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SUSTAINABILITY EDUCATION IN INDIAN BUSINESS SCHOOLS: A STATUS REVIEW

EDUCACIÓN PARA LA SOSTENIBILIDAD EN LAS ESCUELAS DE NEGOCIOS INDIAS: INFORME DE LA SITUACIÓN

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ABSTRACT

Sustainability issues, given their potential scale of impact and urgency, have captured the imagination of both corporations and academic institutions everywhere. This paper examines how such problems and their potential solutions have been incorporated into higher education, particularly business school education in India. With over 3,600 business schools in the public and private sector, business education in India has proliferated. However, students by and large still remain unexposed to sustainability and disaster management concepts in their curriculum. The underlying factors for this include, lack of institutional capacity, issues related to faculty motivation and incentives, lack of recruiter interest and limited availability to high quality resource material. Further, while several schools in India focus on sectors relevant to sustainability, inter-organizational linkages have not developed and business school generally operate independently. This paper examines the way forward to deeply integrate sustainability principles into the core curriculum of business schools. Measures suggested include creating communities of practice among academia and industry, building a resource base of teaching materials for easy access by faculty, and several measures to strengthen institutional capacity.

KEYWORDS

Sustainability; disaster management; environmental management; education; sustainability curriculum; India

RESUMEN

Debido a su alto potencial de impacto y urgencia, los asuntos relacionados con la sostenibilidad han capturado la imaginación tanto de las empresas privadas, como de las instituciones académicas en todas partes. Este artículo examina cómo dichos problemas y sus soluciones potenciales han sido incorporados en la educación superior, particularmente en la educación de negocios de India. Con unas 3,600 escuelas de negocios en los sectores público y privado, la educación de negocios en India ha proliferado. Sin embargo, los estudiantes, en general, siguen sin tener contacto con conceptos de sostenibilidad y gestión de desastres en sus currículos. Los factores subyacentes a esta situación incluyen la falta de capacidad institucional, los problemas relacionados con la motivación e incentivos de los profesores universitarios, la falta de interés de los reclutadores y la limitada disponibilidad de material de consulta de alta calidad. Además, mientras que varias escuelas de negocios de India se enfocan en sectores relevantes para la sostenibilidad, los vínculos interorganizacionales no han sido desarrollados y las escuelas de negocios operan en general independientemente. Este artículo examina el camino a seguir para integrar principios de sostenibilidad de manera profunda a los currículos básicos de las escuelas de negocios. Las medidas que se sugieren incluyen la creación de comunidades de prácticas entre la academia y la industria, la construcción de materiales pedagógicos de fácil acceso para profesores universitarios y diferentes medidas para fortalecer la capacidad institucional.

PALABRAS CLAVE

Sostenibilidad; gestión de desastres; gestión ambiental; educación; currículo de sostenibilidad; India.

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INTRODUCTION

Sustainability issues, especially with respect to environmental management, and especially disaster management, are increasingly influencing both boardroom strategies and corporate profits. While corporations have responded to broad sustainability concerns even earlier, the last two decades have seen a significant increase in the level as well as the scope of businesses' engagement with sustainability matters. This can be attributed to: an improved understanding of the mutually-reinforcing nature of business and ecosystem cycles; the growing power of civil societies; a proliferation of local/national regulatory policies; and multilateral agreements. Consequently, there is greater appreciation of the positive and transformational role that corporations need to play in a resource-constrained, sustainably-challenged world. This is even more critical given our experience that left unattended, sustainability issues may eventually morph into industrial or humanitarian disasters in the long run.

As a result of the above, global environmental concerns, such as climate change, biodiversity loss, natural resource depletion, atmospheric pollution, industrial pollution, global poverty etc., have become important inputs for decision making at the firm level. While industrial sustainability has been intensively discussed in the developed country contexts, in the context of the developing countries these may differ in terms of methods as well as outcomes. Further issue of environment and industry competitiveness is particularly important in the case of developing countries such as India as several studies have pointed out that improvements in environmental performance can actually improve the overall performance of the industry.

Apart from an increase in general levels of awareness amongst industry and citizens, three other developments in the Indian economy have made it impossible for Indian firms to ignore the environmental impacts of their operations. First, the quantum of losses associated with poor environmental performance is staggering. Second, the current government's focus on manufacturing is likely to exacerbate the environmental pollution in the country. Third, the legislative framework in India has changed in recent years. The 1994 amendments to the Companies Act make it mandatory for firms to spend, in every financial year, at least two per cent of the average net profits, subject to certain qualifying conditions towards corporate social responsibility activities, defined to include environmental and disaster mitigation initiatives. Growing pressures from civil society, and adoption of best practices in reporting have also meant that there is more intensive scrutiny of the sustainability impacts of business' operations in India.

