

VIDYASAGAR UNIVERSITY



SECOND CONVOCATION

CONVOCATION ADDRESS

BY

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Your Excellency, Vice-Chancellor, Professors of the Universities, Invited Guests, Students, Ladies & Gentlemen :

For a Young University — this is only the second Convocation of this University — creating an image and an identity is perhaps the most important initial task. I am told that this university has a rural bias. It started with the objective of teaching and developing non-conventional subjects and had the daunting task of building a centre of learning with inadequate infrastructure, a small number of faculty and administrative staff and at the same time isolated from the other universities of this state. The Vice-Chancellor's report during the last Convocation also mentions that this original

science behind technology development, of the interrelationships between science, technology, development and society, of constraints that limit or modulate and modify the efforts of technological steps such as those arising from global environmental issues. The key point is that the university is not there only to impart a particular skill, it must also provide opportunities for education in a variety of areas some of which may not even be directly related with the area of study.

Let us continue on this rural requirement theme. In December last, Prof. Paul Crutzen, the 1995 Nobel Prize Winner and his wife and some of us went to visit the Sunderbans, partly by road and partly by steamer. During this trip, several

always wondered about the availability of right kind of drinking water. There was no direct involvement of any neighbouring university.

To me it seems that the three key areas of concern in village life are: health, education, energy. All three require, in the present context, considerable scientific and social inputs at levels which the universities can impart. Let us look at these separately.

Consider energy first. The Framework Convention of Climate Change has imposed strict constraints on the increasing use of fossil fuel. Developed countries will have to bring back the carbon dioxide emission level to 1990 level by 2000 AD. Although there are no similar commitments for the developing countries, the pressure is strong and clear. In India the coalbased systems produce more than 60% of the carbon dioxide emission and the coal reserves are limited. Photovoltaic and biomass energy systems are coming up in large numbers. The development of these processes have been taken up in a number of academic institutions and national laboratories. These require a considerable amount of academic input and familiarity with modern technologies in order to be cost effective and adaptive.

Second, drinking water: the drinking water mission had several S&T inputs: finding of water, testing of water, upgradation of the water quality,

use of sea water and development of instruments of various kinds. Here is an example of mixture of traditional and high technology systems. For example, combination of groundbased geoelectric measurements with satellite remote sensing raised the success rate of striking ground water to 92%. The remote sensing system is an example of how one can use a very high type of technology for dealing with problems that have been with us for a very long time. There must be training elements concerning these science areas.

We now come to several other critical aspects of a university system. The first concerns the fact that this university is a part of a cluster of universities in West Bengal for which a coordinating body, the State Council of Higher

arrangements. It is absolutely impossible these days to have well-stocked libraries in all universities. Similarly, expensive equipments can be shared through electronic means or by physical accessibility. The sharing arrangement can only work if adjustments are made in the present administrative set-ups and opportunities are created for students and faculties in one university to visit another and if a viable electronic networking is created. This brings us up to the primary need of establishing a viable electronic network system connecting all universities and between universities and national institutes. There are several existing systems that might be made use of: ERNET, NICNET or VSNL. ERNET was originally set up for academic institutions and is widely used, but it is inadequate for downloading large volume of data. Even this limited facility is not available to many of the university departments. A first priority — a matter that I have brought up several times in the meeting of the Council — is to make sure that limited networking is established immediately.

The other networking arrangement could be based on a particular theme or research area. One example is the ECRA — the Eastern Centre for Research in Astrophysics — in which currently four Universities (Calcutta, Jadavpur, Burdwan and Kalyani) and a number of National Institutes (Bose Research

Institute, Saha Institute of Nuclear Physics, SN Bose Centre and the Assam Science & Technology Department) are partners. Here a specific connecting link is a set of topics in astrophysics with an initial emphasis on experimental radio astronomy. ECRA works under a MOU in which the participating institutions and universities share infrastructural and experimental facilities for an agreed programme and with initial financial support from the University Grants Commission. This is a trial arrangement, one that has seen teething troubles including slowness in operation and inadequacies in management.

Another example is the Centre for Mathematical Modelling and Computer Simulation (CMMACS) that I had set up when I was the Director General of the

core groups for administration and management which, like the ECRA, would have team members coming from the different universities and research institutions. The institute could be located on the campus of one of the universities. For West Bengal, several areas of excellence can be created in this way. These include: (i) information technology, (ii) global change science, (iii) frontiers in biological sciences, (iv) Energy.

Still another approach could be to take up an earlier suggestion of the joint CSIR-University Laboratories physically located on the campus of the university. This suggestion was incorporated in an agreement that I signed as Director General of CSIR with Prof. Yash Pal, then Chairman of the

that can substantially upgrade university research. This is the use of large national facilities such as the MST Radar in Tirupati, the GMRT in Pune or the Vainu Bappu Observatory in Bangalore. All these are worldclass facilities, the kind that exist only in few places in the world. These are also national facilities with specific financial arrangements for participation from university research faculty and students. In the case of the MST radar, there is for example a separate funding arrangement by the UGC operated through the university at Tirupati for university participation. Unfortunately, the universities have not shown much interest in using such large facilities.

We now come to another aspect: globalization of a university programme. This includes both conceptual globalization and physical

and mid latitudes and a change in the ecosystem. Human dimensions of global change require multidisciplinary approach involving both physical, biological, engineering and social sciences. The vulnerability issues are of immediate concern to many of the developing countries and particularly India. These include: global change and food security, global change and freshwater and global change and health. Very few universities are currently geared to taking a total view in quantitative terms of such an interacting complex system. The Interuniversity Institute on Global Change that I mentioned could address some of these problems.

The universities of course will have to gear themselves for the critical issues for the 21st

world produces more than enough food for the current population and with advances in biotechnology and biochemistry, improving crop yield and varieties, the food shortage will not represent a major issue but the issue could be equal distribution. Let us now consider how a world body thinks about the global issues facing us. The United Nations University has identified the following key areas:

the area of development

the area of environment

the area of peace and governance

the area of science and technology

These are connected with the different UN

has to be a mechanism to do so. This could be through research or appropriately organised courses in one or more Departments. The University Faculty may also like to participate in or make use of PhD or Postdoctoral arrangements to work on such global issues in one of the Centres of the UNU: in the Institute of Advanced Studies in Tokyo, the Leadership Academy in Jordan, the World Institute of Economic Development Research in Finland or the UNU International Network on Water, Environment and Health in Ontario, Canada.

There is also the matter of physical globalization. There is advantage of arranging joint programmes of study with a Foreign University in programmes of joint interest. In such programmes, stay and study in the Foreign

electronic networking and skill and expertise in modelling and simulation methodologies. This last aspect is one in which universities have a special aptitude. We should give serious attention to this. Since a new postgraduate programme in Geography and Environment Management has been initiated here, a relevant area will be Integrated Impact Assessment (IAM) of Global Changes. Such assessments include interactive relationships between physical impacts and social and economic considerations of impact and mitigation. This is an area of major global concern at this moment.

Ladies and gentlemen, universities are one of the few places which can integrate natural and social sciences. Without such integration, any major activities in the 21st century will be incomplete and weak. I hope this university can think of some specific areas of such integration for its focal theme: rural development. Taking such a step could set a standard for other universities.

Thank you ladies and gentlemen for listening to me. I wish you and the university a very good 1997.