

**Poverty and the Environment: Sustainable Development and Emerging
Mechanisms in the Fight Against Poverty.**

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Abstract

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Sustainable development has become an important part of political, economic and environmental discourse. Yet for many the concept of sustainability is still an obscure one. For a large number the concept is about resolving two conflicting objectives; economic development and environmental protection. By examining different ways poverty and the environment intersect, a complimentary, rather than opposing relationship is revealed.

Recognizing this complimentary relationship, addressing poverty becomes not only a socio-economic but an ecological imperative. The research moves on to discuss past and current approaches to addressing poverty beginning with international aid. International aid remains the dominant tool in addressing poverty in the developing world. Yet a growing number have criticized the effectiveness of aid programs. In response, many advocate an increased focus on the private sector and encouraging entrepreneurialism in the developing world. From public sector responses, to an increase in micro-financing, to individually funded initiatives like Kiva this research examined how these responses are contributing to addressing sustainable development.

1 Introduction

“God forbid that India should ever take to industrialism after the manner of the West. The economic imperialism of a single tiny island kingdom is today keeping the world in chains. If an entire nation of 300 million took to similar economic exploitation, it would strip the world bare like a locusts.” (Ghandi, 1965) This quote is not the recent observations of an economic development scholar, or an environmental specialist, but rather the foresight of Mahatma Ghandi over half a century ago. The recognition of a need for a better model for economic development has been apparent for quite some time.

Yet wide spread poverty throughout much of the developing world necessitates that development be undertaken, and without delay. According to Mabughi and Selim (2006):

“Poverty can be conceived as absolute or relative, as lack of income, lack of basic needs, vulnerability, social exclusion, relative deprivation, material lack and want, hunger, pain and discomfort, exhaustion and poverty of time, exclusion, rejection, isolation and loneliness, bad relations with others--including bad relations within the family--worry, fear and low self-confidence, in addition to helplessness from lack of capabilities, human functioning, and entitlements. All these concepts represent poverty (p. 181)”. (Selim & Mabughi, 2006)

This definition clearly explains that poverty is an issue that extends far beyond economics. Sociology, psychology, health are all recognized as connected to poverty. Similarly, the environment has a significant connection to poverty.

The interconnectedness between the environment and economic development can be seen in many areas. “In Bangladesh, more than 95 per cent of the population rely on solid fuels, such as charcoal and firewood, for their energy needs” (UNDP- Poverty Environment Initiative, 2009). The result is depleting forests. “In Burkina Faso, 92 per cent of the active workforce are employed in agriculture and fisheries,” (UNDP- Poverty Environment Initiative, 2009). In order to meet economic needs the result is often overfishing, and cross cutting to create more farm land. In central Viet Nam, following disastrous floods in November 1999, poor households were the slowest to recover and were unable to afford labour to clear their fields and return to agricultural production.” (UNDP- Poverty Environment Initiative, 2009). A better appreciation for the complimentary relationship between economic development and the environment is critical to the advancement of the agenda of sustainable development.

2 Literature Review

2.1 Theories of Economic Development:

In order to address poverty economic development will be necessary. The first challenge is in defining development. Some distinguish growth as associated with increase in GNP/capita while development is more associated with “qualitative changes in institutions and structures (Brinkman, 1995; 1).” However, many other economists treat the terms as synonymous.

Beyond defining development, there are even more diverse views on how exactly to achieve it.

Nixon states that the world’s least developed countries (LDC) share common economic, social, political and institutional characteristics (Nixon 1996 p. 23). Based on these

commonalities, and an analysis of countries that have successfully achieved economic development, theories on how to address extreme poverty are developed. Adam Smith, one of the fathers of modern economics, describes in his famous book *The Wealth of Nations* that the free market fuelled by competition and guided by our own rational self-interested decisions, is the path to prosperity (Smith, 1776). Unlike the Keynesian outlook that focuses on the need for government interventions in order to achieve macroeconomic goals and targets (Nixon, 1996).

W.W. Rostow (Rostow, 1960) added to this field of study by outlining five stages of development that countries wishing to develop must pass through. Countries must go through the five stages comprised of (1) the traditional society, (2) the transitional stage, (3) the takeoff, (4) the drive to maturity, and (5) the stage of high mass consumption. Nixon builds on this concept of stages by classifying LDC as being in stages 1 or 2. This is in contrast to countries like the United Kingdom or Spain which are in stages 4 or 5 (Nixon, 1996). He went on to recognize stage 2, the transitional stage, as the time where key investments to transportation, international trade, agriculture, and entrepreneurship in order for the countries' economy to "take off" (Nixon 1996).

Another important school of thought in the discussion of development is that of steady state economics. Herman Daly and others who share this philosophy maintain that growth should not be mankind's economic aspirations. Rather a state of no growth should be the objective. Steady-state economy is defined by "constant stocks of physical wealth (artifacts) and a constant population, each maintained at some chosen, desirable level by a low rate of throughput" (Daly, 1974).