Given the strategic importance of environmental management from a national perspective, it is necessary for the business schools in India to take a more proactive role in creating managers and business leaders who have a good understanding of how to incorporate environmental issues into corporate decision making.

METHODOLOGY

This study was carried out in two phases. The first was to do a survey of existing literature and analyze the curriculum of schools teaching sustainability using secondary sources, primarily the websites of the concerned institutes. This was supplemented by conversations with faculty teaching sustainability or allied courses across the identified schools. Given the limitations of time it was not possible to independently verify all the information available on the web by directly contacting the schools in all the cases.

BUSINESS EDUCATION IN INDIA: AN OVERVIEW

Business education in India is of relatively recent vintage with the first fully independent business school being set up in the sixties. Interestingly though the premier business schools of India were set up as Institutes of Management rather than business schools recognizing the fact that management went beyond just running a business. However, since then, the growth of business schools has mirrored the economic growth of India. In 2015, India had over 3,600 business schools compared to less than 1,000 business schools in 1988. The numbers in themselves do not fully reflect the quality of management education in India as these institutions vary greatly in terms of both academic infrastructure as well as faculty resources.

Business education in India is organized at three levels; the first, namely premier schools such as the Indian Institutes of Management, are set up through a special act of the Indian parliament offering both two-year and one-year Post Graduate Diplomas in Management. The second category comprises schools affiliated to the state, central or independent universities. The third category includes schools set up by private foundations and societies. Most such institutions function under the regulatory control of the All India Council for Technical Education. While programmes offered by these schools are generally referred to as Post Graduate Diplomas in Management, the two year programmes in business management offered under the university system are called Master of Business Administration.

SUSTAINABILITY EDUCATION IN BUSINESS SCHOOLS: A STATUS REVIEW

Traditionally, the key narrative in management education in India, as elsewhere in the world, has been one of maximizing shareholder value. However, in the last two decades an alternative perspective built around sustainability, corporate governance, and corporate social responsibility has been emerging. And that has been reflected in the curriculum redesign of a number of institutions across India.

Sustainability education initiatives in the in India's business schools can be traced back to the early 90's when the premier business school in India such as the Indian Institute of Management at Ahmedabad and Calcutta decided to offer envi-

ronmental management courses as electives in their post graduate courses. Since then many more schools have incorporated environmental management courses into their curriculum. Such initiatives have also been strongly influenced by the directives from the higher education regulatory agencies and the judiciary. For instance, the University Grants Commission, the controlling authority for Universities in India, mandated that an environmental management course must be taught in the MBA programmes offered by universities.

A survey on Corporate Responsibility education in India among top ranked 104 schools by Partners in Change concluded that while corporate responsibility education had made some progress, significant steps were further needed (Partners in Change, 2007). A second study on the status of ethics, corporate governance and environment education concluded that of the 107 schools surveyed “ethics was offered by 64.49%, corporate governance by 31.78%, CSR by 10.28% and environment and sustainability by 14.02% of the business schools surveyed (Srinivasan, Srinivasan & Anand, 2012).

The content and pedagogy of sustainability courses also vary greatly between business schools. The most common approach has been to introduce standalone courses in sustainability or allied areas such as corporate governance, ethics, corporate social responsibility, green operations etc., Much of these initiatives have been individual faculty driven. A second approach now being adopted by a few schools is to introduce compulsory core courses as a part of the first year core curriculum as in the case of schools like IIM Ahmedabad, Xavier School of Management Jamshedpur, Xavier Institute of Management Bhubaneswar, IIM Lucknow and others. In many of these instances multiple courses on environment are offered. However, in most instances the courses are strongly driven by faculty interests and their future depends on continued faculty interest, something that is difficult to sustain, given the wide variations in student interest and institutional support. Even where environmental courses are offered, these are currently done in a very disjointed manner and not integrated with the functional areas. Also in the absence of a concerted effort and lack of adequate focus by the business schools themselves the impact of these pioneering efforts is limited. A third approach has been to introduce masters level programmes in sustainable business management as given in Table 1. An early attempt at starting a sustainability programme was from Symbiosis University in 2008 by way of an integrated Energy and Environment program. The most recent have been the launch of Post Graduate Programmes in sustainability by two premier institutions: Xavier University and the Indian Institute of Management Lucknow (IIML). However most of these programmes have remained small and have not been scaled up.

