

**Strategies for the Bottom of the Pyramid:  
Creating Sustainable Development**

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As multinational firms (MNCs) search for avenues for profitable growth and radical innovation in the new millennium, they may find a unique, counter intuitive opportunity – the 4 billion poor that are at the bottom of the economic pyramid. Converting the very poor into active consumers will foster innovations in technologies and business models. It will challenge managerial (and public policy) assumptions about sustainable development. Managers will be forced to consider the meaning of scale – the need to marry highly distributed small-scale operations and a few world scale capabilities --creatively along the value chain. Most importantly, conceiving of a market of 4 billion of the world's poorest people will force a reexamination of the “price–performance” relationships for products and services. It will demand a new level of capital efficiency. The bottom of the pyramid presents a new managerial challenge – one potentially as powerful as the challenge presented by the proliferation of the Internet and e-business. The transformation of the bottom of the pyramid and the creation of a new and emerging market, like the opportunity in e-business, requires a total transformation of managerial practices in established MNCs. It will also transform public policy debates in both developed and developing countries.

Let us illustrate the economic potential of the bottom of the pyramid. Hindustan Lever Limited (HLL), a subsidiary of Unilever, plc is considered the best managed company in India. Like most MNCs, for over 50 years, it catered to the needs of the elite of India– the top of the pyramid<sup>1</sup>. A local firm, Nirma, challenged HLL in its detergent business, by creating a new business system - a new product formulation, new manufacturing process, distribution, packaging, and pricing. HLL like most MNCs, initially dismissed Nirma as a low end producer. It was not a competitor in HLL's “served market.” As Nirma grew rapidly, HLL realized both its new opportunity as well as its vulnerability. Nirma was attacking, in its detergent business, from the bottom of the pyramid. HLL, responded, somewhat belatedly, with its own offering for this market – drastically altering the traditional HLL business model.

The results for the detergent businesses of Nirma and HLL are very telling (see Table 1). Contrary to popular assumptions, the poor can be a very profitable market- especially, if MNCs are willing and able to change their business models. The bottom of the pyramid is not a market that allows for traditional (high) margins. Like the Internet space, the game is about volume and capital efficiency. Margins are likely to be very low (by current norms) but unit

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<sup>1</sup> C.K. Prahalad and K. Lieberthal, The end of corporate imperialism, Harvard Business Review, July-August, 1998.

sales extremely high. Managers who focus on gross margins will miss the opportunity. Managers who innovate and focus on economic profit will be rewarded.

Table 1

Profitable Growth and Tier # 2 and # 3 markets<sup>2</sup>

	<u>Nirma</u>	<u>HLL (Wheel)</u>	<u>HLL (High end)</u>
Total sales (\$ Million)	150	100	180
GrossMargin %	18	18	25
ROCE %	121	93	22

Today, Nirma is the largest branded detergent maker in the world. Experience at the bottom of the income pyramid has allowed HLL to radically change its business models across the board. During the past five years HLL has registered a 20% growth in revenues per year, and a 25% growth in profits per year. The market capitalization has grown to \$12 billion US-- a 40% per year growth rate<sup>3</sup>. Unilever plc has also benefited from HLL's experience in India. It transported the business principles (not the product or the brand) to create a new detergent market among the poor in Brazil. The detergent brand *Ala* has been a runaway success in Brazil. Even more importantly, Unilever has adopted the bottom of the pyramid as a strategic priority at the corporate level.

**The Unrealized Opportunity at the Bottom**

Perhaps the most significant economic and social transformation of the twentieth century has occurred over the past decade. During this time, the erstwhile closed markets of China, India, the former Soviet Union and its allies, and Latin America have opened to foreign investment. On the surface, this would appear to translate into vast new growth horizons for multinational corporations (MNCs) with the resources and persistence to enter and compete. Experience has shown, however, that the lure of millions of additional "middle class" consumers who can afford and are clamoring for the products of multinationals was vastly oversold. To make matters worse, the Asian and Latin American financial crisis has taken much of the attraction out

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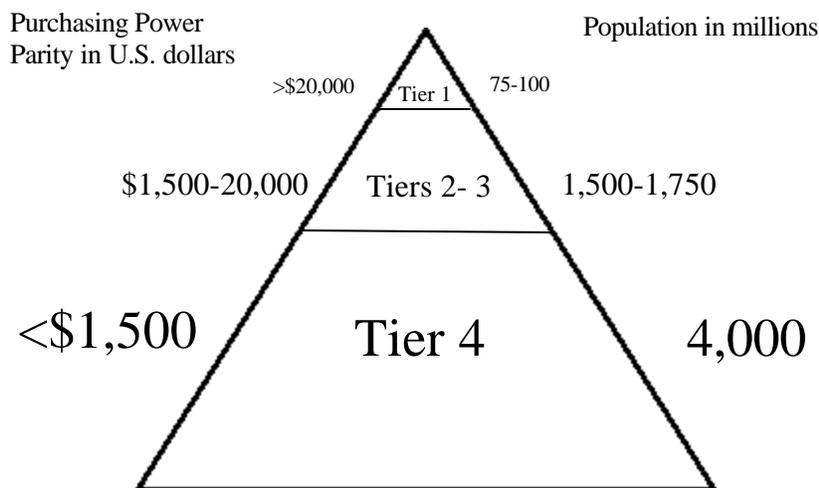
<sup>2</sup> Data taken from a presentation by Mr. John Ripley, Sr. Vice President, Unilever to the Academy of Management meeting, August 10, 1999

<sup>3</sup> A significant part of the growth was from targeted acquisitions. The organic growth of HLL, however, remains very robust

of emerging markets: Many MNCs are now slowing down investments and rethinking risk-reward structures in these markets.

Yet despite these presumed setbacks, the magnitude of the new opportunity in emerging markets is real—and *much larger than previously thought*. The market opportunity here is not just the wealthy few in the developing world, but the vast number of *aspiring poor* who are joining the market economy for the first time. Think of the global market as a pyramid (Figure 1). At the very top of the pyramid there exists a small fraction (as a percentage of global population) of customers corresponding to the affluent in developed countries such as the United States. Most MNCs originated in this affluent world.<sup>4</sup> Not surprisingly then, most MNC managers’ views of business are conditioned by their knowledge and familiarity with Tier # 1 consumers.

**Figure 1**  
**The World Pyramid**



Now consider the vast emerging consumer base at the bottom of the pyramid, where 3-4 billion people reside. The per capita income in this tier is less than \$1,500 (PPP) per year.<sup>5</sup> For well over a billion people, per capita income is less than a dollar per day. The vast majority of those in Tier 4 live in rural villages and urban slums and shanty towns. Educational levels are low to non-existent. These markets are hard to reach—from the point of view of distribution, credit, or communications. This market is often unorganized, local, and limited in quantity and quality

<sup>4</sup> In the top 200 MNCs in the world, more than 195 have their origins in the affluent, developed countries.

