



Developmental Entrepreneurship

MAS.666 / 15.971

Brainstorming Development Opportunities

19 September 2003

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Today's DE Agenda

1. Deliverables: Our Expectations
2. Executive Summary Guidelines
3. Example Developmental Opportunities
4. Guests & Brainstorming

Guests

- Eleonoria Badilla-Saxe, Education/LINCOS
- Ian Eslick, SiliconSpice
- Tim Prestero, Design-that-Matters/Kinkajou
- Sissi Liu, Kenyan Agroforestry /
ecoventures
- Damien Balsan, Way/MobileBanco
- Nathan Eagle, Cash
- Owen Johnson, MakingProgress,
microphilanthropy; InterDimensions
- Sanith Wijesinghe, \$50K biomed, OCW
- Yael Maguire, FabLab & ThinkCycle

DE Deliverables

- *Weekly* weblinks via email...
- Business Plan Executive Summary
 - **DUE:** November 19, 2003
 - 1,200 words; 3 pages; \$50K format
- Form Teams to do this!
 - Within class or beyond

Executive Summaries

- Rules & Guidelines at <http://50k.mit.edu>
- Fairly standard What, Why, How, Who, Who Else questions
- Systematically hook the reader in with compelling elevator pitch & more

Identifying Worthy Opportunities

- Problem side
- Solution side
- Big categories & specific ideas
- Pick something and begin exploring, iteration will naturally focus you.

Macro Categories

The 1G Challenge

- Basic Needs
- Health
- Catastrophe Mitigation
- Shelter
- Farming
- Culture
- Transportation
- Distributed Power
- Information & Communication
- Education
- Business Models
- Finance
- ...

Innovation Opportunity / Idea Sources

- Design-that-Matters
<http://www.designthatmatters.org>
- HalfBakery <http://www.halfbakery.com/>
- Sristi Innovation Database / Honeybee
http://202.71.129.184/nifindia/innovation_database.asp
- Technology Transfer Database
<http://www.sristi.org/technologytransfer.html>
- ThinkCycle <http://www.thinkcycle.org>
- GIAN <http://www.gian.org>
- http://journeytoforever.org/at_link.html
- Innovation Foundation
<http://www.nifindia.org/>
...many more!

Specific Ideas & Opportunities

Health: Low Cost Test & Diagnostics

- Disease
- Contamination
- Analogous to pH or Litmus paper
- Telediagnosics

- “Penny Diagnostics”

<http://gn.www.media.mit.edu/resenv/telemed/>

<http://www.media.mit.edu/nanoscale/research/sensors.html>

<http://web.media.mit.edu/~jasont/dist/tabletopchem/>

Health: Low Cost Therapeutics

- Wound care
- Simple treatments
- Key devices
- E.g. Cholera
Treatment
 - Annually 5-7 million cases,
100,000 deaths worldwide

Health: Clean Water

- Ashok Gadgil's UV disinfection system
by *Water Health International*
- Wastewater treatment filter
- Desalination

<http://www.world-wide-water.com/Desal.html>

<http://web.mit.edu/invent/www/search.html>

<http://web.mit.edu/newsoffice/nr/2000/filters.html>

Catastrophe Mitigation: Imaging & Early Warnings

- Remote imaging
- Weather forecasts for farmers and fishermen and low-land dwellers

Catastrophe Mitigation: Landmine Detection

- Traditional methods <http://sun16.cecs.missouri.edu/landmine/>
- Chemo-bio tracing

Shelter: Ecofriendly Structures

- Building Efficiency in China
http://loohooloo.mit.edu/plan/plan_issues/54/china/index.html
- Sanitary facilities & Plumbing

<http://www.thinkcycle.org>

<http://www.rmi.org/>

Transportation: Farming Moto-extensions

- Enfield Bullet motorcycle appendage
- Generalizable...

http://www.sristi.org/santi_tech.html

<http://www.sristi.org/motorcycle.html>

Culture: Craftscaling

- Leveraging local craftsmen into a global market

- E.g. Craftcenter

<http://www.craftscenter.org/>

- E.g. Global Crafts

<http://www.globalcrafts.co.uk/>

“Ethical e-Commerce”

Culture: Leveraging Local Experts

- What key tools do blacksmiths need?
- Local toolsmiths, really
- Occasionally, they're doctors, dentists

