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54th Annual Convocation

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Convocation Address

By

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Hon'ble Vice-Chancellor, Shivaji University, Prof. Devanand Shinde; Prof. D.T. Shirke, Pro-Vice Chancellor of the University; Shri Mahesh Kakade, Director, Board of Examinations and Evaluation; Registrar, Finance and Accounts Officer Members of the Management Council, Members of the Academic Council; Deans of the Faculties; Invited Dignitaries, Faculty and Staff Members, Students and their parents, ladies and gentlemen, I feel it is a matter of privilege and honour to address you all today on the occasion of the 54th Annual Convocation of Shivaji University.

Dear Students, I congratulate all of you who are graduating today from this institution of repute and excellence. You have reached a landmark in your academic career as well as in life today which would not have been possible without your dedication and hard work.

Let me also appreciate the faculty members for preparing the students to achieve this goal by providing them with quality education, training and guidance.

Education plays a key role in the development of a human being and a society. An individual is empowered with creative thinking, knowledge and reasoning through education. Knowledge gives us strength to find success in all walks of life. Literature, philosophy, and history are great sources of knowledge as they enrich us with the realization of our understanding. Learning is a process dependant on your attitude towards acquiring knowledge, curiosity, reading habits, creative thinking ability, etc.

Learning has to be a lifelong process.

Nature: The Greatest Teacher

You might have observed that most of the designs and innovations around us are inspired by something from nature. **It turns out that Nature is full of viable ideas for how to do things the right way.**

Engineers in various industries world around are turning to nature for inspiration as they try to design products with better performance and lower energy consumption. Following are some examples:

In aviation industry, the A380 aircraft wing design is inspired from the wing tips of eagles - an ideal shape to maximize lift with minimal wingspan. Similarly, some ship manufacturers are into adapting characteristics of shark skin to reduce friction and make ships more durable. imitates the The architecture and the air exchange system used by termites have inspired the Eastgate building in Harare (Zimbabwe) which only uses 10 % of the energy for cooling air compared to conventional buildings of the same size.

In brief, all we need is to simply see and listen to the nature, its language, laws and ways to understand it.

Space Technology inputs for Sustainable Development

New technologies offer opportunities to address challenges, create new information sources, networks, communities and social interaction. Applications of such technologies are being utilised for social good and to address key social and individual needs from which we may draw inspiration. While powerful technologies are evolving on one side, the society is facing issues with respect to availability of natural resources and energy on the other side.

Exploiting technology to provide solutions to societal issues still remains significantly underexplored.

Sustainable systems must be capable of meeting our needs without compromising the ability of future generations to meet their needs as well. They should enable securing food, water, energy and environment for future generations, through optimal utilization of natural resources in productive and non-degrading manner.

Harnessing the potential of technology to solve the problems of the common man through innovative strategies has been one of the founding principles of the Indian Space Programme. Space based observations and inputs have been playing a vital role in ensuring food, water, energy, environment and health security in the country.

Monitoring and providing inputs for better disaster management is another important aspect where space technology is being used for sustainable development in India.

Data from Indian satellites provides inputs for observing/ mapping of Air quality, Land use/cover, Forest cover, Wasteland, Soil Moisture, Snow Cover, River Discharge, Ocean dynamics, Ocean color, Sea level, Alkalinity, Dissolved Inorganic Carbon, Cloud cover, ozone layer, Coral Reef/Mangrove, Coastal Erosion, Biodiversity Characterisation, Desertification/Land Degradation, Solid Waste Disposal Site Selection, etc.

These inputs have been used in the decision making for agricultural productivity enhancement, utilization of cultivable wastelands and fallow lands, watershed development, afforestation planning, coastal zone management and climate change research. Agriculture related area estimation, production forecasting, pest and

diseases detection and incidence forecasting, cropping system analysis, agricultural area expansion, crop intensification, horticulture area assessment and area identification for expansion etc, are being supported by data from Indian satellites.

Potential fishing zone advisory and inland aqua-culture development are also being done for achieving food security. Prior information on the potential zones (latitude/longitude and the bathymetry) is disseminated in the form of maps and text to the fishermen community through multiple means (web, sms, digital displays etc.). Similarly, Mobile devices (positioning-cum-communication sets) based on NAVIC will aid the fishermen community to identify potential fishing grounds, direction, information on international boundaries, extreme weather events like wind speeds, rainfall, low pressure regions, sea state forecast and also will provide warnings in regional languages.

It is necessary that we need a skilled and knowledgeable generation who can comprehend the changing scenario and address issues of sustainable development which not only would make us capable of bringing in solutions to current and anticipated problems causing less adverse impact on environment, climate and habitability of the planet.

ISRO's Contributions: Addressing Societal Issues

Dr. Vikram Sarabhai, the founding father of the Indian Space Programme, recognized the benefits that the space technologies could bring to India. He envisioned that the resources in space have the potential to address the real problems of man and the society.

Since inception, the Indian space programme has been orchestrated well with distinct elements such as, satellites for communication and broadcasting, earth observation, space science studies, space transportation systems and related application programmes.

During its early years of development itself, ISRO could make use of technologies like, Push Broom technology for early Indian Remote Sensing imaging, 3-in-1 concept for INSAT series facilitating Meteorology, Communication and Broadcasting applications from one platform and to the latest innovative earth burns for capturing Moon and Mars orbits for non-availability of direct GTO launch vehicles, successfully and cost-effectively.

Advances in satellite remote sensing, global navigation satellite systems and geographic information systems now make it easier to integrate ecological, environmental and other information for developing predictive models that can be used in the surveillance and control of diseases such as malaria and dengue fever. Earth observation from space, complimented with other applications, is a cost-effective method for effective monitoring of environment and management of land, ocean and fresh water resources, and providing essential data to decision-makers. Once converted into practical information, these data could be used to formulate policy and implement programmes at the national, regional and international levels.

The success of ISRO's Mars Orbiter Mission is a result of tremendous team effort and innovative use of limited resources to achieve defined goals. The success has brought in a high degree of confidence among people of all walks of life in the country and a self belief that we Indians can achieve great results.

ISRO is moving forward with the development of, low cost access to space, development and use of composite materials for space applications, etc. A series of exciting missions are being planned, including Chandrayaan-2 and Aditya-L1.

Dear students, as long as you are a student in an institute, the individual efforts provide success. However, today, when you step out of the institute and start your career, you will find that individual efforts in combination with team spirit is one thing that could guide you to bigger success and in achieving major milestones ahead.

Before I conclude, let me remind you of the wonderful opportunities available to each one of you in making use of the knowledge and the skills you have acquired, and the need for continuing to acquire them to address the issues facing us thus leaving a footprint of yours in this world being a path breaker.

I am sure, in the years to come, this institution would reach greater heights in imparting high quality education for nurturing a knowledgeable and skilled youth force that is going to take the nation to become a global leader in all aspects.

- THANK YOU

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