

# The \$300 House

from idea to reality

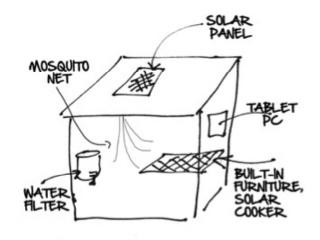


Vijay Govindarajan (VG) & Christian Sarkar *February 2011* 

#### The \$300 House

The **\$300 House** was first described in a *Harvard Business Review* blog post by **Vijay Govindarajan** and **Christian Sarkar**. Due to the overwhelming response from all over the world, the authors decided to see how far they could go to make the idea a reality. They invited others to join in, and soon a series of blog posts appeared – each one by an expert – describing a particular aspect of the challenge:

- The Financial Challenge
- The Design Challenge
- The Energy Challenge
- The Co-Creation Challenge
- The Marketing Challenge
- The Performance Challenge
- The Corporate Challenge
- The Sustainability Challenge



THE \$300 HOUSE

### The \$300 House: 5 questions

We started with five simple questions:

- How can organic, self-built slums be turned into livable housing?
- What might a house-for-the-poor look like?
- How can world-class engineering and design capabilities be utilized to solve the problem?
- What reverse-innovation lessons might be learned by the participants in such a project?
- How could the poor afford to buy this house?

#### The \$300 House: Collective Action

Very quickly we found that organizations, businesses and individuals wanted to help make this housing idea by participating in the process, and the idea of collective action began to take shape.

We built a website: www.300house.com

ORGANIZATIONS Businesses NGOs Universities & Corporations Dartmouth (Tuck) RMCAD.edu \$300 GOVERNMENTS ADVISORS HOUSE Thought Leaders Haiti US Indonesia India Mexico Brazil Rwanda INDIVIDUALS Students Professionals

The \$300 House as a Collective

#### The \$300 House: The Goal

Our goal is to **design**, **build**, **and deploy a simple dwelling** which keeps a **family safe** from the weather, allows them to **sleep at night**, and gives them **a measure of dignity**.

If we can give the poor a chance to live safely and build an inclusive ecosystem of services around them which includes clean water, sanitation, health services, family planning, education and micro enterprise, maybe we can start reducing the incidence of poverty. By helping create this ecosystem, we know that businesses can make money while providing needed services to the poor at an affordable cost.

We also believe that companies which learn to serve the poor will gain new insights and harness the power of "reverse innovation" to make them far more competitive globally.

#### The \$300 House: Our Approach

We're bringing together three sets of players:

- the **residents** of the \$300 House
- the **designers** of the house, and
- the **organizations** the implementers (private and public) who will build it.

The **residents** of the \$3000 House can be in any part of the world. We're planning to start with a two pronged approach - India and Haiti. Dartmouth (through VG) is sending teams of students to both places to work with groups on the ground to evaluate the prospects, challenges, ecosystem opportunities, community strengths, etc.

The **designers** will be amateurs, students, and professional designers. We're going to ask them to submit their concepts and ideas in a simple but usable format. We'll also invite professional architects and design firms to step up in this collaborative effort.

The **organizations** will include non-profits (NGOs), for-profit vendors, and of course public organizations - both regional and national governmental agencies. As execution becomes our priority, we'll work with existing, trustworthy organizations to construct and assemble the \$300 House in the selected locations.



#### The \$300 House: Our Advisors

Ramona Albert, Albert, Johnson

<u>Makrand Bhoot</u>, Architect Makrand Bhoot + Associates, Inc

**Christian Blyt**, Emily Carr University

**Gaurav Bhalla**, Knowledge Kinetics

**Scott Berinato**, Harvard Business Review

**Alex Bogusky**, Fearless Cottage

John Seely Brown, Deloitte Center for the Edge

Samuel Freeman, IXL Center

**Bob Freling**, Solar Electric Light Fund

<u>Vijay Govindarajan</u>, Tuck School of Business, Dartmouth College

Vinay Gupta, Hexayurt Project

**John Hagel III**, Deloitte Center for the Edge

Umair Haque, Havas Media Lab

<u>Stuart L. Hart</u>, Samuel Curtis Johnson Graduate School of Management, Cornell University