<http://www.tfsr.org/>

<http://www.ifad.org/gender/learning/sector/agriculture/71.htm>

<http://www.atalink.co.uk/bdhf/html/p081.htm>

www.woodsfordps.supanet.com/CamTFSR/cambridge_tfsr_page2.htm

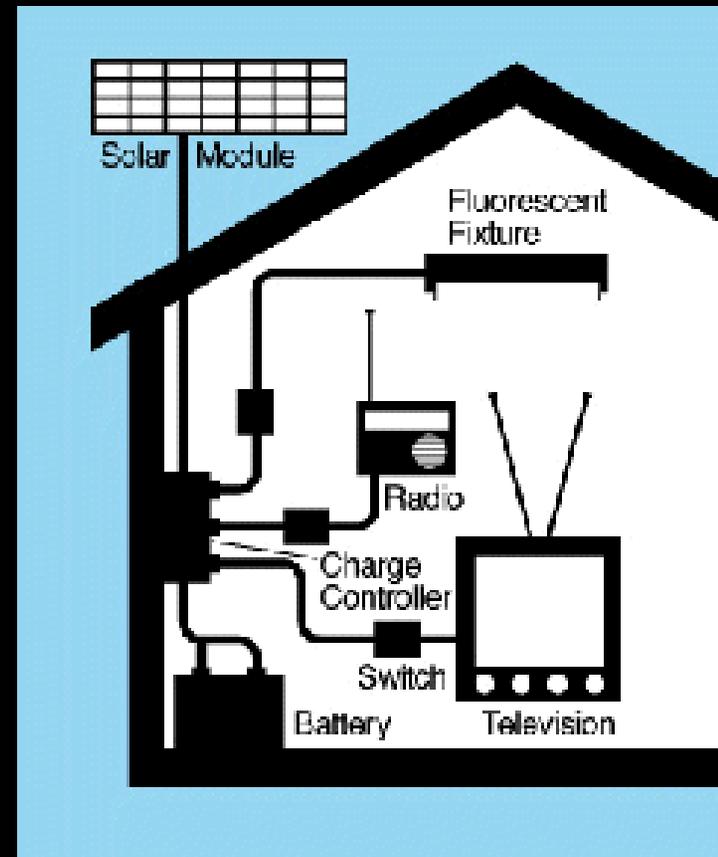
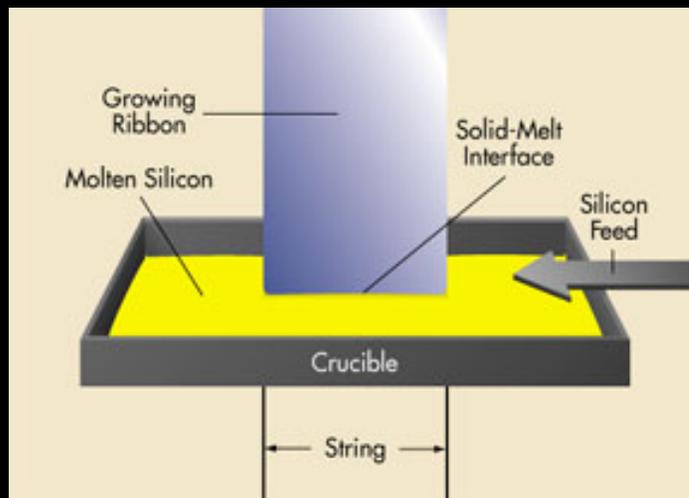
Culture: Aesthetic & Natural Resources

- China's parks & walls
- Jordan's ancient ruins
- Etc!

- How profit?

Distributed Power: Solar

- Evergreen Solar
<http://www.evergreensolar.com/>
- Selco – India, Sri Lanka, Vietnam...
<http://www.selco-intl.com/>



Distributed Power: Enhanced Photosynthesis

- Thin film techniques
- Ultra-efficient greenhouses?
- Power roofs?

<http://web.mit.edu/newsoffice/nr/2001/nocera.html>
<http://web.mit.edu/chemistry/dgn/www/>

Distributed Power: No Electricity AC & Refrigeration

- Natural Cooling techniques, packaged well

<http://www.sristi.org/naturalwatercooler.html>

<http://www.humboldt.edu/~ccat/renewableEnergyFiles/naturalrefrig.html>

Distributed Power: Battery Charging

- Vendergy
<http://www.media.mit.edu/~saul/vendergy/vendergy.html>
- Labor Intense
alternative
methods?