Table 1. Sustainability & Environmental Management MBA Programmes in India

	MBA Programmes	Institutions
MBA- Environmental Management	<ul style="list-style-type: none"> Environmental Management Environmental Change & Management Industrial Safety & Environmental Management (PGDISEM) 	<ul style="list-style-type: none"> Amity Institute of Energy and Environment, New Delhi Annamalai University, Cuddalore Cochin School of Business (SCMS Cochin) Department of Environmental Management, Bharathidasan University Chhatrapati Shahu Institute of Business Education and Research, Kolhapur Institute of Management and Technical Studies (IMTS), Noida NorthPole Institute of Distance Education, Rajkot Sam Higginbottom Institute of Agriculture Technology and Sciences (SHIATS) Allahabad Swami Vivekanand Institute of Information Technology (SVIIT), Patiala VPGR Institute of Technology, Chennai Indian Institute of Social Welfare and Business Management (IISWBM), Calcutta NITIE, Mumbai
MBA- Sustainability	<ul style="list-style-type: none"> Business Sustainability Sustainable Development Green Business Sustainable Management Business Strategy & Sustainability Business Ethics & Sustainability Lean Sustainable Supply Chain Sustainability Management 	<ul style="list-style-type: none"> Institute of Management and Technical Studies (IMTS), Noida Teri University, Delhi Silver Bright Institute of Management (SBIM) The Global Open University, Nagaland The Indian Institute of Management, Lucknow SP Jain School of Global Management, Mumbai Birla Institute of Management Technology (BIMTECH) Xavier University Bhubaneswar (XUB) Indsearch, Pune
Energy Management	<ul style="list-style-type: none"> Executive PGP- Energy management Energy and Environment Energy Policy Energy Management National Management Programme (NMP)/ PGP-EM (Energy Management) 	<ul style="list-style-type: none"> Management Development Institute, Gurgaon (MDI) Symbiosis International University Department of Management Studies, Indian Institute of Science (DOMS IISc) Indian Institute of Social Welfare and Business Management (IISWBM) Birla Institute of Management Technology (BIMTECH) Management Development Institute, Gurgaon

Table 2 gives a select list of sustainability related electives offered by various business schools.²

Table 2. Sustainability & Environmental Management Electives (Select list)

Sustainability & Environmental Management Electives (Select list)		
Electives	Asia-Pacific Institute of Management (AIM) <ul style="list-style-type: none"> • Business Ethics & Corporate Governance 	Rajiv Gandhi Institute of Management, Shillong <ul style="list-style-type: none"> • Sustainability, Corporate Social Responsibility & Ethics
	Christ University Institute of Management, Bangalore <ul style="list-style-type: none"> • Sustainability and Environmental Management Law, Ethics and Corporate Social Responsibility 	Rajagiri Centre for Business Studies (RCBS) <ul style="list-style-type: none"> • Environment Management • Business Ethics & Corporate Governance, • Sustainable Development & Corporate Governance
	Indian Institute of Management Ahmedabad (IIMA) <ul style="list-style-type: none"> • Carbon Finance • Environment Management • Managing Energy Businesses • Managing Sustainability 	School of Management for Infrastructure and Development studies (MINDS), <ul style="list-style-type: none"> • Energy Trading • Environmental Management
	Indian Institute of Management, Bangalore (IIMB) <ul style="list-style-type: none"> • Corporate Strategy and Environment • Strategy and the Sustainable Enterprise • Social Enterprises • Inclusive Business • Corporate Governance • Green Business • Environmental Economics 	Shailesh J. Mehta School of Management (SJMSOM) <ul style="list-style-type: none"> • Environmental Management
	Indian Institute of Management, Calcutta (IIM-C) <ul style="list-style-type: none"> • Ethics • Corporate Social Responsibility • Environmentally-Sound Business Practices and Leadership 	XLRI-Jamshedpur <ul style="list-style-type: none"> • Introduction to Sustainable Development and Corporate Sustainability • Advanced Environmental Management and Green Marketing • Introduction to Social Entrepreneurship
	Indian Institute of Management, Indore (IIM-I) <ul style="list-style-type: none"> • Green Business Management • Business of the Bottom of the Pyramid • Marketing to Bottom of the Pyramid Customers 	NMIMS – School of Business Management <ul style="list-style-type: none"> • Corporate Social Responsibility Ethical Issues in Management • Social Development & Introduction to Social Entrepreneurship • Disaster Management • Environment Management
	Indian Institute of Management, Kozhikode (IIM-K) <ul style="list-style-type: none"> • Environmental Management • Green Supply Chain Management & Practices • Corporate Governance & Corporate Social Responsibility 	NITIE, Mumbai <ul style="list-style-type: none"> • Sustainable Development • Environment and Safety Legislation • Green Marketing • Environmental Management • Sustainability
	Indian Institute of Management, Lucknow (IIML) <ul style="list-style-type: none"> • Corporate Governance & Strategy • Business Sustainability and Externalities Markets • Business and Society • Green & Sustainable Computing 	Institute of Rural Management (IRMA), Anand <ul style="list-style-type: none"> • Social Entrepreneurship • Values and Ethics in Management • Corporate Social Responsibility • Sustainability and CSR Compliance Mechanisms
	Indian School of Business (ISB) <ul style="list-style-type: none"> • Leaders and Sustainable Development 	SCMHRD, Pune <ul style="list-style-type: none"> • Concepts and Applications in Sustainability • Corporate Social Responsibility • Sustainable Marketing • Sustainable Supply Chain • Social Entrepreneurship • Corporate Governance and Ethics • Microfinance and Social Banking
	Lal Bahadur Shastri Institute of Management (LBSIM) <ul style="list-style-type: none"> • Business Ethics & Corporate Governance (PGDM) • Business Sustainability & CSR 	

