

# VIDYASAGAR UNIVERSITY



## *Ninth Annual Convocation*

*Address by*

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**SAHEED PRADYUT SMRITI BHAVAN, ZILLA PARISHAD**

**MIDNAPORE 721 101**

**PASCHIM MEDINIPUR, WEST BENGAL**

*Mr. Chancellor, Mr. Vice-Chancellor, Members of the Court and the Executive Council, Winners of awards and prizes, Graduates and Postgraduates of Vidyasagar University, Ladies and Gentlemen.*

It is a pleasure to get back to this University after a few years. The last visit (or the one I remember most clearly) was on the occasion when I was conferred the D.Sc. *Honoris Causa* of this University. I have not been in touch with the University during this intervening period, but I am sure there have been many achievements. Some of these you have just heard from the Vice-Chancellor. I cannot add anything in this regard.

I would, instead, like to bring to you my views of the "University of Tomorrow" or the "University of New Era". My comments would hold for Universities here or elsewhere in the world.

In several sessions of the United Nations University, of which I was Member of the Council, the question of University scenarios for the 21st Century has been discussed. This has been done in the Council meeting in Accra, Ghana where the emphasis was on African Universities ; later in Santiago, Chile where the attention shifted to Universities of Latin America, and then in Tokyo on the emerging scenario of virtual university. At this last meeting a discussion group was set up between scholars in Tokyo and a number of other countries, and questions were shot around for the panel that was assembled in Tokyo to answer. While this is a strategy that is bound to dominate distance teaching scenario in a few years, its success depends on the quality of information and of the network connecting the participants and the weakness, as usual, being the weakest link.

Leaving out the virtual university concept for the moment, the common threads in all these discussions were the questions of increasing financial stress of all Universities, of the need of imposing high tuition fees, of information explosion overtaking time for free thinking, of the cost of providing adequate number of books and journals, of the cost of maintenance of buildings, infrastructure and scientific instruments, of the rising salary bill. A common set of problems everywhere. Compounding all these is the atmosphere of benign neglect from Governments in many countries, of decreasing financial support, of the state belief that higher education must look after itself. In India we have the additional problem of

increasing number of teachers spending much of their time away from teaching, of students' and teachers'. Unions demanding privileges and exceptions often beyond the capacity of the University, of shoestring budget, increasing apathy, and of academic isolation in non-metropolitan areas.

In this atmosphere of non-support or at best inadequate support, what does the university do - raise tuition fees, get endowments, approach past students for help, go to industrialists ? All strategies are used - in various degrees. The most fiercely debated alternative is the question of tuition fees. In some countries these are really extreme. In the Tokyo discussion, the University Students' Association President of Japan mentioned that the yearly cost including tuition fees is the astronomical figure of \$ 60,000. In USA the cost is less but not much less. At the other end of the scale we have tuition fees as low as a few rupees a month, same as 30 years ago, many times smaller than the pocket expenses given to the student by parents. We are prepared to spend, in places like Delhi, more than thousand rupees a month for tuition, bus fare and a myriad of other demands for a primary class but not willing to accept some increase in university or college fees. Nowhere else is education so cheap as in India and not surprisingly so casually taken. Nevertheless, to our surprise, education at the top level remains worldclass.

Let me come back to my original theme : Tomorrow's University. Which way should we go ? Research, of course, must be the corner stone - not only in science, but also in humanities and professional areas, for capacity building is nothing without scientific thinking. For Research, support must be generous, for equipments are not cheap and the days of putting together something on shoestrings are gone. In the USA there is pressure on the faculty to bring in external funds to survive, and also to supplement own salary. We do not offer that pressure. Many teachers feel that if they teach well, this is sufficient. In many places the ultimate goal is to reach full professorship, then drift towards management. But management is not leadership. Incentives must be available at this stage also. The highly successful concept of giving Professor different salaries in proportion to their distinction is not one that we can easily introduce in India. This is for many reasons, including our fear of breaking new grounds, but I still feel that in Tomorrow's University, this is worth a thought. People are not equal. In education equal opportunity is useful but equal recognition has no meaning. I remember late Professor D.S. Kothari mentioning to me : "Give Readers the same salary as Professors, but do not give them the titles of Professorships."



In Research, to be internationally competitive, one can adopt a number of strategies.

One strategy, very successfully used in India, is that of establishing big national facilities with Universities as partners. In Physical Sciences, this has been done quite frequently. The most recent examples are the MST radar at Gadanki near Tirupati and the GMRT in Pune. Both are state-of-art worldclass facilities, planned and conceived in India, built by Indian scientists, examples of excellence that Indian scientists and technologists can achieve. The Gadanki radar explores the atmosphere over a large range of heights, has more than a thousand antenna elements, a peak pulse power of 2 MW at a frequency around 53 MHz and is carefully and lovingly maintained by a core group of only a few people. The UGC, to our delight, established and continues to support an University participating centre at Tirupati University bringing in University students and faculty for its use. The GMRT - the Giant Metre Wave Radio Telescope - is a radiotelescope of great imagination, complexity and promise and one in which the design itself has great scientific novelties. Both are national facilities and available for use by Indian scientists from Universities and elsewhere. The tragedy is that very few do so. The culture of going to a different place to collect data, then bring to your own campus to analyze the data to extract some new science seems to have few takers. Tomorrow's University must generate this culture.

Take the case of SROSS Satellite - a marvelous piece of work, housing two scientific payloads, one on X-ray astronomy designed by scientists from the Department of Space and the other on the ionized upper atmosphere of the Earth designed by the National Physical Laboratory. The data being collected are a goldmine. Nevertheless university scientists had to be coaxed to start using these data.