**David Hinds**, **Steel Pulse** 

**Daniel Klein-Marcuschamer**, Lawrence Berkeley National Laboratory

Arun Lal, Miloka.com

Fred Murrell, Rocky Mountain College of Art + Design

Doug Pushard, <u>HarvestH20</u>

**<u>David Sands</u>**, Bamboo Living

**Manoj Sinha**, Husk Power Systems

David Smith, Affordable Housing Institute

**Douglas K. Smith**, Rapid Results Institute

Rafael Smith, Ubershelter

**Andreas Stavropoulos**, XS | Land Architects

Sunil Suri, Menlo Capital Group

**Greg Thomas**, <u>Singapore Management University</u>

**Christian Sarkar**, disruptive fellow in the back

#### The \$300 House: The Process



We're just beginning. Our first job was to make "enough noise" to attract and bring together a critical mass of experts/advisors with the required skills and experience from across the world.

Our second step is to define the concept of the \$300 House, so that the designers can start the design process. As part of this step, we are defining the locations where we will build the conceptual house. So far we have targeted two countries: **India** and **Haiti** – because of support on the ground – involvement from professionals and organizations which want to make a difference.

We know this is not going to be easy!

We're looking at what the experts have been doing in various countries.

"The problem is that 90 percent of the world's designers spend all their time working on solutions to the problems of the richest 10 percent of the world's customers. A revolution in design is needed to reverse this silly ratio and reach the other 90 percent."

#### Paul Polak in

Out of Poverty: What Works When Traditional Approaches Fail Here are Paul's 12 steps to practical problem solving for the poor:

- 1. Go to where the action is.
- 2. Talk to the people who have the problem and listen to what they have to say.
- 3. Learn everything you can about the problem's specific context.
  - 4. Think big and act big.
  - 5. Think like a child.
  - 6. See and do the obvious.
- 7. If somebody has already invented it, you don't need to do so again.
- 8. Make sure your approach has positive, measurable impacts that can be brought to scale.
  - 9. Design to specific cost and price targets.
- 10. Follow practical three-year plans.
- 11. Continue to learn from your customers.
- 12. Stay positive: don't be distracted by what other people think.

We're evaluating the various natural and sustainable building methods available:



Adobe



Cob



Rammed Earth



Poured Earth



Earthba



Strawbal



Cordwood



Timber Frame



Bambo



Earthship



Papercrete



Lightweight Concrete



Stone



Hybrid



Manufactured Systems



We're learning from the experts who have joined us – like **Stuart L. Hart** – about sustainability...

#### The Sustainable Value Portfolio

Clean Technology Base of the Pyramid Is the sustainability of our products Does our corporate vision direct us limited by our existing competency base? toward the solution of social and tomorrow environmental problems? Is there potential to realize major improvements through new Does our vision focus us on serving disruptive technology? the unmet needs at the base of the economic pyramid? Pollution Prevention Product Stewardship What are the implications for product Where are the most significant design and development if we assume waste and emission streams from responsibility for a product's entire our current operations? today life cycle? Can we lower costs and risks by

or by using it as useful input?

eliminating waste at the source

internal external

Can we build reputation and

legitimacy by engaging a broader range of stakeholders?

Source: Adapted from Hart, S. 1997. "Beyond greening: Strategies for a sustainable world." Harvard Business Review, January-February: 66-76.

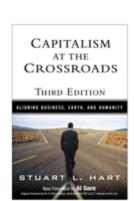




Beyond Greening: Strategies for a Sustainable World

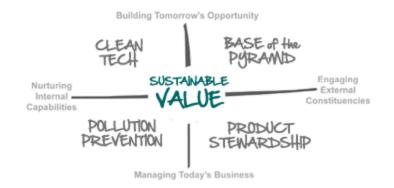
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#### The SUSTAINABLE VALUE Framework





And **David Sands** – about bamboo...

#### **BAMBOO**

Strength

As strong as mild steel with the compression strength of concrete. Amazingly, one inch of bamboo can hold up to 7 1/2 tons of weight.

**Termites** 

Tests show that termites refuse to eat even untreated bamboo.

Hurricanes

Bamboo Living Homes surpass the toughest hurricane codes in the USA, and in 1995 withstood three back to back hurricanes with 173mph winds.

**Earthquakes** 

Bamboo bends instead of breaks. In April 1991, twenty bamboo houses built for the National Bamboo Foundation in Costa Rica suffered no structural damage from a 7.5 Richter scale earthquake, despite being directly over the epicenter.