² Please note that this is not a comprehensive list and has been compiled through an internet search.

Three alternate programmes that focus almost exclusively on business and sustainability are given in the following section. Such programmes indicate a growing demand for sustainability-oriented business education.

Case Study 1: Xavier University's School of Sustainability (XSOS):

XSOS launched the MBA in Sustainability Management in June 2015. Traditionally, the idea of building sustainability into a business school curriculum has been to add electives onto a core curriculum. XSOS has integrated sustainability as the core and added the functional areas as (add-ons). This is somewhat of a paradigmatic shift from the way MBA programmes in sustainability are generally conceived elsewhere. This programme focuses on five key areas namely (1) Human Development; (2) Sustainability, Leadership and Entrepreneurship; (3) Climate Change and Natural Resource Management; (4) Sustainable Energy; (5) Policies, Laws and Governance. In the second year students specialize in any of the four functional areas including Accounting and Finance, Marketing, Human Resource Management, Operations Management and Information Systems. This is complemented by capstone projects and a six-week program on Sustainability Discovery, where students are encouraged to explore sustainability issues in the community.

Case Study 2: IIML's Post Graduate Programme in Sustainable Management (PGP-SM):

Launched in 2015, the PGP-SM covers the subject areas of environmental, social, and economic sustainability of businesses, change-management, Policy and institutional analysis, and cross-sector collaboration. Core sustainability courses taught in this are given in Table 3:

Table 3. Core Courses in the PGP-SM Programme of IIML

Core Courses in the PGP-SM Programme of IIML

- | | |
|---|---|
| • Communication for Sustainable Management | • Environmental Law and Policy |
| • Environmental and Resource Economics | • Sustainable Marketing Concepts |
| • Principles of Sustainable Management | • Externalities and Externalities Trading |
| • Business Certification for Sustainability | • Lifecycle Management |
| • Creativity and Innovations for Designing Sustainable Solutions | • Social Entrepreneurship |
| • Basic Decision Making Techniques for Sustainable Management | • Sustainability: Measuring & Reporting |
| • Accounting for Sustainable Management | • Research Methods for Sustainable Management |
| • Financial Decision Making for Sustainable Management | • Stakeholder Analysis and Management |
| • Designing (Sustainable) Organizations | • HRM for Sustainable and High Impact |
| • Human Dimensions of Sustainability (Human Rights, Justice and Ethics) | • Environment and Social Risk Analysis and Management |
| • Systems Thinking | • Sustainable Supply Chain Management |
| | • Environment Finance and Sustainable/Impact Investment |

Case Study 3: MBA in Business Sustainability (TERI University):

The MBA in Business Sustainability at the TERI University covers a variety of courses, including Principles and Concepts of Sustainability, Climate Change and Development, Sustainability Reporting and CSR, Sustainable Business Strategy, Business and Society and Environmental Economics. Core sustainability courses taught in this are given in Table 4:

Table 4. Core Courses in MBA in Business Sustainability (TERI)

Core Courses in MBA in Business Sustainability (TERI)

- Climate change and development
- Energy policy and management
- Sustainable business strategy
- Environmental economics
- Financial intermediaries, institutions and regulations
- Corporate governance - challenges, evolution and future direction
- Business ethics
- Contemporary issues in change management
- Community relationship

While all the three institutions have an enviable track record in designing and delivering high quality post graduate programmes it is too early to predict the success of these new initiatives.

SECTORAL SCHOOLS

India also has several schools with a specific sectoral focus such as Rural Development, Forest Management or allied areas. While such programmes are not conventional MBAs, they offer significant coverage of sustainability areas. Examples of such institutes are the Indian Institute of Forest Management (IIFM), Institute of Rural Management (IRMA), and the Disaster Management Institute (DMI) offer courses with significant coverage over sustainability and disaster management topics. A good case in point is the Indian Institute of Forest Management, established 1982 by the Indian Government (under the Ministry of Environment, Forests and Climate Change). IIFM offers a PG diploma in Forestry Management, with a primary focus on sustainable management of natural resources.