After several decades of space research with rockets and satellites, very few university researchers have ventured into such activities.

The second approach has been participation in large national and international programmes. The most successful was the IGY - the International Geophysical Year - nearly 50 years ago. The entire earth system was under investigation. The most heartening aspect was that participation from the universities was large - even from small colleges. The resulting Indian effort was, from hindsight, a major success.

A third approach - a very new one and one that I would like you to consider very seriously - is the "consortium" approach. Here we recognize the fact that no single group in any of the universities can, in present conditions, be very effective. There are many reasons - not merely lack of finance, but of concentration of resources and of providing an umbrella for coordinated and focused research. IUCAA is one such example. CMMACS of CSIR is another example. The Calcutta initiative of an integrated course in Physics using teachers from different Institutions and Universities with S.N. Bose Centre as nodal agency is another example of success.

Very recently I have suggested to the State Council fo Higher Education in West Bengal the desirability of establishing Inter-University Institutes on emerging and nationally critical areas as another version of the consortium concept. A new dimension can be achieved through selection of appropriate themes. The structure conceived in these efforts is that of an apex level Registered Society of which the participating Institutions and universities will be members. Each Institute could be located at one of the Universities where facilities and expertise in that area exist.

The advantage of such a system is the focusing of resources - both financial and human. Another advantage is that external funding, including International funding would be channeled largely into the nodal place, i.e., the whole community of scientists has basically one well-funded laboratory to work with. Individual universities would still have their own components of in-house research as elements of the focused programme. It would have the additional advantage of breaking down barriers between different groups - whether these are from the same universities or different universities. It will not be a simple process, but we will have to learn on the way.

Fourthly, a modern University has to be an "expression of the age, operating upon both present and future." I am quoting from the thoughts of Abraham Flexner in "Universities: American, English, German". The modern University can no longer be defined only in national terms. If these have to be expressions of the new age, there will have to be interdependence crossing national, cultural, socio-economic and political boundaries. This means "internationalization" of Universities. We have here a dichotomy. The University has, on one hand, to serve scholarship and national needs, and should have a national identity. On the other hand, internationalization will require free flow of knowledge of scholars and students, and of "multicultural" education. The imperative to internationalize also means a direction to



conform to contemporary measures of knowledge and worldwide practices of exchange. How do we harmonize the two? The imperative is to steadily move towards a knowledge resource that allows the University to be a creator as well as a consumer knowledge.

Fifthly, one has to make use of the current communication revolution. Contemporary communication technologies provide channels of dissemination of research results with a rapidity and a reach previously unimagined. The internet is aiding instant information flow that propels the scientist from the narrow corner of his laboratory to a "virtual" international scene.

As we begin the twenty first century, the world is moving through unprecedented changes. The end of the Cold War has brought chaos in its wake and a multitude of problems : reappearance of ethnic and religious conflict in many parts of the world, sudden collapse of a major political creed, a breakdown of carefully built scientific infrastructure in the erstwhile Soviet region. As if this is not enough, the liberties taken by humanity, in the name of development, with Nature, has opened a Pandora's box of global environmental changes that threaten the habitability of this earth.

The 21st Century is thus confronting us with two totally different kinds of global changes : one political and social, and the other threatening the very base of existence. To cope with these new catastrophies, we have to depend upon the scholars and the academics.

In all of these, the University must support Faculty Development. Only when a significant portion of the faculty have lived, taught, engaged in research or worked for extended periods abroad and have learnt to understand national problem in international dimension, can the knowledge work be internationalized. The University should also serve as Centre for knowledge resources serving the faculty and students, but also external bodies including industry. It is not merely a question of a great library, although traditionally collection of books and manuscripts into a library has been at the heart of University scholarship. Modern centres of knowledge now interconnect, through global networks, vast treasures of books, periodical and archival material. The faculty should be skilled in the use of such resources and the University would have to be part of this global resources. For this it has to create and not only accept. For unless you are also a provider, you cannot be a good acceptor.

Do we satisfy these criteria in Indian Universities ? For most Universities, this is not the case. Communication revolution has passed by many of our Institutions. Excepting in technology institutes, internet availability is still restricted. We provide little scope for foreign scholars to work in our Universities, although exchange of students and faculty with foreign universities is not difficult to arrange. It is the first step towards "internalization" I have seen increasing interest from academic community from countries like Pakistan, Bangladesh, Nepal, Sri Lanka, Vietnam, Thailand and from African countries, to come to India for specialized exposure, and sometimes for doctoral or postdoctoral training. TWAS-CSIR fellowships are designed for this purpose. South-South fellowships are also available from TWAS for research collaboration. We need more extensive coverages.

International knowledge assimilation takes places quite effectively in focused international programmes. A recent example was the INDOEX in which several countries including India undertook a two-year focused programme to measure production, transformation and transportation of aerosols in the Indian region during winter. This led to the discovery of the extensive wintertime "brown haze", leading to the initiation of a new programme called ABC. For programmes such as these there are no borders and provides the new knowledge resources - in this case on aerosols.

Partnership requires respect, acceptance and flexibility. I would suggest changing over from visiting faculty concept to "adjunct" faculty arrangements. And arrangements for pooling experimental facilities, library resources and computer arrangements. Funds will have to be arranged through large research projects. National programmes provide unusual opportunities in this direction, at the same time bringing the academician to the mainstream. There are many opportunities : satellite programmes of ISRO, new national facilities ; contemporary initiatives in energy, biotechnology, materials, global environment ; science-based rural technology programmes.

Ladies and gentlemen, all these can only happen if we have respect for Universities and believe University education is a need and not a luxury.

*Thank you.*