Indoor Air Quality Bamboo homes exceed California Air Resources Board standards. And all our materials are minimally treated with natural borates to better resist mold and mildew.

#### WOOD

In 1992, 95% of all homes were built with softwoods like Douglas fir. University studies show softwoods can't match bamboo's compression and tensile strength.

Termites continue to cause significant damage to wood homes, requiring continued treatment with chemicals.

Recent tests show that conventionally built wood homes can't stand up to even 100mph winds.

The same earthquake leveled scores of conventionally built homes, hotels and resorts.

New construction homes increasingly use "manufactured" woods like particle board bonded with adhesives and polymer materials.

And **Vinay Gupta** about critical infrastructure... and the Hexayurt (under \$200)!

"Every year 60 million people die – all causes, all countries, all classes in total. *One third* – about 20 million – will die before their time because of poverty.

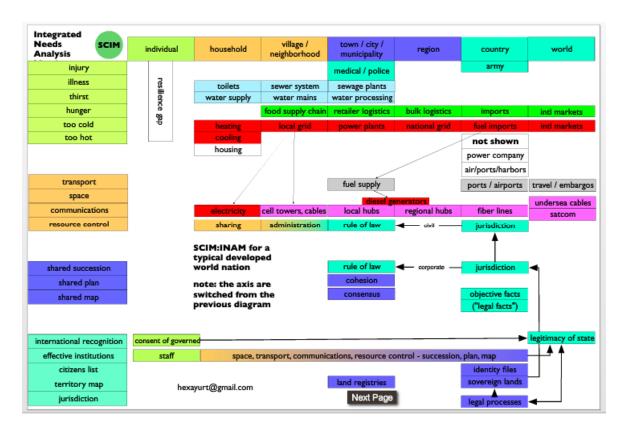
Nearly all of those poverty deaths can be prevented by *basic infrastructure* like biosand filters, rocket stoves, composting toilets and so on.

We have less than 100 years of forest left, never mind global warming, increasing pollution and hyper-consumption. Supporting 1.5 billion middle class people is nearly killing the planet, never mind trying to find the resources for 7 billion. This gap is *culturally forbidden* to discuss.

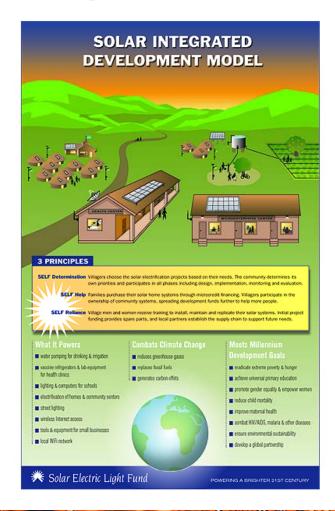
The west is bankrupt because as the rest of the world recovers from colonial oppression, they flex their muscles, increase political pressure, and push for a more equal world – making us poorer.

Rather than getting poorer gracefully, we have been borrowing at a national and individual level to make up the gap. We are running out of people to borrow from."

Hexayurt.com



And **Bob Freling** about energy and development...



	1 Water	2 Food	3 Health	4 Education	5 Enterprise
Description	Solar energy	Solar energy	Solar energy	Solar energy	Solar energy powers
•	powers	powers water	powers health	powers schools to	local entrepreneurial
	purification	pumps which enable	clinics allowing	enable computers	and community
	pumps and filters	drip irrigation for	use of key	and Internet	activities
	delivering clean	critical crops	equipment,	access	
	water to		lighting, &		
	communities		vaccine		
			refrigeration.		
Process	SELF provides	SELF provides	SELF partners	SELF provides	SELF provides
	assessment,	assessment,	with a local health	assessment,	assessment, training,
	training,	training, installation	norganization (e.g.	training,	installation, follow-up
	installation and	and follow-up	Partners in	installation and	and micro-lending
	follow-up		Health)	follow-up	
Governance	SELF projects are	SELF projects are	SELF projects are	SELF projects are	SELF projects are
	governed by local	governed by local	governed by local	governed by local	governed by local
	community	community	community	community	community members
	members	members	members	members	
Case	Nigeria: Jigawa	Benin: SELF's Solar	Haiti, Lesotho,	South Africa:	Nigeria: Jigawa
Studies	State; India:	Market Garden	Burundi, Rwanda:	schools in Eastern	State's solar-
	emergency relief	project	Solar Healthcare	Cape Provnce	powered micro-
	for tsunami		Partnership with		enterprise buildings
	victims		Partners In		
			Health; also		
			Tanzania with the		
			Clinton Global		
			Initiative		
Results	In Jigawa State,	a Stanford	Partners In Health	two thousand	SELF's micro
	solar-powered	University study			enterprise initiatives
	pumps supply	validates			create a variety of
	-	SELF's Solar Market		access to reliable	
	fresh water from	Garden project	reliance on diesel		from barbers and
	deep wells		to solar	computer labs	tailors, to peanut oil
				and the Internet	processing