2.2 Theories of Natural Capital and Sustainability:

Significant research has been done on natural capital and on sustainability. In order to appropriately address the issue of sustainable development understanding key concepts and schools of thought will be critical.

Overshoot, is one such critical concept. Overshoot can be described as when a population exceeds the carrying capacity of its environment. Goodman (Daly, 1993) describes a number of drivers that have contributed to mankind's current course towards ecological overshooting. At the core the drivers are all influenced by a flawed model of development that equates development with growth. This model treats the natural capital as an infinite resource. Goodman describes the flawed assumption as follows

“Natural capital lies outside the accounting domain and is being used beyond the natural capacities of the environment to regenerate raw materials and to absorb wastes. Depletion of natural capital and consequent reduction of its life-sustaining services is the meaning of unsustainability” (Daly, 2007)

In response to this idea of overshoot there are two key schools of thought. The doomsdayers who believe we are on a crash course towards, and perhaps have even reached, this state of overshoot. In the article Limits to Exploitation of Non-renewable Resources by Earl Cook the concept of limits is explored. He describes resource limits as being beyond simply 'running out', but also the point at which the resource's extraction becomes too costly.

Cornucopians on the other hand believe that humans are not bound by those limits. Nicholas Georgescu-Roegen states that “we will always be able not only to find a substitute for a resource which has become scarce, but also to increase the productivity of any kind of energy and material. Should we run out of some resources, we will always think up something” (Daly, 1993). While humans have and continue to be resourceful, there has been a marked decrease in the availability of certain resources. Recognizing this, and embracing the precautionary principle, economic development must be embraced with particular regard for preventing overshooting.

2.3 Defining Sustainable Development:

While economic development is rooted in the current need for growth, ecological sustainability is focused on ensuring resources are available for future generations. The result presents on the surface a conflicting relationship between environmental protection and economic development. Is it possible to address today’s needs while protecting the needs of tomorrow? This question is at the centre of the concept of sustainable development.

While no single definition of the concept is universally accepted, one of the foundational documents on the subject matter is the Brundtland Report released by the United Nations in 1987. It defines sustainable development as “development which meets the needs of the

present without compromising the ability of future generations to meet their own needs.”

(United Nations, 1987)

Despite this common definition, a universal meaning of sustainable development remains elusive. Its definitions can be too numerous to count. Defining sustainable development can vary depending on the author, on their discipline, etc. J G Frazier examines these differing schools of thought:

“Ecologists are preoccupied with the longterm persistence of biotic resources and the continuation of ecological processes; resource managers focus on maintaining long-term yields; social workers emphasize socio-economic development; economists do cost-benefit analyses and look for ‘minimax’ solutions to the conundrum; and business leaders talk about sustainable companies and the ‘greening’ of industry” (Frazier, 1997). Recognizing these differing views is an important first step to reconciling them.

3 The Real Problem

3.1 Broken Model

A model where economic development is seen as paramount to environmental protection will most certainly lead to growth unchecked. Looking at the developed world we see the effects of that unchecked growth. Given that approximately 20% of the richest inhabitants of the world

consume 86% of its resources (UNFPA The State of World Population 2001, 2001) it is impossible for the rest of the world to begin consuming at the current First world rates without exceeding the earth's carrying capacity. Conversely, a model where environmental protection is put ahead of economic development for the world's most poor, will not serve the pressing needs of the 2.7 billion people living in abject poverty. It is clear that a new model is needed.

The dominant approach to economic development for those least developed countries, continues to be Aid centered. Aid has been criticized at great length for its inability to address poverty. Despite the trillion dollars in development-related aid that has been disbursed in Africa over the last 50 years, the continent has seen few gains. In fact, "with an average per capita income of roughly US\$1 a day, sub-Saharan Africa remains the poorest region in the world... leaving many African countries at least as poor as they were forty years ago" (Moyo, 2009)

Much the same way aid has had a leading role in economic development it has, in the developing world, been at the centre of environmental protection. Climate change alone garnered a "2009 promise by rich nations at the Copenhagen summit to provide an extra \$10 billion a year from 2010-12 to help poor states" (Doyle, 2010) this is addition to funds for protecting biodiversity and other environmental issues. These funds have been met by skepticism and apprehension that funding necessary for green initiatives in the developing world would steal funding from social and economic aid pool. "Developing countries issued the strongly worded Beijing Ministerial Declaration on Environment and Development. The document identified poverty as the main driver for environmental degradation and argued for a

special 'Green Fund' to be provide adequate and additional financial assistance to developing countries...developing countries argued that funding should be provided in addition to and separate from, official development assistance." (Hicks et. al, 2008) The result has been a segregation of environmental and economic initiatives in order to ensure developed countries do not double count their contributions.