COURSES IN DISASTER MANAGEMENT

Disaster management in India received significant attention from the government as well as stakeholder groups in the wake of the Bhopal gas tragedy in 1984, consid-

ered the world's worst manmade industrial disaster. The following period saw the introduction of new legislation for environmental protection. Simultaneously there has also been greater appreciation of the need to better manage natural disasters of varying magnitude that impact the Indian subcontinent on a regular basis.

While courses on crisis and disaster management have been taught as part of other programmes, the exclusive focus on Disaster Management as a business school course is a recent development. India is particularly vulnerable to disasters because of its geo-climatic and socio-economic conditions. With the enactment of the Disaster Management Act in 2005 by the Indian Government, events emanating from both natural and manmade causes as well as those due to accidents and negligence are now categorized as disasters. A high powered committee by the government has classified disasters as related to (a) water and climate; (b) geology; (c) chemical, industrial and nuclear; (d) accidents; and (e) biological. For a comprehensive list of these please see Table 5.

Table 5. Disasters as classified by the Indian Government

Water and climate related disasters	<ul style="list-style-type: none"> • Floods and drainage management • Cyclones • Tornadoes and hurricanes • Hailstorm • Cloud burst • Heat wave and cold wave 	<ul style="list-style-type: none"> • Snow avalanches • Droughts • Sea erosion • Thunder and lightning • Tsunami
Geological related disasters	<ul style="list-style-type: none"> • Landslides and mudflows • Earthquakes 	<ul style="list-style-type: none"> • Dam failures/ Dam bursts • Minor fires
Chemical, industrial and nuclear related disasters	<ul style="list-style-type: none"> • Chemical and industrial disasters • Nuclear disasters 	
Accident related disasters	<ul style="list-style-type: none"> • Forest fires • Urban fires • Mine flooding • Oil spills • Major building collapse • Serial bomb blasts 	<ul style="list-style-type: none"> • Festival related disasters • Electrical disasters and fires • Air, road and rail accidents • Boat capsizing • Village fire
Biological related disasters	<ul style="list-style-type: none"> • Biological disasters and epidemics • Pest attacks 	<ul style="list-style-type: none"> • Cattle epidemics • Food poisoning

Source: High Powered Committee Report-1999, quoted in NIDM, 2013.

As in the case of sustainability, several institutions also offer courses on Disaster management. A select list such institutes is given below in Table 6:

Table 6. Schools with Disaster Management Programmes

M.A./ M.Sc. in Disaster Management	Tata Institute of Social Sciences
PG Diploma in Disaster Management	Indira Gandhi National Open University,
P.G. Diploma in Natural Hazards Disaster Risk Management	Indian Institute of Remote Sensing, Uttarakhand
MBA in Disaster Management	Guru Govind Singh Indraprastha University
MSc in Disaster Mitigation	Sikkim Manipal University, Sikkim
MA in Disaster Management	Annamalai University, Tamil Nadu
M.Sc. in Disaster Management	The Global Open University, Nagaland Indian Institute of Ecology and Environment

Source: NIDM 2014 and other sources, compiled by the author.

CHALLENGES IN INCORPORATING SUSTAINABILITY INTO BUSINESS SCHOOL CURRICULUM

While the efforts detailed in the previous sections are laudable, it is fair to say that there have not been enough efforts by business schools to mainstream sustainability or disaster management concepts into the curriculum by integrating them with core functional area courses. By and large it appears that, business schools have introduced sustainability themes into MBA curriculum more out of political concerns and correctness, rather than conviction. Even as this trend is slowly changing, it is interesting to note that while being sustainable is often profitable to business, whether it is worthwhile for business schools to engage in sustainability initiatives is still a moot question. The overall progress has been stymied due to a variety of reasons:

- *Absence of an enabling infrastructure and incentive system at the business school level:* Sustainability is not seen as a main stream functional area by business schools. This translates into reluctance to recruit faculty specialized in these and allied areas.
- *Challenges of integrating sustainability concepts into core MBA curriculum:* An integrated approach, i.e., integrating sustainability concepts across courses in a meaningful manner is ideal, given the interdisciplinary nature of the sustainability problem. However, given the constraints identified earlier, stand-alone courses are a most commonly adopted practical trade-off. Adding one more subject, even if a critically important one such as sustainability, calls for

rejigging the existing curriculum. Further, opportunities for cross disciplinary programmes are not sufficiently leveraged as many Indian business schools which are generally standalone schools.