<sup>5</sup> PPP=Purchasing Power Parity in US dollars.

of products and services available. Over the next 40 years, the numbers in Tier # 4 could swell to 6-8 billion or more, since the bulk of the world's population growth is expected to come from this segment. Yet, much like the proverbial iceberg, where only the tip is in plain view, this massive tier of the World Pyramid has been largely invisible to the corporate sector.

### **Why does this market opportunity remain invisible?**

The perception of market opportunity is a function of the dominant logic- the way managers are socialized to think and the analytical tools they use. For example, if we looked at per capita incomes, the bottom of the pyramid will be automatically excluded from consideration in most MNCs. If we start the analysis with the current portfolio of products and services, geared to the developed world, we will again exclude the poor from active consideration. Therefore, converting the poor into active consumers, requires managers in MNCs to come to terms with their dominant logic- the core set of assumptions and practices that are embedded in the firm. Managers have to *identify and confront their genetic code*.

We have identified the following as widely shared orthodoxies that must be reexamined:

- Assumption #1. The poor are not our target consumers because MNCs, with their current cost structures, cannot compete for that market. *MNC cost structures are a given.*
- Assumption #2. The poor cannot afford and have no use for the products and services that are sold in the developed markets. *Product is our focus, not functionality. We worry about detergents not cleanliness.*
- Assumption #3. Only the developed markets appreciate and will pay for new technology. The poor can use the last generation of technology. *We focus on product and process innovations and not business innovations. Innovations come from Tier 1.*
- Assumption #4. The bottom of the pyramid is not important to the long-term viability of our business. We can focus on Tiers 1-2 and leave Tier 3 and 4 to governments and non-profits. *We do not see the bottom of the pyramid forcing us to innovate around sustainable development.*<sup>6</sup>
- Assumption #5. Intellectual excitement is in the developed markets. It would be hard to recruit, train, and motivate managers who would want to spend time in creating a

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<sup>6</sup> For elaboration on the connection between sustainable development and corporate strategy see: S. Hart, "Beyond greening: Strategies for a sustainable world," Harvard Business Review, January-February, 1997.

commercial infrastructure at the bottom of the pyramid. *Managers do not get excited with business challenges that have a humanitarian element to them.*

Because of the prevalence of these key assumptions by MNCs, the market opportunity at the bottom of the pyramid has remained invisible. It is like the well-known story of the person who finds a \$20 bill on the sidewalk. Conventional economic wisdom would suggest that if the bill really existed, someone would have already picked it up! Like the proverbial \$20 bill, the bottom of the pyramid defies conventional economic logic—it represents a large and unexplored territory for profitable growth.

Much as dominant logics and core assumptions hold back MNC managers, those at the bottom of the pyramid have their own point of view. The poor are confronted with a world filled with paradoxes:

- Paradox #1: Open Yet Closed. Closed societies are opening up and want to benefit from the dynamics of the market economy, yet most of the world is unable to participate in the market economy, by the very nature of global wealth distribution. In 1960, for example, the richest 20% of the world possessed about 70% of the financial resources; by 1990, that figure had risen to over 85%. The growing gap between rich and poor in the world may reinforce the view that the poor cannot participate in the global market economy even if they constitute 80% of the population.
- Paradox #2: Free Yet Constrained. Today's MNCs evolved during an era when natural resources were abundant and sinks for waste were not a problem. Not surprisingly then, MNCs have tended to make products and services that are resource and pollution-intensive. As a result, Tier 1 consumers now use a disproportionate level of global resources. The US, for example, with 250 million people (approximately 4% of the world population), consumes more than 25% of the world's energy resources. It will not be physically possible for the entire world to live like today's Americans. In creating a global free market, MNCs will have to impose radical constraints on resource use and pollution. With its vast population and rapid growth, the bottom of the pyramid can potentially offer a test-bed for incubating the technologies and products of the future—those that enable more sustainable ways of living. The poor currently see few attempts to innovate around these constraints.
- Paradox #3: Alone Yet Together. The rich can not easily ignore the poor. Given their vast numbers, the disenfranchised in Tier 4 can easily disrupt the lifestyle and the safety of the rich. Enabling the world's poor to improve the quality of their lives through commercial development may hold the key to Tier 1 and multinationals' continued

success.<sup>7</sup> While global income *equality* may be an ideological pipe-dream, *raising the bottom* is prerequisite to preserving the market economy. Long-term growth of MNCs will dependent increasingly upon improving the lives of those at the bottom of the pyramid.

The challenge is clear: *There are expectant consumers and potential innovations that can no longer be systematically ignored.* Yet this opportunity can not be seized without fundamental innovations on the part of MNCs. *We will argue here that it is possible to serve the bottom of the pyramid, developing the products and services required, in a culturally sensitive, environmentally sustainable, and economically profitable way.*

### **Innovation Drivers**

There are several forces that, taken together, point to the emergence of a market for goods and services at the bottom of the pyramid. Consider the following:

- Increasing aspirations of people everywhere. The powerful role of TV and the media has penetrated all but the most remote rural villages. TV images reach about 700 million Indians and 1 billion Chinese. This unprecedented access to information is creating an overwhelming desire among the poor to increase their consumption and improve their standards of living. Unlike any previous time in history, the world's poor are increasingly aware of their plight—and they want to change it for the better.
- Diminishing role of governments. Around the world, political and regulatory interference is on the wane. From Poland to Chile and India to South Africa, governments are loosening control and allowing market forces to work. Foreign aid and charitable giving have not alleviated the problems for the world's poor. In the late 20<sup>th</sup> century, it has become clear that government is not up to the challenge of creating wealth for the masses. Neither can governments cope with poverty through a regime of subsidies.<sup>8</sup>
- Global over-capacity. In most industries, managers find themselves caught with over capacity. They face over capacity in the up-markets, and entrenched competitors in the middle markets. Therefore, the bottom of the pyramid is attractive to MNCs. In a very important sense, the bottom of the pyramid is like the proverbial “vacuum”—it is a

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<sup>7</sup> For a provocative discussion of the presumed pathology of global capitalism, see D. Korten, *The Post-Corporate World*, San Francisco: Berrett-Koehler, 1999.

<sup>8</sup> For example, many states in India such as Andhra Pradesh are dismantling subsidized food programs. These programs are driving the government to bankruptcy and this realization is increasingly widespread.

largely unoccupied space from the perspective of corporations. Entry at the bottom may be attractive precisely because few have yet seen fit to try!

- The inevitability of sustainable development. If the poor are not able to meet their aspirations in rural communities, they will migrate to cities, creating an urban crisis. The breakdown of rural village life and loss of indigenous knowledge systems will fuel a vicious cycle of population growth, poverty, environmental degradation, migration, and urbanization. India already has 70 cities with more than 1 million people. To be sustainable, economic development at the bottom must follow a fundamentally different logic.

These drivers combine to suggest that a significant portion of important business opportunities in the decades ahead may emanate from the bottom of the World Pyramid. *MNCs must recognize that the bottom of the pyramid poses a fundamentally new question: How do we marry low cost, good quality, sustainability, and profitability at the same time? Low cost* implies a radical rethinking of product development, manufacturing, and distribution processes. *Good quality* requires research on needs and creating robustness to products such that they can withstand harsh conditions of storage and transportation. *Sustainability* mandates that new approaches are developed for use and reuse of resources in an environmentally friendly way, and a drastic reduction in resource intensity. *Profitability* suggests a new understanding of investment intensity, margins, and volumes.

