

# Global Encounter-India

## Technology and Economic Development- Making a Difference

### Individual Written Responses to Questions Related to the Topic

Procedure used to generate this document:

This document represents the summary of responses individuals wrote to questions related to their self-selected area of interest/expertise within these topic areas (Education; Environment; Food Systems and Agribusiness; Gender, Poverty and Social Inequalities; Health; and Technology and Economic Development). All responses received are included and are typed verbatim with some explanation of acronyms. There is no significance in the ordering of the topics or comments as presented in this report.

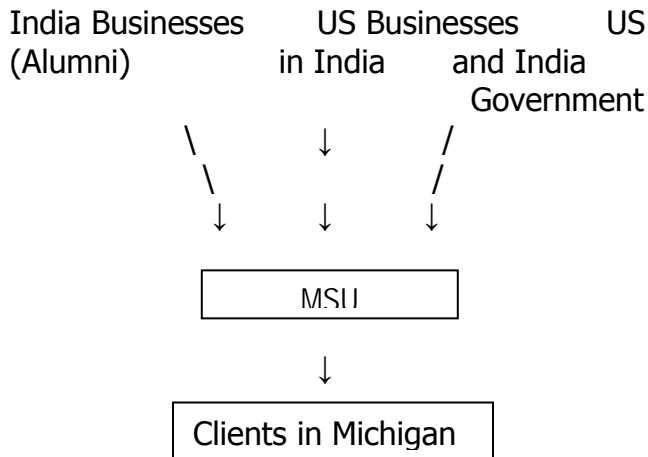
#### **A. What are your current or future focused areas of teaching, research and/or outreach related to India?**

1.
  - Economic Development
  - Learning about MSU linkages with Indian institutions
  
2.
  - Construction Management
  - Civil Engineering
  - Housing and Infrastructure
  
3.
  - Working with Indian companies as far as informational technology (IT) projects are concerned.
  
4.
  - At present, none. I am not from MSU.
  - Future: I would like to get involved in developing corporate training – training for the business world – with India.
  - My current area of involvement is Six Sigma. [Note: Six Sigma at many organizations simply means a measure of quality that strives for near perfection. Six Sigma is a disciplined, data-driven approach and methodology for eliminating defects in any process – from manufacturing to transactional and from product to service. The fundamental objective of the Six Sigma methodology is the implementation of a measurement-based strategy that focuses on process improvement and variation reduction.] I have a Ph.D. in Chemical Engineering and MBA. I am employed in the private sector in the Polymers area.

5.
  - College of Engineering – Electrical and Computer Engineering – Advanced Technology applications to transportation, International Border Crossings, Homeland Security and Safety
  - Also, I am chairman of the MSU India Council, an endowed MSU organization of MSU Faculty with an interest in India in Research, Cultural, Technology and Economic Development collaboration.
6. **\*\*NO RESPONSE\*\***
7.
  - As an individual faculty, none.
  - As Associate Dean of Engineering, India is of considerable interest to the college and profession.
8.
  - Future areas: Research in areas of materials science and bio-science are global, as are mathematical approaches to solving problems in them. India has a long and rich history in mathematics and technology and the current state of development in India suggests that the time is ripe for establishing collaborations with research scientists and mathematicians working in these areas.
9.
  - I have facilitated the visit of about a dozen scientists from an Indian institution to the cyclotron lab at MSU for periods of 6 months each to get experience in various areas of technology – detector construction, magnet building, etc.
10.
  - Asian Studies Center India Week (ASN)
  - Group program abroad to India (applied to Fulbright-Hays) for K-12 teachers through the Asian Studies Center
  - Support for graduate students whose work involves India
  - The hope to develop more study abroad opportunities in India/S. Asia
11.
  - I work at Michigan Economic Development Corporation.
  - Our current focus/interest in India is auto supplier and other manufacturers.

**B. What resources (existing at MSU or working in collaboration with MSU) should be considered as the University moves forward on any and all work related to India?**

1. ●MSU has knowledge and connections that could be used in outreach to Michigan businesses to increase their capacity to conduct trade with India. For example, an executive immersion program for Michigan businesses on the cultural and structural basics of doing business in India.



2. ●Unsure of MSU resources to help with international work and with India
3. ●I don't have much idea of resources available in MSU. So I can't really answer this question.
4. ●Use faculty members from India to get better participation from the Indian community in this area.  
●Tap recent graduate students who have come from India to get their undergraduate institution more involved with MSU.
5. ●Faculty and students in multiple disciplines, interested in India
6. ●Visiting researchers utilizing resources  
●Keck Micro Fabrication Center for collaborative research projects. (Note: This center, formerly called the Center for Sensor Materials Microfabrication Facility, was one of the first National Science Foundation Materials Research Science and Engineering Centers (MRSEC). It shares its major facilities with MSU campus users and with a national network of 24 MRSECs. The Keck Microfabrication Facility exists as a unique research and training environment on the MSU campus and brings together students, faculty, and industrial scientists.)

