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## Higher Education Way for Sustainable Development in India

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### **Abstract:**

*This paper argues that in the concept of Higher Education and Sustainable Development has a distinct character focusing Indian education system in 21th century. According to the United Nations Educational, Scientific and Cultural Organization's (UNESCO) Education is the basis for a Sustainable Development. It has become a social process of construction of a pedagogical object, plural, as full of contradictions as reality itself. The creation of an educational system which takes into consideration gender differences as well as differences among all sectors, whether it is formal or non formal education, to reach the non communicated communities, is considered as a fundamental element of Education for a Sustainable Development (ESD) for the last 40 years, Higher Education (EE) has played an important role in several discourses. For some, it has been more part of the problem than of the solution. Nevertheless, Education has become a source of inspiration for many of us. Educators here in India, for instance, although doing different things and dealing with different needs, have been able to define strategies of pedagogical research, to build collective identities, to identify and share strategies to find common objectives and to persevere as we reach for them. In this way we considered many higher education indicators for educational sustainability in India.*

**Key words:** Higher Education, Sustainable Development, India, Student Enrollment

### **1. Introduction**

We live with growing awareness of the complexities of sustainability and the challenges presented by our present patterns of life. Although ecological and humanitarian problems persist, opportunities for creative response continually emerge in line with our increasing understanding of these dynamics. Since, the 2002 Johannesburg Summit, the special role of our education systems in facilitating, envisioning, and leading change towards sustainability has been the focus of renewed attention. Higher education (HE) in particular prides itself on being at the vanguard of vision and wisdom, and its core values point to its potential leadership role across societies. This special issue has been compiled with this role in mind and presents a series of cases and perspectives from the Asia-Pacific region, to showcase new efforts to accelerate innovation for sustainability in HE. It is clear that to date, examples of sustainability initiatives from Australia and New Zealand have been most widely published, but developments in other parts of the region have received less consideration. Therefore, this collection focuses on the innovative work from India's most states. These highly informative articles bear witness to diverse efforts emerging from within the HE sector and in dialogue with HE, bringing new voices into scholarly discussions about sustainability and strategic change in the educational arena.

In the context of this special issue, an inclusive view of the term "sustainability" is adopted, whereby sustainability is understood as a learning process and a term with variable and contested meanings (Wals and Jickling, 2002, pp. 221-3). The broad remit for sustainability in HE has been informed by previous innovation and current practice in the field of environmental education, which is an important point of reference for a number of the contributions to this collection. The collection takes an integrated view of the nature and purpose of HE institutions and is also aligned with the narrative of "education for sustainable development" (ESD) and its vision of strategic change in education systems. In addition, the Decade of Education for Sustainable Development (DESD) 2005-2014 and other United Nations (UN)-sponsored initiatives have strengthened and focused global efforts in this area. Therefore, this special issue covers diverse aspects of "sustainability in HE," including the environmental management and corporate operations of HE institutions as well as their core academic business.

Sustainable development has become an important issue on international, regional and national agendas concerning education policy over the past few years. Articulating the goals of Higher Education Radakrishnan Commission on University Education, 1948-49 put it in following words: "The most important and urgent reform needed in education is to transform it, to endeavour to relate it to the life, needs and aspirations of the people and thereby make it the powerful

instrument of social, economic and cultural transformation necessary for the realization of the national goals. For this purpose, education should be developed so as to increase productivity, achieve social and national integration, accelerate the process of modernization and cultivate social, moral and spiritual values”

In February 2006, the Ministry of Education’s Committee published its strategy on education for sustainable development (ESD), which now serves as Finland’s national action plan for the UN Decade of Education for Sustainable Development. In order to achieve this goal more attention is to be focussed upon teacher training, both in undergraduate programmes and in continuing education. The promotion of sustainable development was already included in the Council of State’s education and research development plan in 2003. The plan emphasises the importance of sustainable development in education, research and innovation. Education, research and innovation play a central part in the promotion of sustainable development. This objective is at the heart of the Sustainable Development Action Plan for Education and Skills published by the Department for Education and Skills (DFES) in 2003. The plan sets out the actions required of schools, colleges, universities and national agencies like the Learning and Skills Council (LSC) and the Higher Education Funding Council for England (HEFCE) to secure a more sustainable future for the economy, ecology and equity of all communities. Education can play an important role in both raising awareness among young people about sustainable development and giving them the skills to put sustainable development into practice. It places priority on the development of sustainability literacy as a ‘core competence’ among graduates. A similar emphasis is provided by the United Nations’ commitment to a Decade of Education for Sustainable Development 2005-2014.

