



SOUTH EAST ASIAN EDUCATION TRUST<sup>®</sup>

# S.E.A. COLLEGE OF ENGINEERING & TECHNOLOGY

(Approved by All India Council for Technical Education (AICTE), New Delhi)  
Affiliated to Visvesvaraya Technological University (VTU), Belagavi, Accredited B++ by NAAC

## INVITED TALK

**S.E.A. COLLEGE OF ENGINEERING & TECHNOLOGY**  
AFFILIATED TO VISVESVARAYA TECHNOLOGICAL UNIVERSITY & APPROVED BY ALL INDIA COUNCIL OF TECHNICAL EDUCATION (AICTE)  
Ekta Nagar, Near Ayyappanagar Circle, Devasandra Main Road, K.R. Puram, Virgonagar Post, Bangalore - 49.

**Sri A. Krishnappaji**  
Founder Chairman  
S.E.A Group of Institutions

**Department of Agricultural, Civil and Mechanical Engineering**

In association with  
**IQAC, IIC, IEEE and R&D Cell**

Organising Invited talk on  
**Higher Education for Sustainability - An Indian Perspective**

**Date : 28<sup>th</sup> November, 2024 Time : 11.00 am'**  
**Venue : Civil Seminar Hall**

**Dr. B S MADDODI**  
Professor, Dept of Civil Engineering, MIT MANIPAL  
Member of SEAC/SEIAA, Govt. of India





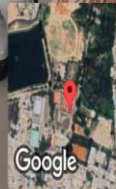
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# Higher Education for Sustainability-An Indian Perspective

A quality human capital comes from a quality education process. Education is a human right and the primary agent of transformation towards sustainable development, increasing people's capacities to transform their visions for society into reality. Education teaches people to be better individuals, family members, community members and citizens. It upholds and conveys the ideals of a sustainable world. It takes into consideration the social, economic and environmental well planned education system is vital in developing such human capital. Higher educational institutions play a significant role in this process of improvement by providing a critical input in the form of improved education background and professional skills to the nation's development. Thus Higher education is a powerful tool for sustainable development of the nation.

## QUALITY EDUCATION FOR SUSTAINABLE DEVELOPMENT

Education for sustainable development (ESD) is an approach to the whole curriculum and management of an institution (school, college, universities, organizations etc.). It is important to differentiate between education about sustainable development and education for sustainable development (ESD). The first is an awareness lesson or theoretical discussion while the latter is the use of education as a tool to achieve sustainability. In higher education, there is a need to go beyond awareness, and in this case, 'for' indicates a purpose whereby all education serves a purpose. Education is central to sustainability. However, the distinction between education as we know it and education for sustainability is enigmatic. Nevertheless, education and sustainability are inextricably linked. The purpose of education is to change individual orientation and behaviour for the better. To achieve this aim, it is very necessary that the provision of education must be highly qualitative in order to produce a large number of learned scholars who continuously enlarge the frontiers of knowledge and therefore make life meaningful. The purposes of education to its citizens are multifaceted, especially in a civilian and democratic society. These purposes are usually fashioned out to meet the designs and ideals of civil and democratic setting. These include personal self-esteem and dignity, provision of equal opportunity for development etc. Quality education makes its recipients more productive, since education is the transmission of knowledge, information and understanding of man in his social and physical environment in addition to many other things, it is necessary to note that the recipients are capable producers and are agents of sustained development. Quality education is therefore more efficient in effective socialization of the behaviour of its recipients. There is no doubt that higher educational institutions (HEI) can play a significant role in contributing to a more sustainable world by addressing sustainability through their major functions of education, research and outreach. In order for HEIs to play a role in transition to sustainability, however, HEIs need to go beyond modifying their activities by mainstreaming sustainability components. Modern HEIs have been part and parcel of individual and collective 'development' which has pursued improvement in living standards and often encouraged unsustainable practices at different levels. Ecological and social changes, ranging from ecosystem changes to transformations of human practices and interactions, dramatically challenge the view that changes which we experience, and will be experiencing in the future, are incremental, predictable and, therefore, to a large degree, controllable. Global environmental and social systems are being affected, often unpredictably, by the way in which we manage resources and govern ecosystem services. It is time to critically examine the kinds of competencies which have been promoted by the HEIs over decades, the type of its engagement with society and its role as knowledge creating, technology transferring and policy influencing institution.

