

Sustainable development for rural poor

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Introduction

- **3 billion people earn < \$2/day**
- **With increasing exposure to TV and mass media they aspire to “affluent lifestyle”.**
- **Western life style is unsustainable. Yet it provides role model for the developing world. However this lifestyle needs to be changed.**
- **Spirituality helps in reducing greed for resources and helps in sustainability.**
- **Difficult to impose in a democratic society. Seduction and awareness needed.**
- **3 billion people cannot wait for west to become spiritual! West’s greed reduction & dev. of poor can go together.**

What can be done?

- **Technology intervention can help bring 3 billion poor people in mainstream development process.**
- **We all have responsibility to develop and deploy technologies specially for upliftment of these people.**
- **Tinkering approach has not helped. Need to develop technologies from ground up.**
- **Sophisticated technology needed. It allows very efficient energy conversions. Nature's way.**
- **Three major areas for intervention; Cooking, lighting (75% of total rural household energy) and clean drinking water.**

Strategy for sustainable development

- Use of local resources like biomass, solar and wind for end products. Increased agr. \Rightarrow increased biomass.
- Low grade energies hence high conversion η required.
- Decentralized energies \Rightarrow decentralized society.
- Nano and biotechnology as possible solutions.
- **Cooking: high tech biogas digesters with space age storage materials; liquid fuels from biomass.**
- **Lighting; liquid fuel lighting, small electricity generators, nanoengines with LED lamps, high η PV systems, Firefly technology?**
- **Water; microuilities for simultaneous power and water production. Rainwater harvesting.**

Conclusions

- **The strategy will help in**
 - Improving the environment.
 - Conserving energy resources. Reduction in world conflict.
 - Increase employment and local rural wealth through energy production and downstream processes.
 - Provide huge market for technology providers.
 - Bring the rural poor in mainstream of development.
- **The rural population in developing world is more spiritual than most of us. With improvement in their quality of life they may teach North a lesson or two in sustainability!**

THANK YOU

- <http://education.vsnl.com/nimbkar/spiritual.html>
 - <http://education.vsnl.com/nimbkar/thought.html>
 - <http://nariphaltan.virtualave.net/rocketscience.pdf>
 - <http://nariphaltan.virtualave.net/articles.htm>
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