The authors have reflected on their social and policy contexts, considering thematic questions about the place of HE in advancing sustainability. Each article explains essential developments, pointing to the policies and initiatives that form the context to their contribution; considers the challenges arising in the specific sustainability activities under analysis; and forecasts the prospects for sustainability initiatives in HE. By exploring the potential impact and legacy of current activities, the authors seek to extract lessons, to uncover critical factors for success and to understand the implications for change within HE. The collection shows leading sustainability practice emerging in the Asia-Pacific region, with the intention of offering insight and inspiration, to inform future efforts within HE and in collaboration with other sectors worldwide.

By way of introduction, this paper provides an overview of the prompts and platforms for the contributions that follow. Following a brief discussing about various issues of HE such as, ranking of educational development index, Gross enrollment ratio, State-wise General Parity Index, Value of Education For All Development Index (EDI) for India and Certain Other Countries and Public Expenditure on Education and Gross Domestic Product (GOP) in India. Consideration is given to critical issues for HE institutions attempting to integrate sustainability principles into their operations. Finally, reflection is offered on the contributions to this special issue and themes emerging across the articles, to highlight areas where most of the progress is evident and where further effort is needed.

## 2. Increasing Enrollment Rate in India

There has been a huge increase in the demand for higher education since the after Indian independence. The projected enrollment on the basis of historical growth pattern may not be sufficient to meet the growing demand and also the need of the Indian economy. This has led to a situation where institutions are required to manage more students than they afford, leading pressure on the facilities, particularly the State Universities, colleges aided as well as unaided. Therefore, in addition to creating new universities and colleges the strengthening and expansion of existing institutions is equally necessary. There has been a considerable improvement in the enrollment from one percent in early 1950’s to about 15% in the 2008.

States	Educational Development Index Value	Rank 1998-99	Rank 1995-96
Sikkim	1.805	1	4
Mizoram	1.662	2	1
Goa	1.527	3	2
Kerala	1.436	4	3
Himachal Pradesh	1.423	5	7
Manipur	1.415	6	5
Assam	1.346	7	9
Nagaland	1.333	8	6
Punjab	1.295	9	13
Tripura	1.294	10	8
Meghalaya	1.261	11	11
Arunachal Pradesh	1.252	12	14
Maharashtra	1.232	13	12
Tamil Nadu	1.176	14	10
Gujarat	1.166	15	15
Haryana	1.164	16	18
West Bengal	1.127	17	17
Karnataka	1.096	18	16
Orissa	1.076	19	19

Madhya Pradesh	1.027	20	20
Andhra Pradesh	0.963	21	22
Rajasthan	0.919	22	21
Uttar Pradesh	0.853	23	23
Bihar	0.828	24	25
Jammu & Kashmir	0.683	25	24

Table 1: State-wise Ranking of Educational Development Index in India

Source : Dept. of Secondary & Higher Education, Ministry of Human Resource Development, Govt. of India. Year: Period of fiscal year in India is April to March, e.g. year shown as 1990-91 relates to April 1990 to March 1991. Units: (a) 1 Lakh (or Lac) = 100000. (b) 1 Crore (or Cr.) = 10000000. Some part of the footnotes/units may not be applicable for this table.

Above table reflected that, State-wise Ranking of Educational Development Index in India. Sikkim state was highest Educational Development Index Value Rank value 1 index value was 1.805 in 1998-99 and rate was decreased to 4 in 1995-96 and lowest value was 25 in 1998-99 value was 0.683 in Jammu Kashmir but that value was increased by 1 percent in 1995-96. But in Karnataka index value was 1.096 and ranking was 18 in 1998-99 and it was increased to 16 in 1995-96. Bihar index value was 0.828 and in 1995-96 and rank was 25. It was one of the negative sign of education sustainability in higher education.