Innovation across the board is an imperative to serve the bottom of the pyramid. The starting assumption must be that serving the bottom of the pyramid is not about cheap and low quality products. It is about bringing together the best of technology and a global resource base to address local opportunities. It is about innovation within a clearly defined opportunity space—cost, quality, sustainable development, local knowledge and needs, and volume.

### **Strategies for the Bottom of the Pyramid:**

#### **Creating versus Serving Markets**

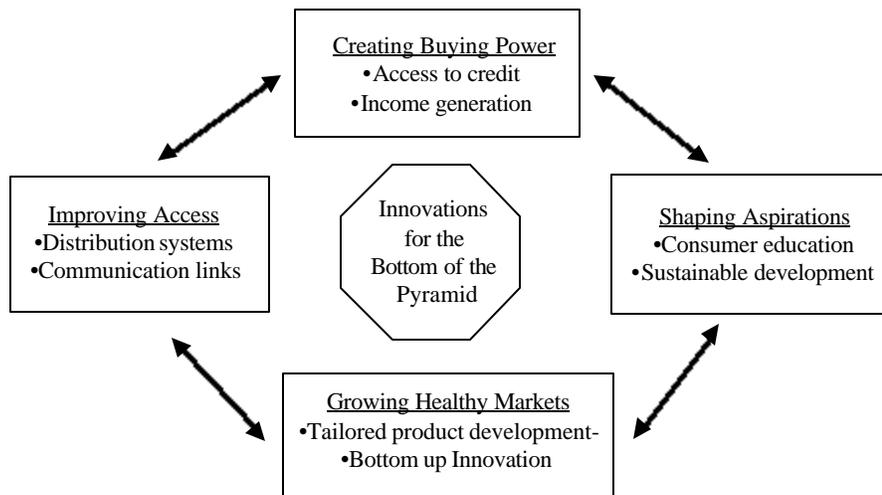
The potential of the bottom of the pyramid cannot be realized without an entrepreneurial orientation among managers- an orientation that aims to create markets. The real strategy challenge for managers is *to visualize an active market* when what exists is abject poverty. With all due respect to the importance of wetlands, it is almost the equivalent of visualizing a theme park where you see a swamp. Just like it takes imagination, good engineering and a sound financial plan to create a theme park out of a swamp, it takes imagination and creativity to engineer a market infrastructure out of the unorganized sector. *The primary task is to create a*

consumer market out of the poor, albeit one that is conceived of and structured very differently from the Tier # 1 market.

At a minimum, managers have to create mechanisms that shift the poor from an unorganized to an organized sector, and from barter and other forms of exchange to transactions primarily mediated by money. Further, these latent consumers must be educated to make choices among more sustainable products and services. They must have access to credit on a commercial basis. Managers must conceive of and create a low cost, high quality distribution system. Firms attempting to develop these markets must be assured that they will be able to create loyalty to their products and services through education and reliable service, without excessive government intervention.

This is not an exercise in serving existing markets better or more efficiently. In order to serve this segment, managers must first develop a commercial infrastructure tailored to the needs and challenges of Tier # 4. Creating such an infrastructure must be seen as an investment, much like the more familiar investments in plants, processes, products and research and development. Further, unlike more conventional investment strategies, no firm can do this alone: Multiple players have to be involved – local governmental authorities, non-governmental organizations (NGOs), local communities, financial institutions, infrastructure builders and other firms. The elements of this infrastructure-- creating buying power, shaping aspirations, improving access, and growing healthy markets-- are the keys to opening the Tier 4 market (Figure 2). It is important to recognize that all four elements of the model demand innovation– in technology, business models, and management processes. Creating a market out of the world’s poor demands new managerial leadership; one that is willing to experiment, collaborate, empower locals, and create new sources of competitive advantage and wealth.

Figure 2  
Commercial Infrastructure for the Bottom of the Pyramid



## **Creating Buying Power**

According to the International Labor Organization in Geneva, nearly a billion people (roughly 30% of the world's labor force) are either underemployed or have such menial jobs that they can not support themselves or their families. Roughly one-fifth of humanity earns less than \$1 dollar per day, and fully half of humanity earns less than what is considered the minimum to sustain life (\$1,500 PPP per year). For corporations, business opportunity can be developed by aiding those in Tier 4 to elevate themselves above this "desperation line." Creating buying power is thus the first priority among the strategies for the bottom of the pyramid. To break the vicious cycle of poverty, population growth, and environmental degradation, two interventions are crucial—providing access to credit, and increasing the income earning potential of the poor. A few farsighted companies have already begun to blaze this trail—with startlingly positive results.

**Access to Credit.** Commercial credit is unavailable to the very poor. Even if it was possible to access a bank, without collateral it is hard to get credit from the traditional banking system. The experience of the wealthiest nation in the world provides an illustration of the centrality of commercial credit in building a consumer market. It is the access to credit in the USA that allows people to systematically build their equity and to afford products and services at an earlier age (e.g. credit card purchases, mortgages for a house, loans for a car, loans for education). Developing countries have tried governmental subsidies with no success. Subsidies have not enabled the poor to get out of their cycle of poverty. Yes, the poor have access to local moneylenders who often charge such usurious rates that it dramatically increases the chances that the poor will stay poor and in bondage. Even if the poor attempt to be entrepreneurial and start a small business, access to credit from local money lenders makes it impossible for them to get out the cycle of poverty. For example, it is well known that local money lenders in Mumbai, India will charge interest rates of up to 20% per day. This means that a vegetable vendor, if he borrows, Rs. 100 in the morning must return Rs. 120 in the evening.

Access to credit as a way of creating consumers out of the poor is not a new concept. Consider the story of how the Singer Sewing Machine company, during the later part of the 19<sup>th</sup> century, used access to credit as a way for millions of women to purchase a sewing machine. Very few could have afforded the steep \$125 price tag, but most could afford a \$5 per month payment. The same logic applies on a much larger scale in Tier 4. It seems clear that access to credit on a commercial basis (as opposed to governmental subsidies) is a critical ingredient in breaking the cycle of poverty. However, commercial credit must deal with the problems of lack

of collateral, assessment of credit risk, the ability to collect interest and principal, and enforce the commercial contract implicit in a credit transaction. How does one do that amongst the world's poorest?

Consider the experience of Grameen Bank in Bangladesh. Lack of collateral has been cited as the reason for financial institutions not lending to the poor. Grameen Bank has substituted local knowledge, peer group evaluation, focus on women, and specific, viable projects as the basis for extending credit and mitigating risks in lending.<sup>9</sup> Grameen lends almost exclusively to women. Each project is certified by five peers. The sales and service people visit these villages frequently and are very familiar with the village, the women who have taken loans and the projects that they are supposed to invest in. *The functions of due diligence of the bank in a Western setting is done but without the mountain of paper work and arcane english.* The contracts are enforceable as the peers recognize that it is in their interest to do so. Pride and honor are also great motivators.