And **Gaurav Bhalla** about collaboration...





#### Collaboration and India's 12th Five-year Plan

Bureaucracies are not known for experimenting with cutting edge thinking. But the <u>Planning Commission of India</u> seems serious about changing that, at least in its sphere of operation. Before the Planning Commission actually starts developing the Plan, it needs to develop what is called an Approach paper, which sets out plan priorities and targets, which subsequently guide resource allocation and later serve as performance measurement benchmarks; an activity typically performed by technocrats, bureaucrats, and politicians.

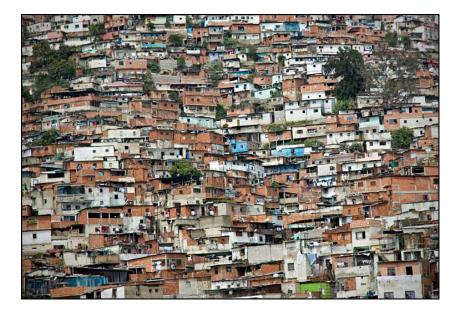
For the first time however, the Planning Commission is using the platforms of collaboration and co-creation; it is reaching out to the citizens of India to help shape the Plan's priorities and targets. Indian citizens will get to voice their opinions and ideas before the Planning Commission, concerning the contents of the Approach Paper. The Planning Commission is inviting ideas, comments, and suggestions on important themes and topics that are relevant and cut across several sectors, such as:

*Innovation and Enterprise* - Are we creating enough innovations and enterprise for inclusive and sustainable growth? If not, how can we do so?

*Governance and Institutions* - How do Government or Public Institutions affect us in different sectors? How can we make them work better?

*Financing the Plan* - What are the financial requirements, both public and private of achieving our targets? Can we meet them?

And **David Smith** about financing *and* the issues...



#### HALF in the spectrum: Product and risk characteristics



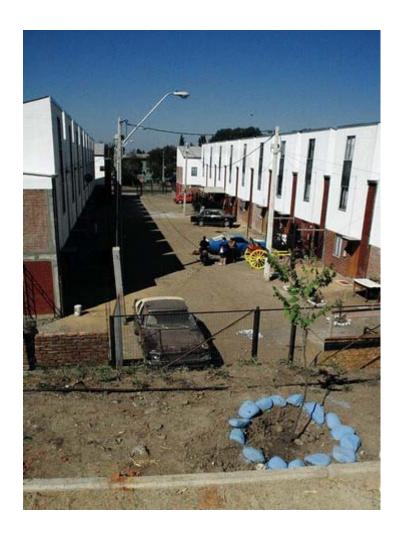
Product features	Microfinance	<u>HALF</u>	Mortgage	
Loan (average)	\$500	\$2,500	\$10,000	
Tenor	0.25-1.0 year	2-5 years	5-30 years	
Purpose	Improve income	Improve housing	Buy formal	
Credit decision	Personal	Personal + use	Resale value	
Collateral?	None	Partial	Yes; home	
Risk features				
P = Odds default	Low	Medium	Higher	
L = Loss default	Nearly 100%	Unknown	Under 10%	
Risk manage	Deny repeat	Assess use val	Underwrite prop	
Risk mitigation	Repossess?	Pursue evict	Foreclose	
	Affordable Housing Institute	www.affordablehousinginstitute.org		16-Jan-11 // Slide 12

#### AHI's definitions of slums

- 1. <u>Slums are economically rational</u>, the ultimate private-sector solution to housing affordability (if not quality).
- 2. Slums are spontaneous communities.
- 3. <u>Slums are houses of crime</u>, where the poor are human shields.
- 4. Slums are a wealth-extraction machine.
- 5. The municipal definition: <u>private investment outruns public</u> infrastructure.
- 6. Slums are a world of alternate power structures.