Year	Boys	Girls	Total
2001-02	9.28	6.71	8.07
2002-03	10.3	7.47	8.97
2003-04	10.59	7.65	9.21
2004-05	11.58	8.17	9.97
2005-06	13.54	9.35	11.55
2006-07	14.5	10	12.4
2007-08	15.2	10.7	13.1
2008-09	16.1	11.3	13.8
2009-10	17.1	12.7	15

Table 2: Gross Enrollment for Higher Education ( in %age) (18-24 years)

Source: Ministry of Human Resource Development, Govt. of India.

Increasing of GEE percentage was also important sign of education sustainability in higher education in India. It was increased to 8.07% in 2001-02 i.e., boys percentage was 9.28% and 6.71% and again it rose by 11.55%, which is 13.54% in boys and 9.35% in girl students in India. Thus, it percent increased to 15.0% in 2009-10 including 17.1% boys and 12.17% in girl students in India.

Table 3 analyses the State-wise General Parity Index of All Categories of Students in Classes in India. Majority of the states crossed the 1.00% level in 2010-11, they are Andhra Pradesh, Andaman Nikobar, Chandigarh, Daman and Diu, Delhi, Kerala, Lakshadweep, Meghalaya, Mizoram, Tripura, West Bengal and Karnataka.

Table 4 described the Value of Education For All Development Index (EDI) for India and Certain Other Countries in India.

India's Educational Development index has risen in a sustainable manner in recent years as compare to other nations it shows the bellow analysis.

Countries with Low EDI (<0.800) India's EDI was 0.7 and ranking out of 122 countries was 105 in 2001, EDI was 0.741 and Ranking out of 122 countries was 101 in 2002, EDI was 0.741 in 2003, EDI was 0.789 and Ranking out of 122 countries was 100 in 2004 and EDI in 0.797 and Ranking of 129 countries in 105 in 2005. It was also one way for educational sustainability in higher education in India.