Started just twenty years ago by a college professor, Mohammed Yunas, Grameen Bank today provides micro credit to more than 3 million poor customers in over 35,000 thousand villages in Bangladesh. In 1996, the bank lent over \$1 billion in Bangladesh with an average loan size of \$15.<sup>10</sup> Even more impressively, Grameen has achieved a 99% repayment rate, higher than any other bank in the Indian subcontinent and certainly the envy of all credit card issuers around the world. Achieving these results while lending only to the poorest of the poor turns all of the conventional wisdom about banking on its head.

The availability of micro-credit is transforming those villages that have access to it. Availability of credit has jump-started widespread entrepreneurial efforts, created new employment, and raised the overall standard of living at the village level. Indeed, Professor Yunas and the Grameen Bank have set off a global explosion of micro-credit. The UN, in conjunction with several major corporations have set a goal of making basic credit available to the 100 million poorest families in the world by the year 2005. The extension of microlending is microbanking. Citibank is experimenting with 7 day 24 hour services to customers with as little as a \$25 deposit in Bangalore, India. The initial results are very positive. Citibank will make a profit at that level of deposit. The micro-credit revolution has also spread to the developed world, and even the US. For example, Shore Bank, on Chicago's troubled south side, is modeled after the Grameen Bank. Hillary Clinton and the Clinton administration are also promoting the idea of micro-credit as a means of solving the problems of the inner cities. These

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<sup>9</sup> See the following book for a detailed description of the micro-credit revolution initiated by Grameen Bank: A. Counts, *Give Us Credit*, New York: Times Books, 1996.

<sup>10</sup> To put this in perspective, banks typically spend about \$100 for acquiring a single credit card customer with little hope of retention.

initiatives provide pointers to the viability of building an infrastructure of banking and access to credit among the poorest of the world.

**Income Generation.** Credit offers the possibility of breaking the cycle of poverty by opening the prospect of income generation through productive employment or new micro-enterprise development. Access to credit without building corresponding income generation potential will not create a sustainable market opportunity. The role of credit is to increase income levels dramatically. Markets develop around income levels.

Recognizing the importance of self-reliance and income generation to the success of his micro-lending program, Professor Yunus created Grameen Shakti (Village Power) as a subsidiary of the bank. Grameen Shakti is a rural power company whose purpose is to supply renewable energy to unelectrified villages in Bangladesh. An equally important purpose, however, is to create employment and income-generating opportunities for the poor. As an example, the World Resources Institute reports the case of Mr. Umor, who operates a small grocery shop in rural Bangladesh. He bought a small photovoltaic system through a \$400 Grameen Bank loan. A portion of the power from this system is used to light his shop (saving on operating expenses), but, as a micro-utility service provider, the remaining power is sold to five nearby shops, increasing his income by \$12.50 per month, paying for the entire investment in 40 months.

Shade-grown coffee offers another example. It offers economic and environmental benefits for both poor farmers and up-market consumers compared to coffee that is “industrially” (sun) grown. Rather than cultivating coffee in large-scale monocultures, with all of its associated problems of habitat destruction, chemical use, and employment of migrant farm workers, shade-grown coffee is grown as an understory species with a host of other cash-producing crops such as bananas, nuts, etc., on plots of land owned by small-holder farmers. Not only is shade grown coffee higher quality, but it also provides habitat for wintering songbirds in the tropics, drastically reduces chemical use, and substantially raises the income of the small farmers who retain title to their own land. Companies like Starbucks have an enormous opportunity to move the global coffee market toward shade grown through their sourcing policies. Other companies like M&M Mars have recognized the same opportunity by sourcing only “sustainably” grown cocoa as raw material to their candy products. In the process, countless small farmers have been enabled to maintain possession of their land and increase their incomes significantly.

## **Shaping Aspirations**

Because the poor of the world have access to TV, they may get a distorted view of the developed world. Watching reruns of “lifestyles of the rich and famous” or “I love Lucy” does not give a realistic view of the developed world, much less what is feasible at the bottom of the pyramid if price-performance and sustainable development are key considerations. Given the immense size of the Tier 4 market, it will not be physically possible to duplicate North American life styles at the bottom of the pyramid: 6 billion people consuming at the level of the typical American would require roughly three planet Earths to support the material use, energy expenditure, and waste production.<sup>11</sup> It is imperative, therefore, that consumer aspirations at the bottom be shaped toward products and services consistent with the concept of sustainable development. In fact, innovation at the bottom of the pyramid may ultimately reshape the way Americans and others in Tier 1 live.

As consumers, those in Tier 4 need to be educated on the proper use of products. There is a significant “proxy” use of products, even among tiers # 2 and 3 in countries like India. For example, body soap is often used instead of shampoo or the other way around. While this is no safety hazard, it is an inappropriate use of product. Either firms should develop products with proxy use in view or educate consumers on appropriate use. This is no different from educating customers on the use of “self checkout” or “buying things on the internet” in the developed world. Both consumer education and sustainable development are thus critical to shaping expectations at the bottom.

**Consumer Education.** Novel approaches to consumer education are a prerequisite to creating a commercial infrastructure. Education is the key to creating an appropriate consumer orientation-- aspirations and knowledge-- among the poor in Tier 4. For example, Colgate Palmolive uses a van with a video player and screen for advertising oral care products-- tooth powder and tooth paste in rural India. The use of the product and its benefits are demonstrated with accompanying music and dance. It is entertaining and educational. Indian political parties have used the same approach to carry their message to the masses-- the rural poor.<sup>12</sup> The goal here is to create both an aspiration as well as knowledge about product/service characteristics

Avon has also been highly creative in their approach to consumer education among poor customers. They have been able to create an awareness of health and beauty aids in Tier # 3 and 4 through the effective use of “Avon ladies.” These sales persons are drawn from the

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<sup>11</sup> See M. Wackernagel and W. Rees, *Our Ecological Footprint*, Philadelphia: New Society Publishers, 1996.

<sup>12</sup> The idea of creatively combining entertainment and product advertising (including explaining product use and its benefits) is widely used in rural markets in India. Its popularity may have declined with the increasing access to TV in rural India but its value in consumer education has not diminished.

communities they serve. More than 500,000 Avon ladies, worldwide, provide education, expertise, comfort, and credit. They are able to access consumers that cannot be accessed through the regular “come to the supermarket” approach. Credit card companies are also trying to woo poor consumers using the same door to door selling approach. CitiGroup, which has a goal of a billion consumers worldwide, is experimenting with non- traditional approaches to marketing financial services.

**Sustainable Development.** Given the sheer size of the market, natural limits are imposed on the resource intensity of products and services developed for the Tier # 4 market. Sustainable development will force changes in every conceivable dimension - materials have to be used diligently, recycling is a critical ingredient and most importantly, we need to reduce the need for limited natural resources such as water and energy. For example, water in the developing world is a critical resource. Whether it is for laundry, personal cleanliness or cooking, water use is assumed. Just to illustrate the point, an average US citizen uses 4000 liters of water /day. The national goal, in India is 40 liters per day per person. This gives a new dimensionality to the problem of sustainable development. It is not about marginal changes to a Western way of life. It is inventing a fundamentally new way of delivering functionalities – cleanliness, sanitation and cooking with a quantum reduction in water resources.