- *The challenge of faculty motivation:* The lack of industry connection implies that those who teach (faculty) do not practice and those who practice (industry) do not teach, with a few exceptions. As a faculty colleague pointed out “our professors that have gone through the education system and gotten a PhD on a very narrow topic and then are rewarded for publishing on that topic - there is not really an incentive for them to have the broader view. Especially for young faculty who are trying to pursue tenure, I think this is a challenge... there is so much on the line for them as far as their career success (goes), do they have the freedom to think about the whole system and do more than just their topic?”
- *The challenge of faculty incentivization:* For young faculty too there is not much incentive to integrate sustainability concepts into their regular classes. A colleague noted “You really want to be a great teacher. And student evaluations are really important for promotions and tenure. So if you are going to take a risk to teach about something you don’t know much about, it is difficult for professors to teach about sustainability.” Similar issues exist with faculty research too.
- *The challenges of harmonizing curriculum:* The sustainability problem is diverse and complex and can be addressed in myriad ways. This complexity also finds its way into the manner in which the curriculum design happens in the institutions surveyed. As noted before the content and pedagogy for the delivery of sustainability courses also vary greatly between business schools. Further programmes in allied areas may have significant sustainability inputs. For examples most MBAs in Corporate Social Responsibility would have some courses on environmental management. Similar is the case with MBA in Human Rights, Social Development etc., even though they have not been identified as MBA’s in sustainability in this paper.
- *The challenge of funding:* In emerging economies such as India social issues have a bigger influence on the other dimensions of sustainability. But research in social areas can be difficult, time-consuming and requires money. Except for faculty in a few business schools most others faculty have little bandwidth in terms of resources. As a faculty put it “So for an institute like mine, which is a private institute, very often it is on my time and my dime.”
- *Shortage of appropriate resource materials for teaching:* While copious material exists on business and environment in a developed country context there is very little on issues that concern firms in emerging economies such as India. Most material available in the context is written from an engineering/pollution control perspective and hence unsuitable for use in a business school. Further, even the material that exists in different institutions has not been inventoried so far and thus remains unavailable to the vast majority of teachers.

- *Challenges of building inter-institutional collaborations:* While there is a great deal of expertise in sectoral schools with respect to managing some of the key sustainability challenges, there is very little inter-institutional collaboration between these and conventional business schools. There is an urgent need to allow these linkages to come up and develop communities of partnerships in the area of sustainability.
- *Challenges of community engagement:* Many sustainability problems are rooted in the community these institutions operate in. So there is a strong argument for setting up community engagement and public-private partnerships.
- *Challenges of student perception and recruiter apathy:* The perceived lack of recruiter interest translates into low levels of student interest in many sustainability related courses, especially those offered outside the top business schools.

RECOMMENDATIONS

To summarize, sustainability education suffers from what could be characterized as an unhealthy amount of skepticism all around. Both faculty and students are circumspect about pursuing opportunities in the sustainability and disaster management spaces because career options are not easily visible or well defined. Faculty are cynical, partly because career growth is not so very well defined. This is exacerbated by the fact hardly any journals publishing interdisciplinary research would find themselves among the top rated journal lists of business schools. There is also a great deal of institutional level skepticism because such courses have limited student appeal and hence are not easily scalable, adding to the institutions' costs.

Our analysis of the current status indicates that a three-pronged approach is necessary to strengthen sustainability education in Indian business schools, namely:

- Efforts at building institutional capacity, in terms of faculty resources and skills, access to financial and non-financial resources, and creation of a critical mass of interested faculty within each business school
- Building a resource base of teaching material, including cases, articles, videos, teaching notes, etc.
- Building communities of practice by networking faculty in allied institutions to quickly transplant successful experiences between business schools and help evolve collaborative curriculum development efforts.

STRENGTHENING INSTITUTIONAL CAPACITY

As noted before, the lack of institutional capacity is a strong barrier to the introduction of sustainability and disaster management courses into business school curricula. Institutional capacity here refers to resource constraints in the areas of finance, materials and faculty. This is felt most acutely in the case of teaching faculty. The average business school operates with limited faculty and no possibility of establishing dedicated faculty for environmental courses. It is therefore necessary to upgrade the skills/knowledge levels of the existing faculty so that environmental issues can

be covered in an adequate manner by faculty from other functional areas. Institutional capacity may also be strengthened by providing some amount of budgetary support for procuring appropriate material, and for developing teaching material by the concerned faculty.

BUILDING A RESOURCE BASE OF TEACHING MATERIALS

There is an urgent need to develop adequate teaching material in the form of case studies, articles, simulations and multi-media resources on topics related to disaster management. An indicative list of possible topics is given below.