We're learning about what works – in Chile:

At the Renca development, the housing units are arranged in clusters around central courtyards, with 18 units opening onto each courtyard and an electrified metal gate at each end. Residents say this affords priceless safety and security. Visible in the foreground: a tree planted by residents, surrounded by rocks—also placed and painted by residents. Developers and residents alike say the high degree of input Elemental allowed the residents has made them take pride in the development, and motivated them to add their own improvements. They are building the park themselves, a symbol of pride in their new home.



We're learning about what works – in Brazil:







## Favela rationalization in Diadema: Before and after







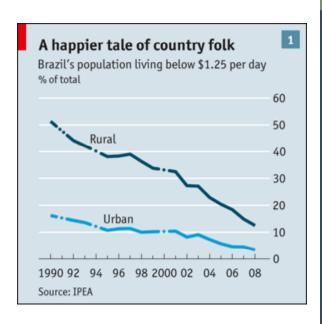
More, in Brazil:



# Favela rationalization in Diadema: Before and after



Affordable Housing Institute





2008: 12/ 1000

1985: 80/ 1000

Infant mortality

Ana Sofia before

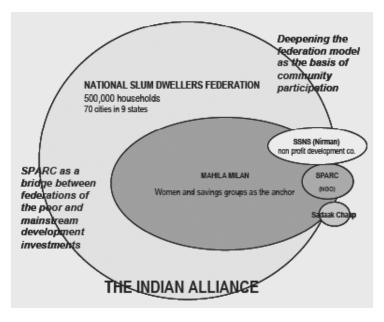
Ana Sofia after

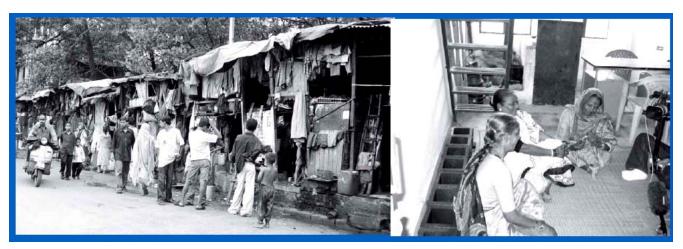
Affordable Housing Institute

ww.affordablehousinginstitute.or

7-Mar-10 // Slide 17

And from architect **Makrand Bhoot** about urban and rural development in India – what works and what does not!





**Makrand Bhoot** brings extraordinary earthquake relief experience from fieldwork around the globe including recovery efforts after the 2001 Bhuj Earthquake, the 2004 Indian Ocean Tsunami, Hurricane Katrina in 2005, and the 2008 Chengdu Earthquake. After the great 1993 earthquake in Latur, India, Bhoot helped establish a series of "Building Centers" that explored housing systems ranging from mud blocks to geodesic domes that benefitted communities by demonstrating new affordable housing and training programs to both local residents and foreign relief organizations.

Bhoot is the Director of the **Professional Alliance for Technology and Habitat (PATH)**, with offices in New York and Mumbai. He is currently establishing an **Institute for Sustainable Development** in Raipur, in rural, tribal, central India. Bhoot received his US Green **Building Council LEED Professional** Accreditation in 2004. He recently returned from Port-au-Prince and Cité Soleil and is now providing technical assistance to New York metro area groups involved with with postearthquake relief and housing in Haiti, including Rural Haiti, Environmental Justice for Haiti, Bassin Zim EDF, and Haitian Health Foundation.

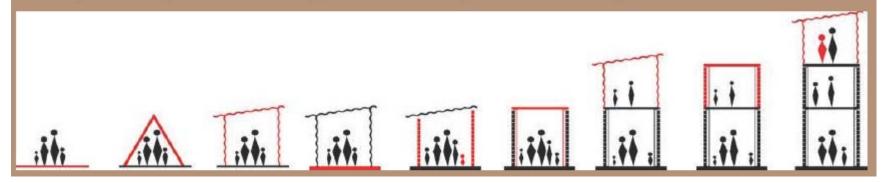
More from architect **Makrand Bhoot** about urban and rural development in India –



#### Incremental housing - The Process

When the poor move to the city, their housing options are extremely limited: they can rent out rooms in slums, start life on the pavements or squat on disused lands, such as those along the railway tracks. In the latter cases, they start out by putting up plastic sheets on poles, under which they sleep at night and pack up during the day. Over time, corrugated metal sheets replace the plastic, which become the walls and ceiling, to be later replaced by bricks and mortar. Families sleep inside, outside and on the roofs of their shacks.