There is some good news in this picture. Since there is hardly any modern technical infrastructure to serve the bottom of the pyramid, the opportunity exists to “leapfrog” directly to more sustainable products rather than repeating the environmental mistakes made in the developed world. In this sense, the bottom of the pyramid offers a test bed for more sustainable ways of living. It offers the early experimental markets needed to develop and perfect new and innovative technologies. For example, there is no incentive to experiment on how to save water in Canada. Canada, with only about 20 million people, has have the benefit of a significant percentage of the world’s naturally occurring water. The story is different in India or China. Without water conservation, the bottom of the pyramid cannot be served. Innovation is critical.

Water quality is equally important. In Tier 4, better than 1 million children die each month from disease spread by contaminated water. Unfortunately, centralized water treatment facilities are prohibitively expensive in most poor, rural areas. Dr. Ashok Gadgil’s Ultra-Violet Waterworks (UVW) technology, however, purifies disease contaminated water on an affordable, small-scale basis. According to Michael Totten of the World Resources Institute, 1 solar-powered UVW can serve over 2,000 villagers, ensuring clean water year-round at a cost of about 10 cents per villager per year. UVW uses 6,000 times less energy than boiling. As a result, under the Kyoto Climate Change Convention, the entire cost of the system might be paid by selling carbon offset credits (the difference between the carbon dioxide emitted using

conventional boiling versus UVW). A company, Waterhealth International, has now been formed to finance and distribute this technology throughout the developing world.

### **Improving Access**

Isolation is one of the biggest barriers to Tier 4 development. Often located far from major metropolitan areas (or in the worst sections of megacities), Tier 1 remains largely disconnected from and ignorant to the challenges and opportunities at the bottom. Similarly, Tier 4 could benefit from connections which enable it to sell products and services to up-market customers. For those in Tier 4, sporadic exposure to western television is no substitute for accurate, up-to-date information. As a consequence, improving both distribution systems and communication links is key to the strategy for the bottom of the pyramid.

**Distribution Systems.** One of the major impediments to creating a market at the bottom of the pyramid is access. Existing distribution systems mostly cater to urban areas and Tier 1 and 2 consumers. Seldom do they reach the rural poor. Few large emerging countries can boast of a developed distribution system that can access more than half of the population (Hence the continued dependence of the bottom of the pyramid consumers on local products and services and local money lenders). For example, in India, the distribution systems for consumer products are well developed, compared to other developing countries. Even there, organized distribution systems reach only small towns of 5,000 or more people. It is estimated that at least 20% of the population is not effectively linked to the national and regional distribution systems of the firms in the organized sector.<sup>13</sup> This figure is considerably higher in other developing countries.

Few businesses design their distribution to cater to the needs of poor, rural customers. However, there are opportunities for creative companies to orient their distribution toward this unserved market. In India, for example, Arvind Mills has created an entirely new value-delivery system for blue jeans.<sup>14</sup> As the world's fifth largest denim manufacturer, Arvind found Indian domestic denim sales limited because at \$20-40 a pair, jeans were neither affordable to the masses, nor widely available, since the existing distribution system reached only a few rural towns and villages. In direct response to this problem, Arvind introduced "Ruf and Tuf" jeans-- a ready-to-make kit of jeans components (denim, zipper, rivets, patch) priced at about \$6. It was distributed through a network of 4,000 tailors, many in small rural towns and villages, whose self-interest motivated them to market the kits extensively. Ruf and Tuf jeans are now

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<sup>13</sup> The estimate of distribution coverage for India is based upon data from NCAER studies.

<sup>14</sup> M. Baghai, S. Coley, D. White, C. Conn, and R. McLean, "Staircases to growth," *McKinsey Quarterly*, 1996, 4: 39-61.

the largest selling jeans in India, by far, easily surpassing Levi's and other brand names from the U.S. and Europe.

Effective distribution systems must not only facilitate the flow of products into Tier 4, but also build the competitiveness of Tier 4-based enterprises in developed markets. Harnessing local capabilities at the bottom of the pyramid can help link the poor to the rest of the world and generate the income necessary to become active participants in the market economy. Indeed, it is possible to leverage traditional knowledge bases to produce more sustainable, and in some cases, superior products for consumption by Tier 1 customers. Anita Roddick demonstrated the potential power of this strategy in the early 1990s through the Body Shop's "trade-not-aid" program of sourcing local raw material and products from indigenous people for use in company products.

Indigenous Designs, a small clothing producer based in the Bay Area of California, provides a compelling example of this strategy. The company sources high-quality garments from indigenous communities in Latin America (e.g. Peru and Ecuador) for sale in the US and other Tier 1 markets. But rather than simply buying these garments from local artisans at rock bottom prices--a common practice in rural Latin America-- the company enters into long-term collaborative relationships with NGOs and the local communities to build the infrastructure for clothing production. Part of this long-term relationship is a guarantee that the local artisans will earn a fair share of the profits from the sale of the garments.<sup>15</sup>

This strategy accomplishes two ends. First, investment in a long-term relationship which includes training and education, raises the quality and consistency of the products produced by the local artisans. This enhances the competitiveness of the company's products among its Tier 1 customers. Second, the long-term relationship ensures that the local communities receive a fair share of the revenues and substantially raises the incomes of these poor, rural communities. In a very real sense, doing business with Indigenous Designs is an exercise in sustainable development for these impoverished communities in rural Peru and Ecuador. Local artisans and business people generate sufficient income to materially improve the quality of their lives, stemming the flow of migration from the countryside to the city. Yet, even with its significant investment in social infrastructure and development, Indigenous Designs can still bring its products to market for less than a mainstream sweater manufacturer, where standard items are mass produced in low-wage factories in Asia. Not surprisingly, demand is very brisk for the company's products-- it has grown by better than 80% over the past 2 years. Marketing these

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<sup>15</sup> Speculators can source high quality garments from local artisans (e.g. hand-made sweaters from locally-grown organic cotton, colored with natural dyes) in Latin America for less than \$1 dollar per item. Such garments are ultimately sold in the US for \$60-80. As part of their long-term, sustainable development strategy, however, Indigenous Designs typically pays local artisans \$10-12 for such items.

products at a premium price guarantees high profits and ensures that the supply base, so dependent upon careful relationship building in the third world, is not outstripped by demand.

**Communication Links.** Establishing distribution and access both to and from Tier 4 is a key aspect of the strategy for the bottom of the pyramid. An important part of this access has to do with communication: Information poverty may be the single biggest roadblock to sustainable development. Yet, as hard as it may be to believe, more than half of humanity has yet to make its first phone call. By establishing communication links, however, it is possible to leverage learning and generate innovative new ways to become economic players.

