

**Sustainability and Environmental Economics, Science & Engineering
for Ravenshaw University as a Signature Differentiator:
Some Thoughts**

Priyadarsan Patra 10/2/2007 (Gandhi Jayanti)

One of the most complex and important issues facing India is managing the trade-offs between resource use and sustainable quality of life. I feel Ravenshaw University can uniquely excel, and advance the needs of India, in these areas by means of scholarship, inter-discipline and inter-domain collaboration and education. As a structural framework, I suggest a federated set of inter-related, tightly coupled mini-departments specializing in this domain.

In order to find solutions to complex, multifaceted problems related to living sustainably, when most of today's educational institutes engage in highly specialized education and compartmentalized disciplines, Ravenshaw can distinguish itself as a center for diverse interdisciplinary collaboration and a place of excellence, creatively leveraging advanced technology and cross-cultural/community communication and exploration of inter-disciplinary linkages, to promote sustainable economic development, and environmental ethics and values. This integrative approach is to produce a new generation of social and natural scientists that are both sensitive to the intrinsic value and inherent worth of the natural environment, but also create equitable and responsible forces of societal progress. Furthermore, Ravenshaw as a central university, can provide national leadership in the areas of resourcing community development; sustainable land management, and value-added and diversified agriculture and forestry. It can help farmers, entrepreneurs, community developers, conservationists, and artisans alike, as well as private and public organizations, both for-profit and not-for-profit. Ravenshaw is in a unique position to facilitate the societal transformation needed to improve the wellbeing of our communities and our planet in an ecologically sensitive way.

The curricula in the proposed federated departments should be "packaged" to emphasize the connectivity among scientific, social, economic, technological, and cultural experiences, demonstrating the relationship between high quality environment and sustainable livelihoods. The specific areas of research and instruction may cover the following subjects:

- Ethics and Economics of the Environment
- ICT (Information, Computing and Telecommunication) for the rural poor:
 - Education, over-the-network jobs, "digital dividend"

- Small Business Development – what and how of small-business planning, pricing, location of a business
 - Franchising Education
- Microfinance
- Micro-enterprise
 - Local content, local adaptation and local training
- Industry Sustainability – making large mining and mineral/metal based enterprises to become environment-friendly and sustainable
- Water management, desalination/purification, etc.
- Capacity building
- BOP (“Bottom-of-the-pyramid” figure next page) Market development
 - Hindustan Level has full-scale R&D for BOP market
 - Off-grid lighting
 - Innovative Storage and Cooling of produce and food products
- Time-series econometrics, statistical cost-benefit analysis, and quantitative market research
- Being poor is expensive: from food, water, and credit to cell-phone. Finance, management, and market development for indigenous products and derivatives from the local flora and fauna.

The empirical research programs can include sustainable forestry practices; intensive rotational grazing of livestock; soil conservation structures; organic or biodynamic farming systems; Integrated Pest Management (IPM); diversified crops and crop rotations; farmland protection, wetland and other habitat restoration, etc.

Ravenshaw can provide value to micro and nano entrepreneurs seeking to add value to agricultural and forestry resources. Because earnings in extractive industries (for example, agricultural production and timber harvesting) are generally low and highly volatile, many communities seek to build economic and environmental sustainability by adding value to natural resources through processing, packaging, marketing, distributing the products themselves, or by producing their goods with methods that gain market premiums.

Some specific, potential courses that may be offered:

Climate Change Models

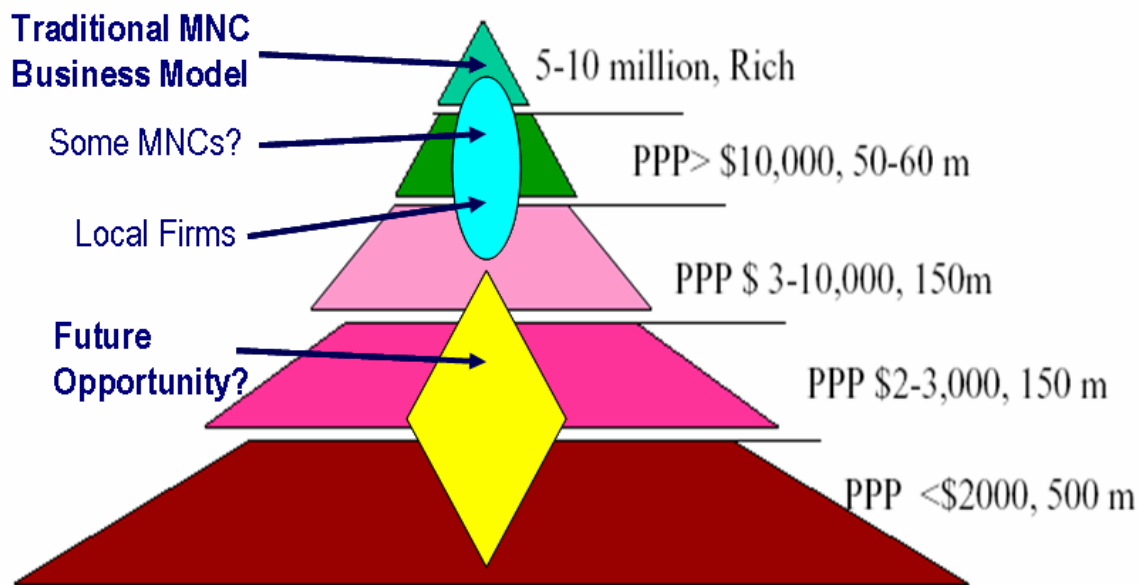
Managing and Valuing Climate Change Responses

Managing Biodiversity in a Changing Climate

Cutting Carbon in Homes via Planning Policy

Cutting Carbon in Homes via Technology

Biodiversity: meeting your obligations in the planning system



Bottom of the Pyramid in India according to Prof. C.K.Prahalad

Some Tools for Instruction used elsewhere:

The [Ecological Footprint](#) Calculator measures our use of natural resources by calculating how much land is required to produce all of the resources we consume and absorb all of the waste we produce. Students and community members can calculate their own personal ecological footprint, and to visualize their footprint in various ways (e.g. how many earths we would need if everyone on Earth had a footprint like theirs).

The [Community Planner](#) is a spatial modeling and visualization tool for community design and evaluation. Students can create a map of a neighborhood, community, village or town, and analyze the map based on indicators that they can help define. It encourages the visualization and analysis of communities based on the objects and variables placed on the map.

Ravenshaw can draw upon UNESCO's Asia-Pacific Regional Strategy for Education for Sustainable Development (ESD) which explores the following core issues of ESD:

- Information and Awareness
- Knowledge Systems
- Environmental Protection and Management
- Peace and Equity
- Local Context
- Transformation
- Culture
- Cross Cutting Issues and Themes
- Health
- Environmental Education
- Engagement of Leaders

Operational Issues

Reputation Building for the University:

We have networked connections with several renowned scientists, educationists and scholars who are well-disposed to offer 2 or 3 month courses at Ravenshaw if invited. In India only ISI or Delhi School of Economics might have anything close to the themes and curricula suggested; there are other ideas which are work-in-progress.

<To be continued>