Gradually, the roof becomes the first floor, as metal sheets are put up as walls. These eventually become concrete, with ladders or narrow staircases leading up from the outside. Further investments are put into obtaining amenities like water, electricity and drainage. Additional floors are often rented out to other migrants, increasing the income of the original family. Depending on the need, congestion, and rate of growth of the slum and the families, slum dwellers continue building these incremental levels. A lot of investment goes into building these houses and upgrading them over time – the cost of the material, construction, maintenance and repair are considerable for the limited means of the slum dwellers.

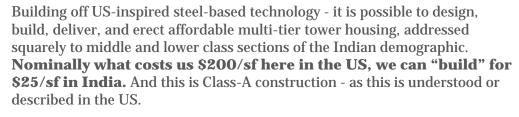


### The \$300 House: The Urban Challenge





We're also learning about new business models and the **Urban Challenge** from experts like **Sunil Suri...** 





#### Cost compression comes from:

- a) the sheer "scale" of the number of units being produced (the US just does not have the population density, whereas India, China, Mexico, Brazil, are an ideal case),
- b) doing so first in a factory which is highly automated,
- c) using standardized components, and
- d) inverting the design scheme housing solutions are led as a first-step by an optimized structure (in our case a 14-floor tower with a 16,800sf plate to yield two sizes of units a 800sf 2-Bedroom unit and a 1,100sf 3-Bedroom unit and in an ideal mix of 85% floor efficiency) around which an architectural solution is added as a second step.

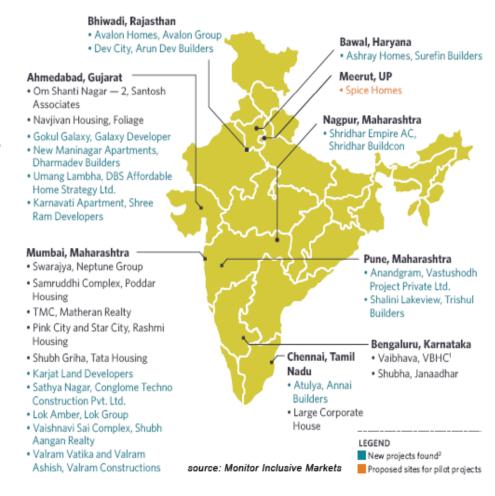
#### The \$300 House: The Urban Challenge

### And experts like **Ashish Karamchandani**...

Our <u>newest study</u>, undertaken in early 2010, found more than 25 developers in urban areas building (or about to build) good quality, multi-family units in the Rs. 3 lakh to Rs. 7 lakh price range (ap-proximately US\$6,500 to US\$15,100). This by itself is encouraging, and we have reasons to believe that this represents a shift toward a more sustainable supply equation.

Customers in the **next 30**% income seg-ment generally rented rooms in slums and low income neighborhoods. They lived in poorly constructed houses with deplorable sanitary conditions (shared toilets, bad drainage and water-logging) and lacking basic neighborhood amenities (few common spaces or gardens, unsafe alleys, open gutters). Many families had tiny quarters, for which they paid high rent and yet remained at the mercy of their landlords. Moreover, these customers aspired to live in and **could afford to buy houses between 250-400 square feet in suburban areas at current market prices**, but there was virtually no supply of houses, and almost no access to mortgages from traditional financial institutions (even more the case for informal sector customers).

Map of Low Income Housing Projects, 2010



#### The \$300 House: Reverse Innovation

We also believe that companies which learn to serve the poor will gain new insights and harness the power of "reverse innovation" to make them far more competitive globally.