- Issues Management
- Crisis Management
- Disaster Management
- Management of large and medium scale industries
- Management of small scale industries
- Multinational firms in the developing country contexts
- Stakeholder management
- Technology choice and evaluation
- Public-private policy interfaces
- Successful experiences in strategic environmental management
- Use of economic and regulatory instruments
- Environmental partnerships (inter-firm and private-public)
- Corporate environmental management systems and strategies
- Environmental negotiations
- Environmental appraisal of new technologies and projects
- Environmental Marketing
- Green Manufacturing

CREATING COMMUNITIES OF PRACTICE

A third approach to promote sustainability related education in business schools is to network all faculty involved in teaching environmental courses in business schools with others interested in introducing similar courses. This networking can be achieved by facilitating collaborative research on curriculum development between different participating institutions, in particular between premier institutions such as IIMs and other second level institutions.

In the final analysis the key question is can business schools help innovate and incubate solutions to some of the biggest sustainability challenges that we face? Our experience so far indicates that we can. For example, several innovative ideas as well as best practices in sustainability have emerged in the business school context, such as base of the pyramid approaches. Further, the most challenging sustainability problems that humanity faces are located in the developing and emerging economy contexts, and there is a need to involve local institutions in helping co-create appropriate and effective solutions to meet these challenges.

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APPENDIX: LIST OF INSTITUTIONS SURVEYED

University/Business School	Courses Offered
Teri University	MBA in Business Sustainability
Kurukshetra University, Kurukshetra	PG Diploma in Environmental Impact Assessment and Auditing
The Indian Institute of Management, Lucknow	Post Graduate Programme in Sustainable Management (PGPSM), EFPM-Sustainable Management
Department of Environmental Management, Bharathidasan University	Department of Environmental Management- MBA program
Institute of Management and Technical Studies (IMTS), Noida	MBA- Sustainability
Northpole Institute of Distance Education	MBA - Disaster Management MBA - Environmental Management MBA - Sustainable Development Management
Chhatrapati Shahu Institute of Business Education and Research, Kolhapur	MB. (Master of Environment Management) M.Sc. (Environment and Safety)

APPENDIX: Continuation

University/Business School	Courses Offered
Chhatrapati Shahu Institute of Business Education and Research, Kolhapur	M.B.A. (Master of Environment Management) M.Sc. (Environment and Safety)
SP Jain School of Global Management	MBA- Business Strategy & Sustainability
The Global Open University, Nagaland	MBA (Environmental Management)
	MBA (Global Peace and Security)
	MBA (Disaster Management)
	MBA (Sustainable Development) MBA (Green Business)
VPGR Institute of Technology- Distance Education	MBA in Environmental management
Management Development Institute, Gurgaon (MDI)	Executive Post Graduate Programme- Energy Management
Symbiosis International University	Master of Business Administration (Energy and Environment)
Department of Management Studies, Indian Institute of Science (DOMS IISC)	MBA Energy Policy
Indian Institute of Social Welfare and Business Management (IISWBM)	MBA (Public System)-Environment Management, Energy Management, MSW-Disaster Management, Environment and Sustainable Development.
SCMS Cochin School of Business (SCMS Cochin)	Post Graduate Diploma in Management Environmental Change & Management
Birla Institute of Management Technology (BIMTECH)	Lean Sustainable Supply Chain, Energy Management- PGDM
IFIM Business School	PGDM-Business Ethics & Sustainability
IndSearch Centre of (i-cosm)	MBA in Sustainability Management
Uttarakhand Open University	PG Diploma in Disaster Management
Maharaja Krishnakuma- rsinhji Bhavnagar University	PG Diploma in Disaster Management – 2 years
MDI-Gurgaon	National Management Programme (NMP)/ PGP-EM (Energy Management) Programme
Centre for Disaster Management Studies. Guru Govind Singh Indraprastha University, Delhi.	MBA – Disaster Management
NITIE, Mumbai	Post Graduate Diploma in Industrial Safety & Environmental Management (PGDISEM)