Infocom: Low Cost Wireless

- Sensors
- Radio data links

<http://www.media.mit.edu/~tagdata/>

<http://www.media.mit.edu/~fletcher/>

Infocom: Universal Translator

- Reduce misunderstandings
- Increase flow of trade
- Teaching tool

Infocom: Printed Electronics

- Printed PCs?
- Printed PDAs?
- Electronic Ink applications

<http://www.media.mit.edu/molecular/projects.html>

<http://www.eink.com/>

Education: Open CourseWare / Distance Learning

- Bringing MIT to the world instead of the world to MIT
- Generalizing
- Talent identification



<http://web.mit.edu/afs/athena/org/o/ocw/>

Education: Other Parallels to IITs

- Many Indian IIT Alum Entrepreneurs in US:
 - Jungle, Firefly, Hotmail
- Global Bigshot Alums:
 - Gupta, Khosla, Dalal

Source:

<http://www.businessweek.com/1998/49/b3607014.htm>

*How about an
African IT system?
Latin IT system?*

Source: <http://www.businessweek.com/1998/49/b3607011.htm>

Education: Global Talent Agency

- Recruit for franchise organizations
- Training, Human
- Capital
- Multi-nationals

- Fears of “Brain Drain”
- Instead a “Brain Rotation”

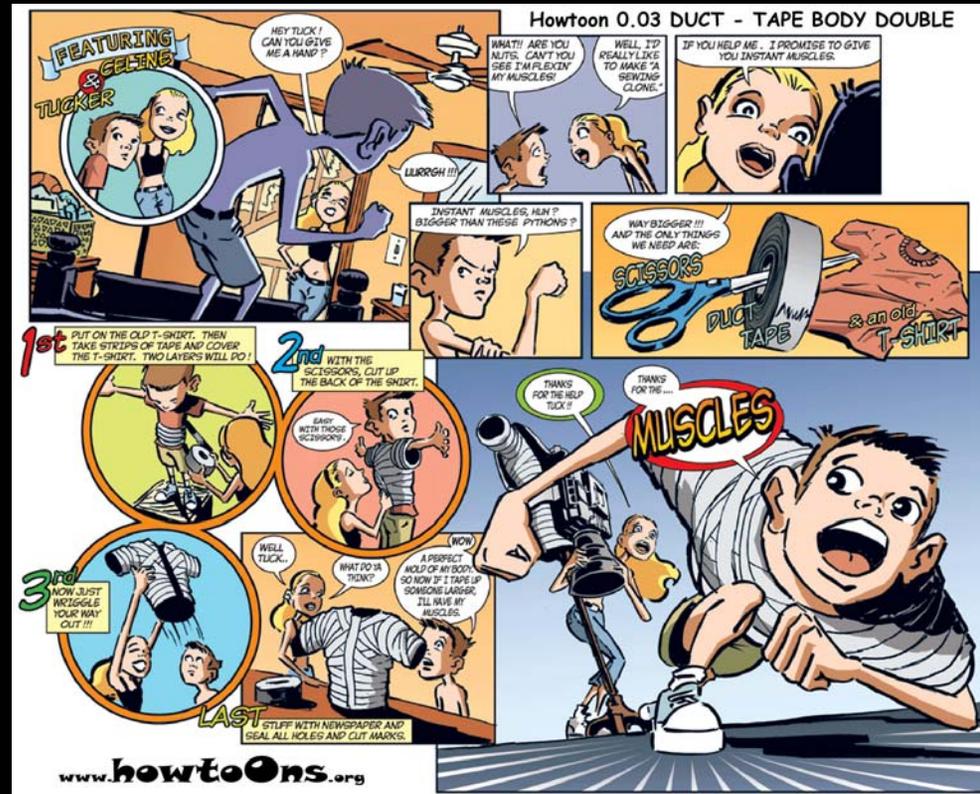
http://news.bbc.co.uk/1/hi/english/health/newsid_1292000/1292413.stm

<http://rbd.nstda.or.th/>

Education:



- One Page cartoons showing creative kids “How To” build things
- Open Source & Copylefted
- Target audience: 1 Billion Kids worldwide



<http://www.howtoons.org>

Business Models: MicroFranchising

- Pharmacies
- Battery recharge stations
- Phone usage
- Email kiosks & cafes

Business Models: Multinational Action

- Coca Cola in 200 countries
- Training for business
- Keeping in mind the Global Compact