THE \$300 HOUSE: A PLATFORM for REVERSE INNOVATION



\$30,000

opportunities for reverse innovation



\$3,000





Shelter | Security | Food Health | Energy | Water | Sanitation Education | Internet | Telecom Transportation | Micro-Business



#### The \$300 House: Change is Possible and it will happen

soon -

#### better to plan for it!



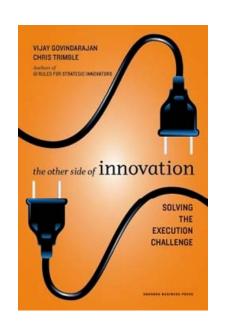
Human Development Index (HDI) - 2010 Rankings

	y High Human relopment	_	h Human ⁄elopment		dium Human velopment		w Human velopment	
1.	Norway	43.	Bahamas	86.	Fiji	128.	Kenya	
2.	Australia	44.	Lithuania	87.	Turkmenistan	129.	Bangladesh	
3.	New Zealand	45.	Chile	88.	Dominican Republic	130.	Ghana	
4.	United States	46.	Argentina	89.	China	131.	Cameroon	
5.	Ireland	47.	Kuwait	90.	El Salvador	132.	Myanmar	
6.	Liechtenstein	48.	Latvia	91.	Sri Lanka	133.	Yemen	
7.	Netherlands	49.	Montenegro	92.	Thailand	134.	Benin	
8.	Canada	50.	Romania	93.	Gabon	135.	Madagascar	
9.	Sweden	51.	Croatia	94.	Suriname	136.	Mauritania	
10.	Germany	52.	Uruguay	95.	Bolivia (Plurinational	137.	Papua New Guinea	
11.	Japan	53.	Libyan Arab Jamahiriya		State of)	138.	Nepal	
12.	Korea (Republic of)	54.	Panama	96.	Paraguay	139.	Togo	
13.	Switzerland	55.	Saudi Arabia	97.	Philippines	140.	Comoros	
14.	France	56.	Mexico	98.	Botswana	141.	Lesotho	
15.	Israel	57.	Malaysia	99.	Moldova (Republic of)	142.	Nigeria	
16.	Finland	58.	Bulgaria	100.	Mongolia	143.	Uganda	
17.	Iceland	59.	Trinidad and Tobago	101.	Egypt	144.	Senegal	
18.	Belgium	60.	Serbia	102.	Uzbekistan	145.	Haiti	
19.	Denmark	61.	Belarus	103.	Micronesia (Federated	146.	Angola	
20.	Spain	62.	Costa Rica		States of)	147.	Djibouti	
21.	Hong Kong, China	63.	Peru	104.	Guyana	148.	Tanzania (United	
	(SAR)	64.	Albania	105.	Namibia		Republic of)	
22.	Greece	65.	Russian Federation	106.	Honduras	149.	Côte d'Ivoire	
23.	Italy	66.	Kazakhstan	107.	Maldives	150.	Zambia	
24.	Luxembourg	67.	Azerbaijan	108.	Indonesia	151.	Gambia	
25.	Austria	68.	Bosnia and Herzegovina	109.	Kyrgyzstan	152.	Rwanda	
26.	United Kingdom	69.	Ukraine	110.	South Africa	153.	Malawi	
27.	Singapore	70.	Iran (Islamic Republic of)	111.	Syrian Arab Republic	154.	Sudan	
28.	Czech Republic	71.	The former Yugoslav	112.	Tajikistan	155.	Afghanistan	
29.	Slovenia		Republic of Macedonia	113.	Viet Nam	156.	Guinea	
30.	Andorra	72.	Mauritius	114.	Morocco	157.	Ethiopia	
31.	Slovakia	73.	Brazil	115.	Nicaragua	158.	Sierra Leone	
32.	United Arab Emirates	74.	Georgia	116.	Guatemala	159.	Central African	
33.	Malta	75.	Venezuela (Bolivarian	117.	Equatorial Guinea		Republic	
34.	Estonia		Republic of)	118.	Cape Verde	160.	Mali	
35.	Cyprus	76.	Armenia	119.	India	161.	Burkina Faso	
36.	Hungary	77.	Ecuador	120.	Timor-Leste	162.	Liberia	
37.	Brunei Darussalam	78.	Belize	121.	Swaziland	163.	Chad	
	Qatar		Colombia	122.	Lao People's		Guinea-Bissau	
	Bahrain		Jamaica		Democratic Republic		Mozambique	
	Portugal		Tunisia		Solomon Islands	166.	Burundi	
	Poland		Jordan		Cambodia		Niger	
42.	Barbados		Turkey		Pakistan	168.	Congo (Democratic	
			Algeria		Congo		Republic of the)	
		85.	Tonga	127.	São Tomé and Príncipe	169.	Zimbabwe	

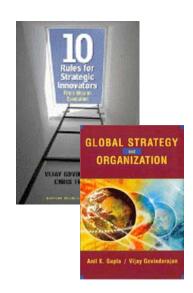
Note: The HDI rankings featured above were published in the Human Development Report 2010, The Real Wealth of Nations: Pathways to Human Development. Information about the HDI. PDF version 2 Table 1 - Human Development Index and its components [94 KB].