Ten years ago, motivated by this vision, Dr. Sam Pitroda started the idea of “rural telephones” in India. He realized that India may not, in the very near future, be able to provide a telephone to every person, but it could provide a telephone to every village. The concept was to have a community telephone, operated by an entrepreneur who charged a fee for the use of the telephone. She kept a percentage of the fee as wages for her services in maintaining the telephone and making it available (Most of the entrepreneurs were women). The concept caught on. Today, from most parts of India, it is possible to call anyone in the world. Entrepreneurs have added a fax to the telephone service and some are experimenting with e-mail and Internet access. These communications links have dramatically altered the way the village works and how it is connected to the rest of the country.<sup>16</sup>

The Pan-Pacific Cultural Conservancy offers another interesting model. This not-for-profit organization is a confederation of dozens of indigenous peoples from around the Pacific Rim. Its purpose is to conserve the culture, knowledge base, and way of life of the remaining First Nations through selective engagement with the market economy. The Conservancy links these cultures together through Internet access and designates certain individuals to play the intermediary role with the outside world (while keeping the remainder of the inhabitants apart). The Conservancy seeks to preserve cultural diversity while simultaneously taking commercial advantage of the incredible base of local knowledge accumulated over tens of thousands of years. Revenues generated from the commercialization of indigenous knowledge are used to further buffer and preserve these cultures from outside influences through land purchase, attainment of land rights, legal protection, etc. Thus, cultural survival and commercial development can go hand in hand.

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<sup>16</sup> S. Pitroda, “Development, democracy, and the village telephone,” Harvard Business Review, November-December, 1993.

## **Growing Healthy Markets**

By the mid-1990s, the combined sales of the world's top 200 MNCs equaled 28% of total world gross domestic product. Yet, at the same time, these same corporations employed less than 1% of the world's labor force. Of the world's 100 largest economies, fifty-one are economies internal to corporations. Yet, scores of third world countries have suffered absolute economic stagnation or decline. Over the past decade, growth in the value of financial assets has more than doubled that of actual economic output. Yet, only a tiny fraction of the world population participates in the financial markets, and the gap between rich and poor continues to widen.<sup>17</sup>

These trends are not sustainable. If multinational corporations are to thrive in the 21<sup>st</sup> century, they must seek to generate a broader base of economic activity that is more widely shared than has been the practice in the past. This means taking actions which nurture local markets, leverage local solutions, and generate wealth at the lowest points on the pyramid. Producing, rather than extracting wealth will be the guiding principle. Key to achieving this end will be tailoring product development to meet local needs and building businesses from the bottom up.

**Tailored Product Development.** For companies to succeed in the Tier 4 market, they will need to create technologies, products, and packaging forms that are uniquely tailored to the conditions of those at the bottom of the pyramid. As an example, Hindustan Lever, the subsidiary of Unilever in India, has introduced a new version of the traditional wheat flour used to make Indian bread. People in India like their bread to be soft. However, bread made of traditional flour dries up too fast. Managers at Hindustan Lever, developed a method of flour milling that adjusted the gluten content in the flour. Bread made with this flour could remain soft for a longer time. The same MNC has also introduced a new variety of salt crystals that allows salt to retain its "saltiness" under the rigors of Indian cooking. The point is simple. Product development must recognize the needs of the local consumers.

Tailoring for the bottom of the pyramid, MNCs must use a creative combination of advanced technology and deep local insights. For example, Tier 4 consumers make a clear choice between "investment in inventory" and the financial necessity of more frequent shopping. In the affluent markets, consumers are willing and able to buy big packages of consumables (e.g. 10 kg of detergents from Sams Club such that they need not shop frequently). They inventory products. Tier 4 consumers, on the other hand, are strapped for cash and unwilling to

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<sup>17</sup> For details, see D. Korten, op cit, and P. Hawken, A. Lovins, and H. Lovins, Natural Capitalism New York: Little, Brown and Company, 1999.

commit to any one brand. As a result, consumers are looking for “single serve” packages. Already in India, 30% of personal care and other consumables such as shampoo, tea, and cold medicines are sold in single serve packages. Most single serve packages are priced at Rs. 1 (equivalent of about a cent). Without innovation in packaging, however, this trend could result in a mountain of solid waste. Sustainable development must be an integral part of the product development process for Tier 4.

On the technology front, Tier 4 presents particularly important local challenges and opportunities. One of the major impediments to the development of a fresh food system, for example, in countries such as India is the lack of practical refrigeration. Refrigeration systems are expensive and even when they are deployed, the energy consumption requirements are very high. In India, HLL developed in their laboratories, a radically different approach to refrigeration that allows them to transport perishable goods across the country in standard trucks (not refrigerated). The system is built on a simple but revolutionary idea – that if one can create a “heat shield” rather than a “heat sink” (the common technology solution in the rest of the world) there could be quantum reductions in electricity use as well as eliminating exposure to dangerous or polluting refrigerants. As an added bonus, the new system is cheaper to build and use. This technology, initiated originally for use with ice cream, could be used for other food items that need refrigeration.

**Bottom-Up Innovation.** Effective strategies for the bottom of the pyramid cannot be realized without active engagement of people at the local level. *Strategies for the bottom of the pyramid must be built from the bottom up.* Tier 1-led efforts to “solve” the problems of the poor have generally met with failure. After repeated attempts to impose technological solutions on the bottom of the pyramid from Washington or New York, it is becoming increasingly clear that knowledge and practices rooted in local conditions are critical to sustainable development at the bottom of the pyramid. Creativity in effectively marrying decentralized local capabilities with global “best practices” within the total value chain is more likely to succeed. It follows, then that local solutions are a critical part of developing an effective basis for serving Tier 4 markets. To be effective, strategies *for* the bottom must originate *from* the bottom of the pyramid.

For example, the Khira District Milk Cooperative, started in 1946 in the state of Gujerat, India under the leadership of Dr. Kurien, has become a national phenomenon. Twenty years ago, milk was in short supply in India. Today, India has emerged as the largest producer of milk in the world. That transformation has many lessons for MNCs aspiring to serve the bottom of the pyramid. Unlike the dairy farms of the west, milk originates in highly decentralized villages. Villagers may own two to three buffaloes each and they bring the milk

twice a day to the village collection centers. They are paid everyday for the milk they bring in, based on fat content and volume. Refrigerated vans transport the milk to central processing plants where the milk is pasteurized. Railroad cars transport the milk to major urban centers. Milk is also processed into milk powder and cheese. Amul, the brand name of the cooperative, is today one of the best recognized in the country.

