy were rejected, but it is certainly a step forward from the existing rules applicable to other institutions.

Fortunately, there are some in the government who recognize the need for drastic systemic reform and see research universities as a means to drive excellence in higher education. There are also many good leaders in various universities who are keen to consider steps to improve the quality of education and research. As they look at how best to do this and consider the various possibilities, a good starting point would be to look at examples and experiences from different countries. Collating and analysing these is, therefore, particularly useful.

It is in this context that this book is of special value. It takes a close look at India’s higher education system, and at universities in various other countries, with a focus on research. The author has a deep and long experience of teaching and researching at two of India’s top institutions (IIT Kanpur and IIT Delhi), combined

with industry experience (in world-renowned Infosys). Following this, he served for a decade as Founder Director of Indraprastha Institute of Information Technology, Delhi (IIIT-D), a unique university set up by the Government of Delhi and conceived as a research-led teaching institution—in many ways, a ‘research university’. This path-breaking initiative—setting new benchmarks in governance, academic and financial autonomy—deserves wider dissemination and adoption; a first-hand description is, therefore, of special value.

Professor Jalote’s experience enables him to bring an overall perspective based on deep immersion in the higher education system, supplemented by his study of and discussions with key people in foreign universities, and visits to some of these universities. Apart from his own knowledge, he brings a lot of very useful data to the table and analyses it in ways that highlight key variables for success. Based on these, he synthesizes recommendations for what might be done in India. These would be of immense value to policymakers, institution heads and all interested in higher education. I do hope this will stir up debate and dialogue, leading to concrete action by way of systemic changes.

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