APPENDIX: Continuation

University/Business School	Courses Offered
Bhoomi College	PG Diploma Course- Science and Management for Sustainability
The Indian Institute for Sustainable Enterprise (IISE)	Postgraduate Certificate Program in Sustainable Enterprise
Silver Bright Institute of Management (SBIM)	Postgraduate in Sustainability Management
Chhattisgarh University	Post Graduate Diploma in Sustainability (Distance Learning)
School of Management for Infrastructure and Development studies (MINDS) Affiliated to VTU	Energy trading courses, Environmental Management
Xavier University Bhubaneswar (XUB)	MBA in Sustainability Management (MBA – SM)
The Indian Institute for Human Settlements (IHS)	Bachelors of Urban Practice (BUP), the Masters of Urban Practice (MUP) and a PhD programme.
Teri University	LLM specialization in Environment and Natural Resources Law and Infrastructure and Business Law
Kurukshetra University, Kurukshetra	Environmental Studies- M.Sc. Environmental Science M.Tech. (Energy and Environmental Management)
University of Hyderabad, Hyderabad	Post-Graduate Diploma in Human Rights (PGDHR) M.A. / M.Sc. in Climate Change and Sustainability Studies
Tata Institute of Social Sciences	MA Ecology, Environment and Sustainable Development
Sambalpur University, Odisha	P.G. Diploma in Environmental Education and Management (PGDEEM) P.G. Diploma in Industrial Safety and Health (PGDISH) through Distance Education mode
The Indian Institute of Management, Lucknow	Corporate Governance & Strategy -PGP, Business Sustainability and Externalities Markets-Elective, Business and Society
The Indian School of Business (ISB)	Leaders and Sustainable Development
Rajiv Gandhi Institute of Management Shillong	FPM Sustainability, Corporate Social Responsibility & Ethics
Shailesh J. Mehta School of Management (SJMSOM)	Elective-Environmental Management
Institute of Management, Nirma University	MBA Integrated Course-Introduction to Ethics & Corporate Social Responsibility
Lal Bahadur Shastri Institute of Management (LBSIM)	Business Ethics & Corporate Governance(PGDM) Elective-Business Sustainability & CSR

APPENDIX: Continuation

University/Business School	Courses Offered
K. J. Somaiya Institute of Management Studies and Research (SIMSR)	Environment Conscious Manufacturing-operations Business Ethics and Corporate Governance PGDM _ Corporate Social Responsibility
Research and Entrepreneurship Education	Electives-Corporate Social Responsibility Business Ethics & Corporate Governance Environment Management
Asia-Pacific Institute of Management (AIM,	PGDM(IB) Business Ethics & Corporate Governance
Loyola Institute of Business Administration (LIBA)	PGDM -Ethics, Disaster Management, Centre for Business Ethics and Corporate Governance
Rajagiri Centre for Business Studies (RCBS)	Environment Management Business Ethics & Corporate Governance, Sustainable Development & Corporate Governance
Christ University Institute of Management	Law, Ethics and Corporate Social Responsibility (MBA) Electives on Sustainability and Environmental Management
Disaster Management Institute. (DMI)	Training Programme on Disaster Management
Amity University Institute of Disaster Management	12 weeks' full time Programme. 24 weeks' part time Programme.
IIM-A	(Electives Courses) Carbon Finance Disaster Management Environment Management Managing Energy Businesses Managing Sustainability
IIM-C	business ethics and courses related to ethics, CSR, environmentally-sound business practices and leadership-PGPPM
XLRI-Jamshedpur	Introduction to Sustainable Development and Corporate Sustainability Advanced Environmental Management and Green Marketing Introduction to Social Entrepreneurship
IIM-K	Environmental Management Business Ethics Social Transformation in India Green Supply Chain Management & Practices Corporate Governance & Corporate Social Responsibility Green & Sustainable Computing Marketing for a Better Society

APPENDIX: Continuation

University/Business School	Courses Offered
SVKM'S NMIMS – School of Business Management	Finance Area Business Environment and Strategy Business Environment and Strategy Corporate Social Responsibility Ethical Issues in Management Social Development & Introduction to Social Entrepreneurship Corporate Social Responsibility Disaster Management Environment Management
NITIE, Mumbai	Electives: Sustainable Development Environment and Safety Legislation Legal and Ethical Issues in Business Green Marketing Environmental Management Sustainability
VGSOM, IIT Kharagpur	MBA-BUSINESS ETHICS
IRMA, Anand	Post Graduate Programme in Rural Management Social Entrepreneurship Values and Ethics in Management Corporate Social Responsibility Sustainability and CSR Compliance mechanisms
SCMHRD, Pune	MBA Concepts and Applications in Sustainability Corporate Social Responsibility Sustainable Marketing Sustainable Supply Chain Social Entrepreneurship Corporate Governance and Ethics Microfinance and Social Banking
Goa Institute of Management	PGDM-The Social Responsibility and Action (SRA)
LN Welingkar Institute of Management, Mumbai	Ethics & corporate Governance
The South Indian Education Society (SIES) -The Indian Institute of Environment Management	Post Graduate Diploma in Environmental Pollution Control Technology Post Graduate Diploma in Sustainable Environment Management (One Year Part Time)
Jankidevi Bajaj Institute of Management Studies in Mumbai	P.G diploma in Corporate Social Responsibility