The Khira district farmers are members of a cooperative. The cooperative provides services to the farmers such a veterinary care and cattle feed. The entire value chain is carefully managed– starting from the village based milk production to the world scale processing facilities. The distribution of pasteurized milk, milk powder, baby food and other by-products is managed like any other MNC in India. The uniqueness of Amul cooperative is in the blending of decentralized origination with the efficiencies of a modern processing and distribution infrastructure. As a result, villagers are able to earn a steady income. The milk cooperative has changed their lives; it has transformed marginal farmers into active market participants. This cooperative system now claims 6.1 million individual small-scale farmers, 57,000 village level cooperatives, 172 milk producer unions, and 22 state level federations. Milk production has increased 4.7% per year since 1974. Sixty percent of the beneficiaries are marginal farmers. Per capita milk consumption in India has almost doubled from 107 grams/person to 193 grams/person in twenty years.<sup>18</sup>

Strategists must recognize the need to create new business models that are not too disruptive of the life styles of people. Amul and other such experiments demonstrate that what is needed is not a replication of the Western system, but an effective combination of local and global knowledge

### **Putting it All Together**

It should be obvious that the four elements of the commercial infrastructure for the bottom of the pyramid are interlinked. Innovation in one element leverages innovation in others. It should also be clear that corporations are but one of the actors needed to develop this infrastructure. We have seen how critically important NGOs, local and state governments, and communities are to the development process. Yet someone must take the lead to make this revolution happen. The question is, why should MNCs take the lead?

### **Why Multinational Corporations ?**

Even readers who are sympathetic to the argument so far are likely to wonder why MNCs should concern themselves with this market segment. Even if multinational managers are

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<sup>18</sup> Precis: World Bank Operations Evaluation Department, Summer 1998, Number 168.

emotionally persuaded, it is not obvious that they have real advantages over locally-oriented, small organizations. MNCs may never be able to beat the cost or responsiveness of local village entrepreneurs. Yet, there are several compelling reasons for MNCs to embark on this course:

- Resources. Building a complex commercial infrastructure for the bottom of the pyramid is a resource and management intensive task. Developing products and services that are environmentally sustainable requires significant research. Distribution channels and communication networks are expensive to develop and sustain. *Few local entrepreneurs have the managerial or technological resources to create this infrastructure.*
- Leverage. MNCs are able to transfer knowledge generated from one market, say China, to Brazil or India, as Avon, Unilever, Citigroup and others have demonstrated. While practices and products have to be customized and adapted to serve local needs, *MNCs have an advantage in bringing together a global knowledge base that is unique and not easily accessible to local entrepreneurs.*
- Bridging. MNCs can act as nodes in building the commercial infrastructure-- providing access to knowledge, managerial imagination, and financial resources. Without MNCs as catalysts, well-intentioned NGOs, communities, local governments, and even multi-lateral development agencies will continue to flounder in their attempts to bring development to the bottom. *MNCs are best positioned to bring together the range of actors required to develop the Tier 4 market.*
- Transfer. Not only can MNCs leverage learning at the bottom, but they also have the capacity to transfer innovations from Tier 4 to the up-markets of Tiers 1-3. As we have seen, the bottom of the pyramid is a test bed for more sustainable ways of living; *there is every reason to believe that many of the innovations from the bottom can be adapted for use in the resource- and energy-intensive markets of the developed world.*

Before MNCs can access this segment, however, it is imperative that managers recognize the nature of leadership that is required to play in this arena. Creativity, imagination, tolerance for ambiguity, stamina, passion, empathy, and courage may be as important as analytical skill, intelligence, and knowledge. A performance orientation-- the capacity to deliver on complex opportunities-- is also critical. Leaders need a deep understanding of the local needs and conditions and a global network from which to operate. Finally, leaders must have the

interpersonal and intercultural skills to work with a wide range of organizations and people. Let us now examine how this may be done.

### **Building the MNC Infrastructure to Serve the Bottom of the Pyramid**

Just as we outlined the need to create a commercial infrastructure before an MNC can access the Tier 4 market, MNCs have to build an *organizational* infrastructure before they are ready for managing this opportunity. The critical organizational infrastructure needs are to build a local base of support, reorient R&D toward both global and local issues, form new alliances, increase labor intensity, and reinvent cost structures. As with the elements of the commercial infrastructure, these five elements are clearly interrelated and mutually reinforcing.

**Build Local Base of Support.** Poverty is, in most places, a constituency.<sup>19</sup> Creating a consumer base out of the poor threatens the existing power structure. Local opposition can emerge very quickly, as Cargill found in their sunflower seed business in India. Cargill's offices were twice burned and the local politicians accused the firm of destroying locally-based seed businesses. But Cargill persisted. Investments in farmer education, training, and supply of farm inputs to optimize crop yields have led to dramatic improvements. Farmers have improved their productivity per acre of land by over 50%. Cargill is today seen as the friend of the farmer. Political opposition has totally vanished. These problems of entrenched local power are not just reserved for MNCs. When Dr. Kurien, of Amul fame tried to enter the oil seed business, the preferred commodity for speculators and petty traders, he found the same opposition.

To overcome these problems, MNCs must build a local base of political support. This should not come as a surprise to anyone who has worked in the emerging markets of Tiers 2-3. As Enron, GE or Lucent can attest, it is essential to establish a coalition that allows them to counter the entrenched local interests. The same process is necessary, albeit in a more decentralized and less visible way, at the bottom of the pyramid.

Forming such a coalition of NGOs, community leaders, and local authorities can be a very slow process. Each player has his own agenda; MNCs have to understand these agendas and create among them a common aspiration. In China, this problem is less onerous as the local bureaucrats are also the local entrepreneurs. The alignment of roles is such that they can easily see the benefits to their enterprise and their village, town or province. In countries such as India and Brazil, such alignment does not exist. A significant amount of discussion, sharing of information, delineating benefits to each constituency and sensitivity to local debates is

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<sup>19</sup> See, for example, P. Sainath, Everybody Loves a Good Drought, New York: Penguin Books, 1996, and R. Klitgaard, Tropical Gangsters, New York: Basic Books, 1990.

necessary. Managers must learn to respect the political process and recognize that creating a market-based society results in a significant shift in the balance of power.

**Conduct Global and Local R&D.** Research and development must be reconfigured to focus on both global and local concerns. Global research focuses on major issues that all consumers face. For example, biodegradable packaging materials is a critical aspect of sustainable development. Dow Chemical and Cargill are experimenting with an organic plastic that would be totally biodegradable. Packaging that could be easily and quickly returned to the soil would revolutionize markets at all four tiers of the World Pyramid. Another universal problem is aging. Research on aging processes is critical for both the top and the bottom of the pyramid. MNCs are accustomed to setting global research agendas. The only adaptation required is to select areas with the potential to affect all 6 billion in the world rather than just the few in Tier 1.

Local research has three distinct aspects. First, local research must focus on the unique, basic needs of those at the bottom of the pyramid in a particular region or country. In India, China, or North Africa, for example, research on water use—drinking, cooking, washing, cleaning, grooming—is a high priority. Second, local research must seek to adapt solutions from other markets and other applications to local needs. For example, a daily dosage of vitamins can be added to a wide variety of food and beverage products that most consumers use. For pharmaceutical companies such as Abbott, with a significant nutritional business, the bottom of the pyramid offers a vast untapped market for such nutritional products.

Finally, local research must examine local practices to identify useful principles and potential applications. In Tier 4, there is significant knowledge that is transmitted orally across generations. Being respectful of traditions but willing to examine them scientifically can lead to new knowledge. Acupuncture was laughed at fifteen years ago. Meditation was dismissed as a fad. Body Shop's creative CEO, Anita Roddick has built a business based on understanding the basis for local rituals and practices. For example, she observed that women in Africa use slices of pineapple to cleanse their skin. On the surface, this practice appears to be a meaningless ritual. However, research shows that there are active ingredients in pineapple that clear away dead skin cells better than chemical formulations.