**Vijay Govindarajan** is the Earl C. Daum 1924 Professor of International Business and the Founding Director of Tuck's Center for Global Leadership (Dartmouth College). VG is an expert on strategy and innovation. He was the first Professor in Residence and Chief Innovation Consultant at **General Electric**. He has been cited by *BusinessWeek*, *The Economist*, *Forbes*, and *The London Times* as the top thought leader in strategy.

www.vg-tuck.com and www.vijaygovindarajan.com







THE WALL STREET JOURNAL.

Tuesday, October 6, 2009 A15

#### Vıjay Govindarajan

pins future growth on "Reverse Innovation"



global stategy in terms of their strategy in the foundation of the revol the world. In the future, multiple, Jugan and the level the world, but the future, multiple and their strategy for the REC countries, but Middle East, Afficia and the rest of the world. The rest of the world includes the thinsed states, Europea and Jugan. The bustness model of multimatenals the thinsed states, Europea and Jugan. The bustness model of multimatenals to local conditioning products at a home and distribute them worldwide, with some adaptations to local conditioning of the control of the product of the control of the control of the control of the products of reverse innovations of world in long programaties in emerging markets, companies must exceed at reverse innovations of section products and the control of the products of of the products

strategy in terms of their strategy for the

The Instalancial driver of newner innovation is the lincome against aside Stowers emerging markets and the developed countries. China is the final largest economy in the word, but the average. Chinase citizen bas an income of only more senth that of the average Architect. Error is no way to design a product for the American mass market and then simply duplet for the Chinace rates market. Buyers in emerging economic electrons and extraction of sections on an existing of the first the contribution that debter ultra-low costs and "good enough" smaller.

Consider how American auto manufactures could have capitalized on reverse innovation in India. India's GDP per capita today is roughly equal to that of the United States in the 1880s.

Generally considered one of the world's leading experts on strategy and innovation, "W" advises managers to broaden new life into their business by approaching growth from a different perspective.

an era in which the horse and buggy was the primaty mode of transportation. The main stream consumer in the United States walled a few more decades for cars. With today's technology at hand, however, Indian conglomerate Tata has amonumed the humb of the Tata Nano — a 52,500 vehicle. In doing so, Tata has unlocked a huge untapped market cars for middle class Indiatis.

The Tata Nano is, of course, lower in quality than even low end cars of the nch world, which sell at prizes near \$15,000. The difference in quality, however, is much less than the difference in price suggests. Furthermore, the Nano's quality is more than sufficient for Indian consumers making the transition from two-wheeless that can cost largest at more than sufficient for Indian consumers smaller.

almost as much guarantees are missing the Established automobers are missing the upportunity. They have chartered their insures the same cars, perhaps defeatured to reduce coats somewhat, in poor countries. Not surprisingly, they have sold only to the toppier of the population. The established automabers have no true list an apportunity, they are a risk class it home. Already, Tata is preparing to take the Nami Potto the car in Europe and the Citinel States.

The stakes are enormous. Today, rich courries and poor countries account for roughly equal hazes of the global economy. But for years, growth ass been far more robust in poor countries. Now hat most rich countries are in a recession, the

grown gap noses more use a grown crasm.

We far more is at risk than missed opporturnities for growth. Increasingly, success in the
developing world is a prerequisite to continued
vitality at home. In the transformed economic
landscape, reverse [unovailon is not optional —
it is owners.

**Christian Sarkar** is an innovative disruptor or a disruptive innovator (either one) - *and* a marketing consultant. <a href="https://www.christiansarkar.com">www.christiansarkar.com</a> and <a href="https://www.doubleloopmarketing.com">www.doubleloopmarketing.com</a>

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