States/UTs	2008-09 (Sept., 2008)		2009-10 (Sept., 2009)					2010-11 (Sept., 2010)				
	IX- XII	I- XII	IX-X	I-X	XI- XII	IX- XII	I- XII	IX-X	I-X	XI- XII	IX- XII	I-XII
AN	1.06	1.00	0.97	0.97	1.17	1.06	0.99	0.94	0.96	1.11	1.01	0.98
Andhra Pradesh	0.93	0.99	0.99	1.00	0.85	0.93	0.98	1.00	1.00	0.90	0.96	0.99
AP	0.90	0.93	0.92	0.95	0.93	0.93	0.95	0.93	0.95	0.93	0.93	0.96
Assam	0.86	0.96	0.90	1.02	0.93	0.91	1.02	0.90	1.01	0.80	0.88	1.00
Bihar	0.68	0.81	0.75	0.85	0.77	0.76	0.85	0.80	0.91	0.75	0.78	0.90
Chandigarh	1.01	0.96	0.80	0.98	1.15	0.95	1.00	0.83	0.93	1.10	0.95	0.96
Chhattisgarh	0.84	0.93	0.85	0.94	0.77	0.82	0.93	0.93	0.95	0.81	0.89	0.94
DNH	0.64	0.90	0.94	0.98	0.88	0.91	0.98	0.97	1.02	0.88	0.93	1.02
Daman and Diu	1.40	0.99	1.25	1.17	1.46	1.36	1.21	1.08	1.09	1.28	1.18	1.12
Delhi	1.02	1.03	0.97	0.99	0.99	0.98	0.99	0.97	0.99	0.99	0.97	0.99
Goa	1.01	0.97	1.03	0.98	1.10	1.06	0.99	0.95	0.94	1.04	0.99	0.95
Gujarat	0.77	0.98	0.77	0.95	0.85	0.80	0.94	0.79	0.95	0.84	0.81	0.94
Haryana	1.16	1.19	1.18	1.06	1.00	1.09	1.05	1.17	1.09	1.00	1.09	1.08
P	0.95	0.98	1.08	1.01	1.02	1.06	1.01	0.99	0.99	0.98	0.98	0.98
J and K	0.82	0.92	0.94	0.99	0.95	0.94	0.98	0.94	1.00	0.95	0.95	0.99
Jharkhand	0.74	0.98	0.73	0.92	0.76	0.74	0.92	0.91	1.00	0.89	0.91	1.00
Karnataka	0.99	0.98	0.97	0.98	1.04	1.00	0.98	0.98	0.98	1.04	1.00	0.99
Kerala	1.01	1.00	0.99	0.99	1.21	1.06	1.00	0.98	0.98	1.12	1.04	1.00
Lakshadweep	1.43	1.12	0.99	1.02	0.99	0.99	1.01	1.07	1.09	1.12	1.09	1.09
MP	0.68	0.93	0.67	0.94	0.66	0.66	0.92	0.66	0.99	0.69	0.67	0.97
Maharashtra	0.90	0.96	0.92	0.96	0.85	0.89	0.95	0.94	0.96	0.83	0.89	0.95
Manipur	0.92	0.95	1.01	0.96	0.75	0.92	0.94	0.96	0.95	0.82	0.91	0.94
Meghalaya	1.10	1.07	1.14	1.06	1.23	1.17	1.06	1.02	1.03	1.27	1.08	1.04
Mizoram	0.99	0.96	1.03	0.95	0.98	1.01	0.95	1.04	0.95	0.98	1.01	0.95
Nagaland	1.02	1.04	1.08	1.01	0.92	1.01	1.01	1.08	1.01	0.91	1.01	1.01
Odisha	0.85	0.96	0.92	0.98	0.82	0.89	0.97	0.93	0.99	0.82	0.90	0.98
Puducherry	0.99	0.91	1.10	1.06	1.27	1.16	1.08	0.98	0.96	1.18	1.05	0.98
Punjab	1.04	1.00	1.04	0.98	1.06	1.05	0.99	1.02	0.98	1.00	1.01	0.98
Rajasthan	0.60	0.83	0.65	0.86	0.61	0.64	0.85	0.69	0.89	0.63	0.67	0.86
Sikkim	1.07	1.06	1.13	1.04	1.07	1.11	1.04	1.12	1.04	1.07	1.10	1.04
Tamil Nadu	1.11	1.02	1.04	1.00	1.22	1.11	1.02	1.02	1.01	1.24	1.10	1.02
Tripura	0.93	0.99	0.99	0.99	0.80	0.94	0.98	1.00	0.99	0.78	0.94	0.98
Uttar Pradesh	0.80	1.01	0.82	0.98	0.85	0.83	0.97	0.81	0.97	0.77	0.79	0.96
Uttarakhand	0.95	1.04	0.92	1.02	0.94	0.93	1.01	0.95	1.02	0.97	0.96	1.02
West Bengal	0.83	0.98	1.08	1.04	0.82	0.99	1.03	1.02	1.03	0.90	0.98	1.02
<b>India</b>	<b>0.85</b>	<b>0.96</b>	<b>0.88</b>	<b>0.96</b>	<b>0.87</b>	<b>0.88</b>	<b>0.95</b>	<b>0.88</b>	<b>0.97</b>	<b>0.86</b>	<b>0.87</b>	<b>0.96</b>

Table 3: State-wise General Parity Index of All Categories of Students in Classes in India

Source : Ministry of Human Resource Development, Govt. of India. (ON300)

	2001		2002		2003		2004		2005	
Nation	EDI	Ranking out of 122 countries	EDI	Ranking out of 122 countries	EDI	Ranking out of 122 countries	EDI	Ranking out of 122 countries	EDI	Ranking of 129 countries
Countries with High EDI (>0.950)										
UK	0.98	13	0.98	16	0.98	n.a.	0.994	1	0.995	2
France	n.a.	n.a.	0.992	3	0.992	n.a.	0.992	5	0.991	9
Sweden	0.98	14	n.a.	n.a.	0.982	n.a.	0.991	9	0.994	4
Norway	0.995	1	0.993	2	0.993	n.a.	0.991	8	0.995	1
Switzerland	0.988	6	0.992	4	0.992	n.a.	0.986	12	0.985	19
Countries with Medium EDI (0.800 to 0.950)										
Brazil	0.899	72	0.905	72	0.905	n.a.	0.905	72	0.901	76
Mexico	0.941	47	0.946	47	0.946	n.a.	0.949	48	0.953	48
China	0.93	39	0.954	39	0.954	n.a.	0.954	43	0.938	61
Egypt	0.822	91	0.828	91	0.828	n.a.	0.887	79	0.883	91
Indonesia	0.912	59	0.923	59	0.923	n.a.	0.938	58	0.935	62
Countries with Low EDI (<0.800)										
India	0.7	105	0.741	101	0.741	n.a.	0.789	100	0.797	105
Pakistan	0.537	123	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.64	120
Bangladesh	0.692	107	0.663	106	0.663	n.a.	0.722	105	0.759	107
Nigeria	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.721	106	0.734	110