<http://www.unglobalcompact.org/>

Business Models & Finance: Securitization & Privatization

- Increased tendency to de-nationalize assets
- Vouchers
- Myriad models for privatizing part, most, or all of an asset
- Role of securitization

www.cdconv.com/asacongress/srilankan.htm

<http://www.privatization.org/> <http://www.gazprom.ru/>
<http://www.eia.doe.gov/emeu/pgem/ch4a.html>

Finance: MicroCredit, MicroFinance, MicroVC

- Credit = loans and lines of credit, debt
- Finance = more general financial services
- VC = risk capital, equity
- Monetizing Social Capital

<http://www.accion.org/main.asp>

<http://www.endeavor.org/>

<http://www.grameen.org>

<http://www.uncdf.org/sum/>

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Finance: Expat Ventures

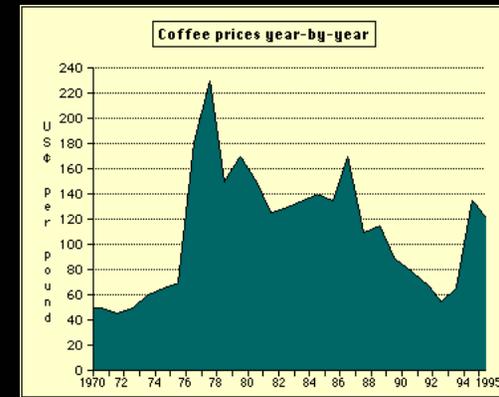
- NextVC
 - Sri Lankan VC
 - Investments in US-based expats with back-home operations
- E.g. Laksoft
<http://www.laksoft.com>



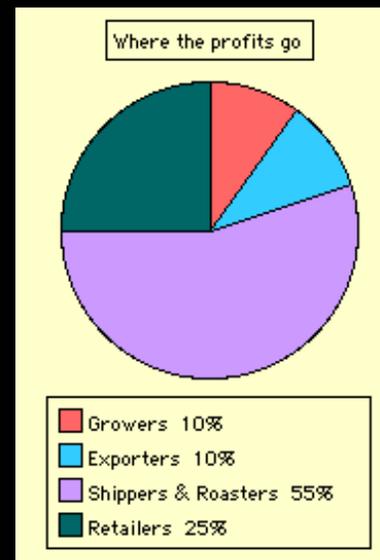
www.bbc.co.uk/.../2001/03/13/sri_lanka/sri_lanka.shtml

http://www.nextvc.com/news/temp%20news/article_2001_08_30_1928.html

Finance: Farmer Futures



- Coop-based risk mitigation
- Market mechanisms to bound market risks
 - e.g. futures for coffee growers
- Guarantee price floors, hedge exposure
- From '83 to '98 prices flux from 50% below to 150% above avg.



<http://www2.gol.com/users/bobkeim/Foodhunger/Coffee/unfair.html>

How not to come a cropper

Small farmers are at the mercy of rich countries' commodity markets. But help is at hand, says Andrew Bounds

Published: October 11 2001 19:30 | <http://www.ft.com>

<http://globalarchive.ft.com/globalarchive/article.html?id=011012001180&query=futures+farmer+coffee>

Finance: Trustworthy Remittance Network

- “Family Capital”
- Mexican family remittances said to be larger than FDI
- Transaction costs ~15-20%
- US to Latin America estimated at >\$20Billion

[http://news.ft.com/ft/gx.cgi/ftc?pagename=View
&c=Article&cid=FT3B4GVATMC](http://news.ft.com/ft/gx.cgi/ftc?pagename=View&c=Article&cid=FT3B4GVATMC)

InterAmerican Development Bank Conference

http://www.iadb.org/mif/eng/conferences/remit_en.htm

http://www.thedialogue.org/publications/Remittances_and_Markets.htm

Finance: Formalization of Informal Economy

- Formalizing the informal sector
- E.g. factories, taxibus, etc
- Reducing red tape
- Turnkey business formation?

<http://www.ild.org.pe/>

<http://www.economictimes.com/280401/28edit04.htm>

Finance: Titleization

- Title to otherwise “Dead Capital”
- Technology and registry techniques?

<http://www.basicbooks.com/fall00/016146/>

http://www.forbes.com/legacy/forbes/2000/0515/98chart1_chart.shtml

Finance: Percapitization

- Broad share distribution & ownership by citizens in asset, e.g. REIT
- Vouchers done right
- Financial incentives for education, savings, e.g. Singtel