One of the major organizational implications of this approach is that MNCs must develop major research facilities in emerging markets such as China, India, Brazil, Mexico, and Africa. Further, the research agenda must be adjusted to include the needs of the bottom of the pyramid consumers. Few MNCs have made a big effort in this direction so far. One exception is Unilever which has built a highly regarded 500 person research center in India to focus on the needs of the middle and bottom of the pyramid.

**Form New Alliances.** Since no firm can create the commercial infrastructure at the bottom of the pyramid alone, alliances are a crucial element of the MNC infrastructure. The alliances required to tap the Tier 4 market, however, will be quite different from the market access-oriented joint ventures required by host governments to secure access to Tiers 2-3. By entering into alliances in Tier 4, MNCs gain insight into developing countries' culture and local knowledge. At the same time, MNCs improve their own credibility. They may also secure preferred or exclusive access to a market or raw material.

We foresee relationships of three kinds as being particularly important: 1. alliances with local firms and cooperatives (e.g. Khira District Milk Cooperative); 2. alliances with local and international NGOs (e.g. BP's recent alliance with the Environmental Defense Fund to develop a worldwide strategy for lowering greenhouse gas emissions, focusing on offset investments in developing markets); and 3. alliances with governments (e.g. Merck's recent alliance with the government of Costa Rica to foster rainforest preservation in exchange for bioprospecting rights). To succeed in such alliances, MNC managers must learn to work with people who may not have the same agenda as they do, and may not have the same educational and economic background that they have. The challenge-- and payoff-- is how to manage and learn from diversity-- economic, intellectual, racial and linguistic.

**Increase Labor Intensity.** MNCs are accustomed to thinking in terms of capital intensity and labor productivity, given their experience base in Tier 1 markets. Exactly the opposite logic applies in Tier 4. Given the vast number of people at the bottom of the pyramid, the production and distribution approach must provide jobs for many, as in the case of Ruf and Tuf jeans from Arvind Mills: Even though the cost of the jeans was 80% below that of Levis, the strategy still employed an army of local tailors as stockers, promoters, distribution channels, and service providers all rolled in one. As Arvind demonstrates, MNCs need not employ large numbers of people directly on their payroll, but the organizational model in Tier 4 must have the twin objectives of increasing labor intensity (and incomes) among the poor and grooming them as new customers.

**Reinvent Cost Structures.** It is obvious that in order to serve the Tier 4 segment, managers must dramatically reduce cost levels relative to those in Tier 1. Creating products and services that the poor can afford requires that MNCs reduce their costs by orders of magnitude, say to 10% of what they are today. This would appear to be a big stretch. Such cost levels can not be achieved by fine tuning the current approaches to product development, production, and logistics. There is a need for a fundamental rethinking of the entire process with

*a focus on functionality and not on the current product and process forms.* For example, financial services need not be distributed only through branch offices (which require extensive brick and mortar investment) between 9:00am and 5:00pm. Instead, such services can be provided at a time and place convenient to the poor consumer-- after 8:00pm and at their home. Why not borrow a lesson from Amway, Tupperware, Mary Kay cosmetics or Avon? Cash dispensing machines can be placed in safe areas-- police stations and post offices. Iris recognition (a fool proof security device) could substitute for the tedious 7 digit number and card for identification. Once convinced of its utility, iris recognition can bring customers who might otherwise be intimidated by the current identification system.

Cost structure reinvention also forces a debate on creative ways to reduce investment intensity. Such a focus should inevitably lead to an information technology (IT)-based production and distribution system. As discussed previously, village-based phones are already transforming the pattern of communications throughout the developing world. Recognizing this potential, Professor Yunas started a new subsidiary, Grameen Phone, with the vision of supplying wireless phone service to every village in Bangladesh. Add to this the Internet, and we have a whole new way of communicating and creating economic development in poor, rural areas. Accordingly, Yunas' vision now is to extend service to include Internet connections to rural villages. The internet can deliver a host of related services including telebanking, telemedicine, and distance learning, to name only a few. India has recently adopted a liberal stance towards the Internet, allowing a wide range of service providers, including cable operators, to provide Internet connections. Internet kiosks are spreading all around the urban and rural areas in the southern part of India. Consumers and producers could become connected in fundamentally new ways in the emerging Tier 4 markets-- and more quickly than any of us can envision at this time. Creative use of IT will emerge in these markets as a means to dramatically lower the costs associated with access, distribution, and credit management.

Managers must recognize that cost structures reflect prevailing management systems. These systems have evolved over time, primarily in a Tier 1 context, and will persist unless consciously forced out. They are not cast in stone. For example, the reengineering revolution in the US has significantly improved efficiencies and cut costs. Better customer satisfaction, quicker service, and lower costs-- the Dell model-- may have important lessons for management in Tier 4 markets. Many questions concerning the value chain need to be asked before entering the bottom of the pyramid: Should operations be more decentralized? Is an IT backbone an essential prerequisite to competing? What should be the mix of local and expatriate talent? Organizational innovation will be critical to reinventing cost structures.

In short, the bottom of the pyramid will challenge the internal working assumptions-- often implicit-- of the MNC. Managers who start on this journey will discover that it liberates

them from assumptions about how to manage a large firm. They will also find new sources of advantage that may be transferred to Tiers 1-3.

### **Creating Sustainable Development: An Agenda for Senior Managers**

The emergence of the 3-4 billion people whom we have called the Tier 4 market is a great opportunity for MNCs. Yet, this potential market cannot be accessed with the products and services currently offered to Tier 1 consumers, and will require fundamentally different approaches than those even in Tiers 2-3. Innovations in technology, credit, cost, and distribution are critical prerequisites. Only large firms with global reach have the technological, managerial, and financial resources to crack open the “well of innovations” needed to profit from this opportunity.

The Tier 4 opportunity is not restricted to businesses serving “basic needs” such as food, textiles, and housing. On the contrary, the bottom of the pyramid represents a massive opportunity for “high-tech” businesses such as financial services, cellular phones, and low-end computers. In fact, for many emerging, disruptive technologies (e.g. fuel cells, wind energy, photovoltaics, satellite-based telecommunications), the bottom of the pyramid may prove to be the most attractive early market.

So far, three kinds of organizations have led the way: local firms such as Amul and Grameen Bank, NGOs such as the World Resources Institute, Solar Electric Light Fund, and Conservation International, and a few MNCs such as Unilever, Monsanto, and Citibank. We have only begun to scratch the surface of what is the biggest potential market opportunity in the history of commerce. To fully capture this opportunity, however, those at the bottom of the pyramid must become active market participants. Opening Tier 4 means narrowing the global gap between rich and poor; it means lifting billions of people out of poverty and desperation; and it means averting the social decay, political chaos, and environmental meltdown that is almost certain to occur in the absence of Tier 4 market development. In a very real sense, senior managers who commit their companies to strategies for the bottom of the pyramid are creating sustainable development.