Table 4: Value of Education For All Development Index (EDI) for India and Certain Other Countries

Source : Ministry of Human Resource Development, Govt. of India

Year	GDP at Current price (at Factor cost) (Rs. crore)	Total Expenditure on Education by Education & other Depts. Rs. crore	Expenditure on Education by Education & other Depts. As % of GOP
1951-52	10080	64.46	0.64
1960-61	16220	239.56	1.48
1970-71	42222	892.36	2.11
1980-81	130178	3884.2	2.98
1990-91	510964	19615.85	3.84
2000-01	1925017	82486.48	4.28
2005-06	3389621	113228.71	3.34
2006-07	3952241	137383.99	3.48
2007-08	4581422	155797.27	3.4
2008-09	5303567(P)	189068.84	3.56
2009-10(RE)	6091485(P)	242504.82	3.98
2010-11(BE)	7157412(P)	272137.44	3.8

Table 5: Public Expenditure on Education and Gross Domestic Product (GOP)

Source : Ministry of Human Resource Development, Govt. of India

Every country educational sustainability wants to expenditure on education and it also very important necessary to acquire the education dominance in the world. Compare to other nation's education expenditure was low. Expenditure on education was 64.46 crores in 1951-52 to Rs.82486.48 crores in 2000-01 i.e., 4.28%. But in 2010-11 budget estimates was increased Rs. 272137.44 crores i.e., 3.8 percent, above table tells that majority of the schools colleges and universities also increased in the present healthy way it also one of good development of educational sustainability in higher education in India.

### 3. Conclusion

Concluding remarks Across HE worldwide, the task of expanding the strategic reach of sustainability initiatives is substantial, and the potential impact and direction that HE institutions can contribute is significant. Sustainability brings urgency to the question of how HE can improve the speed and focus of its work with stakeholders and across disciplines, to reconcile academic and practical considerations, to deal with plural values and interests, and to adapt its structures accordingly. Our responses to the present economic climate and global recession will require increased innovation and efficiency that is integrated with our approaches to the questions and challenges of sustainability.

Given the complexities of the regional context and the insights this enables in terms of strategic educational change, these Asia-Pacific HE sustainability innovations provide extremely important and worthwhile indicators of future potential. Asia-Pacific efforts to integrate HE functions, to embrace community outreach, and to harness government support, have resulted in successful examples of practice that may bear fruit worldwide. Viewed through the lens of these leading initiatives, the prospects for global progress are encouraging, although the authors have also given realistic consideration to the obstacles and difficulties involved. It is hoped that these fresh Asia-Pacific perspectives help to inspire further progress, so that HE can take up its rightful leadership role in sustainability: developing future citizens, guiding policy development, exchanging knowledge, supporting communities, and using academic freedom to fuel further enterprise and innovation.

Lethargic approach to economic imperatives may seriously undermine the groundwork for sustainable development. Institutions of higher learning ought to be a major force in society not only for producing leaders in science and technology, but also for downstream channeling of progressive social, moral, and political values while keeping in perspective temporal realities and spatial constraints. That said, five major interests universally considered to be at stake in national higher education systems include social justice, competence, academic freedom, autonomy vs. accountability, and decentralization vs. centralization. Higher education reform efforts aim at independent, strong, and objective analysis of ground reality. A clear sense of direction and pace will help in optimally balancing out the apparent tradeoffs in favor of sustainable development. The central objective of the 11<sup>th</sup> plan is now focused on Expansion of enrollment in higher education with inclusiveness, quality and Relevant education and supported by necessary Academic Reforms in the University and college system in India. There are necessary that individual state and central government also take similar initiative in their respective state plan and develop policies to address the issue of increasing the enrollment rate, equal access to groups with lower access to higher education, issue of quality, relevant education and various academic reforms.

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