There are numerous programmes of action that can be mounted at improving the provision of quality of education for sustainable development and the need to display sincere commitments to achieve them are herculean. In this manner, there should fundamentally be effective and workable designs, organization and management of quality educational provision. In addition, there must be exist productive and continuous teacher training and retraining for integrated quality education for all children and young people. Furthermore, there must be established unambiguous childhood qualitative education and its widespread provision through specific identification, assessment and interactions of the essential needs, priorities and peculiarities of communities' settings. Objectives must however be set out to be achieved with clear milestones. These objectives will contribute towards the enhancement of the provision of quality education to children and young people for sustainable development. Again, through drawing and designing strategies, policy makers and implementers must adopt certain premise to ensure not only appropriate provision but at same time monitoring and feedback. There are certain very clear and simple basic principles underlying the provision of quality education for sustainable development.

### **HIGHER EDUCATION IN INDIA: AN OVERVIEW**

India has one of the largest education systems in the world. As shown in Table 1.1, there are six main types of institutions of higher education: central universities, state universities, deemed universities, private universities, institutions of national importance (established under state and central legislation), and colleges. Put together, they make for a massive university system. Universities play an important role in providing higher education. Most of these universities in India have affiliated colleges where undergraduate and post graduate courses are being taught. Private universities and institutions offer higher education and play a critical role in satisfying the increasing demand.

### **SUSTAINABLE DEVELOPMENT IN HIGHER EDUCATION**

The concept of sustainable development incorporates not only an environmental dimension, but also economic and social dimensions, and frequently also a cultural dimension. That education and research play a key role for the long-term development of society is hardly disputed by anyone; but how to integrate sustainability effectively into higher education and, in particular, into the curriculum and the design of research projects is still a debated issue. In higher education, the level of integration of the concept of sustainable development can range from mere formulations of policy statements to integration into courses, curricula, and other selected activities for a total reform of the educational system. A more practical approach to promote sustainable development is to work with tangible environmental impacts.

The higher education declarations on sustainability explicitly acknowledge this and confirm the importance of learning, communication and capacity building for sustainable development. Sustainable development in higher education will enable students to develop a personal critique of society and produce graduates who are ideologically aware and socially critical. In this era of modernization and globalization, higher education has a responsibility to produce a human capital that is not only professionals of the future but also responsible citizens. Higher education needs to foster the human capital with the skills and attitudes that will allow all people, present and future, to have a decent quality of life, fair and equitable access to the earth's resources and preserve the biological diverse ecosystems on which we all depend on. Helping create a sustainable society is a social responsibility both for the educators of future leaders in society and for our graduates in their professional and personal lives. In India, Eleventh five year plan too is aiming at enhancing public spending, encouraging private initiatives and initiating long

major institutional and policy reforms to bring positive changes to the Indian education system. Unarguably, the outcomes will depend not only on policies but also on their implementation.

Some challenges that higher education institutions may face in implementing sustainability initiatives include:

- Lack of awareness, interest, and involvement
- Lack of funding
- Lack of support from university administrators
- Lack of time
- Lack of data access
- Lack of training
- Lack of opportune communication and information
- Resistance to change

### Sustainability Three Pillars

- Environment Economic Social

### The Role of Higher Education Institution in Sustainability

- Higher Education Institutions a key role in addressing these challenges by producing
- Skilled professionals
- Conducting relevant research
- Fostering awareness of sustainable practices.

For a sustainable development therefore, quality education must be continuously provided by a responsible and legitimate government. The need for quality education for a sustainable development is premised on the grounds that the challenges of development are essentially designed to bring about political stability, rapid transformation of the economy equitable distribution of resources through poverty reduction, food security, and reduction of unemployment, administration of justice and rule of law. There is no doubt that quality education provided to all citizens will strengthen the weak structures which inhibit or prevent the delivery of all other services like health care, food and nutrition, shelter, gainful employment etc.