7. ●A large number of Indian-American faculty and graduate students in Engineering and Science.
8. ●Travel grants allowing exchanges. India, being less economically blessed, should share in the cost but should be asked to provide only a fraction of the expenses to receive and to send visiting scholars.
9. ●I think the most important thing is for MSU to have one or more faculty engaged full time in South Asia studies – this could be in any discipline, e.g., economics, languages, etc.
10. ●Language proficiency in as many Indian languages as possible – needs developing
  - Broad-based engagement with Indian cultures on the part of everyone who is involved in India.
  - The more sophisticated MSU faculty are, the more successful these linkages will be.
  - The Scientists can't just stay in their labs.
11. ●Knowledge based economy
  - Health Care management
  - Health Care Equipment selling and management
  - Partner with not just academics but with entrepreneurial groups so they can support exchange students and internship programs.
  - Two way street – Major corporations would love to take graduate students under internship exchange program. Schools like Harvard already do this. Companies provide accommodations and some compensation. These programs are usually 3-6 months (quarter or semester). For US corporations it will require some efforts to apply for special visas but it is something MSU already does and can provide assistance.

**C. What are the top three to five things that MSU should be doing in regards to this theme/area of concern in India over the next five to ten years? How would we know that we had been successful?**

1. ●Develop programs to increase mutual understanding between nations – culturally – particularly, in the U.S. (Michigan).
  - Concentrate on connecting with universities and businesses (and government) in MSU's areas of strength (in India) by way of faculty and alumni.
  - Raising awareness of the Midwest (U.S.) as an economic region with strength in agriculture, manufacturing, bioenergy, and as a travel destination.

2.
  - Joint/dual certificate and degree programs at the graduate level
  - Engage not only academic but industry and government partners from India also.
  - Engage the National Science Foundation (NSF) to pursue the development of joint U.S.- India research and outreach areas. (I understand that NSF has started initial discussion about setting up an NSF - India satellite office.)
3.
  - Micro-credit - in poor and rural areas it is really successful.
  - Research in wireless technology to provide technology to rural areas at low cost  
Examples: Cell phone 3G wireless broadband. IIT Madras is working in this regard.
  - Alternative fuel! Biodiesel including diesel made from zatropa. Also Liquid Petroleum Gas (LPG). India was one of the first to drive small autos and to develop a way to use LPG in them. There is relevant expertise there. We need to identify good schools that work in the area of biofuels and collaborate with them.
4.
  - Engage business leaders/thinkers from India.
  - Learn from Indian think tanks. Business literature is dominated by Western thinkers and authors. A lot of Indian philosophy is very useful in being effective in corporate culture. We don't know it all – let's learn from each other.
5.
  - Establish links to MSU Alumni groups in India.
  - Establish joint programs of research and teaching.
  - Visiting scholars exchange.
  - Joint seminars and conferences on topics of mutual interest to provide more information regarding India and business climate
6.
  - Establish scholar exchange programs in areas of strength; for example, materials/physics experiment and theory at MSU with theory at Tata Institute in Mumbai.
  - Use MSU students of Indian descent as ambassadors for exchanges.
  - Facilitate exchange of information in the area of bio-mass generated fuel between existing companies in India and Michigan Economic Development Corporation (MEDC) programs in bio-fuel currently funded by Michigan 21st Century Jobs Fund. This is an area of strength for the University as we have faculty funded in the bio-fuel area.
7.
  - Developing further research partnerships
  - Developing an understanding of the relative roles of the U.S. and India in the technical global economy.
  - Is technology transfer one-way or two-way? E.g., Bangalore.

8.
  - Identifying partner institutions
  - Establishing fellowship programs to bring grad students to MSU
  - Establish an exchange program for visiting scholars.
  - Partnerships with one or two Indian institutions to establish joint degrees at the M.S. or Ph.D. level
9.
  - Establish a task force group on campus to decide what areas are worth pursuing with Indian counterparts (and which institutions to collaborate with).
  - Facilitate visits of leading MSU researchers to chosen Indian institutes of technology for periods of up to one year. And, likewise, visits from India to MSU.
10.
  - Promote language proficiency at all levels.
  - Identify areas of economic and development needs.
  - Deal with legal issues regarding technology transfer, etc.
  - Work on developing programs in all parts of India, ranging across regions, languages, cultures.
11.
  - Collect names of prominent public universities in India where medium of studies is in English.
  - Focus on engineering colleges from this group to build partnership programs.
  - In addition to collecting names of foreign (international) students from India, collect students attending MSU who are of Indian parents. They are truly connected to go back to form partnerships. They are not looking for financial support when they need to go and spend a year or two.
  - Find people in business/consulting in US who can contribute beyond pure academics when it comes to creating true partnerships with "rate of return" theory.

#### **D. Additional Comments**

1. ●These forums are beneficial.
2. \*\*NO RESPONSE\*\*
3. \*\*NO RESPONSE\*\*
4. \*\*NO RESPONSE\*\*
5. \*\*NO RESPONSE\*\*
6. \*\*NO RESPONSE\*\*
7. \*\*NO RESPONSE\*\*

8. **\*\*NO RESPONSE\*\***
9. **\*\*NO RESPONSE\*\***
10. ●What about politics? Not a category offered in this Global Encounter
11. ●Excellent organization of the event.  
●Set monthly meetings of people who wish to help to stay on track.

**This material was generated from Global Encounter-India, <<http://www.isp.msu.edu/globalencounter/india>>, held at Michigan State University on September 22, 2006. This interactive and participatory event was designed to obtain input and to elaborate in a country-specific forum on relevant themes, opportunities, issues, and opportunities affecting MSU's current and future engagement in India and to a lesser degree southeast Asia.**