This separation of environmental and economic mandates has resulted in addressing these inter-connected issues with separate and distinct responses. This can be seen in cases where economic development initiatives call for clear cutting of forests, only to be followed up by tree planting initiatives. A model that supports separating economic and environmental initiatives does a disservice to the sustainable development cause.

3.2 Beyond economics, beyond ecology.

Sustainable development has become an important part of political, economic and environmental discourse. Healey describes the rise of the importance of this concept in her comments after the United Nations Earth Summit, held in Rio de Janeiro in 1992.

“the new substantive agenda is now focused in theory around the relation between environmental quality (understood in biospheric as well as aesthetic and utilitarian terms) and economic development, expressed in the rhetoric of sustainable development. Economic development is understood not merely as the promotion of growth, nor narrowly as property development, but as the promotion of the assets of area.” (Healey, 1996:263)

What is lacking from Healey's outlook, and that of much sustainable development discourse, is the recognition of the human face of sustainable development. Without recognizing and engaging those whose lives and livelihoods will be most impacted, discourse remains simply an intellectual exercise. If the needs and concerns of all stakeholders involved can be understood sustainable development can move from rhetoric to dialogue and from dialogue to real solutions.

3.3 The face of sustainable development

A Family in Rural Africa- Much of the developing world lives without access to steady affordable electricity. This presents both an environmental challenge and economic one. In terms of economic development, energy is a key input to most development initiatives. Whether it is industry, education, communication or even agricultural improvement, all these sectors require energy access in order to be productive. "To increase production in African agriculture will require, without question, breaking energy bottleneck that currently exists at all levels." (African Energy Programme of the African Development Bank, 1995) Yet most of the developing world is caught in an energy bottleneck. For example, "it is estimated that no more than 20 per cent, and in some countries as little as 5 per cent of the population in Africa (excluding South Africa and Egypt) has direct access to electricity. This figure falls to 2 per cent in rural areas." (Madamombe, 2005) This creates an economic stalemate, where costs of energy become such a burden that the average citizen turns to more accessible biomass for energy. This creates an equally devastating burden on the environment. "Biomass accounts for as much

as two-thirds of total African final energy consumption. In comparison, biomass accounts for about 3% of final energy consumption in OECD countries.” (Energy Information Administration, 1999) This biomass, most often in the form of firewood or charcoal, is used predominantly to meet household energy needs. The environmental impacts of such an overreliance on biomass are tremendous. Since “About 75% of wood harvested in sub-Saharan Africa is used for household cooking” (Energy Information Administration, 1999) deforestation has become one of the continent’s most pressing environmental concerns. Deforestation results in loss of biodiversity, biodiversity, impacts on climate change, soil erosion, etc.

“Generic impacts of erosion are numerous: i) loss of soil fertility by leaching arable lands; ii) increasing sedimentation on land cultivated down hill from eroded plots; iii) Risk of destruction of crops and sand banks which are particularly high in marshlands and valleys. iv) Risks of landslides, flooding and mudslides and v) risk of irreversible leaching of soils” (Twagiramungu, 2006)

Access to energy infrastructure becomes a clear example of how meeting an economic development need can at the same time support environmental stewardship.

A Farmer in India- In their article “Building Enterprises to Reach Low-Income Markets” Zaidman et al. 2007 describe the story of a small-scale farmer in Maharashtra, India. “This farmer had planted a quarter-acre of chilies, a valuable cash crop, hoping that rainfall and the limited water resources from his well would allow him to grow this crop for his family’s annual income. Unfortunately, neither the rainfall nor the well delivered what he had hoped.” (Zaidman, 2007) For the many farmers that find themselves in the situation where soil, climate or

insufficient water result in crop failure, poverty for them and their families is imminent. The impacts on the environment are equally devastating. Soils continue to lose fertility and water resources are spread thinner and thinner, as farmers all look to extract any available water from the region. "Poverty forces poor farmers to engage in environmentally unsustainable practices like deforestation and overgrazing." (Bugingo, 2006) There are solutions that serve both the environmental and the economic needs of the farmers. In the example described above an innovative product called Krishak Bandhu, was able to address the complimentary issues of environmental protection and economic development. "For USD 60, he purchased this low-cost irrigation technology that could potentially revive his chili plants. Using this technology, not only did he keep his chili crop alive, but he also expanded the amount of land he was irrigating to half an acre by using his existing water resources more efficiently. His investment paid off, and that year he doubled his income from USD 150 to USD 300, instead of facing a total loss. Within one more season, this farmer will have crossed India's official poverty line." (Zaidman, 2007)

Climate Change and Bangladeshi Flooding story

The United Nations states that "Climate change is expected to affect the type, frequency and intensity of extreme weather events, such as tropical cyclones (including hurricanes and typhoons), floods, droughts and heavy precipitation events, are expected to increase even with relatively small average global temperature increases" (United Nations, 2008). This change has already begun to have devastating impacts on lives and livelihoods.

Figure 1 demonstrates the areas of the world that are most vulnerable to climate change.

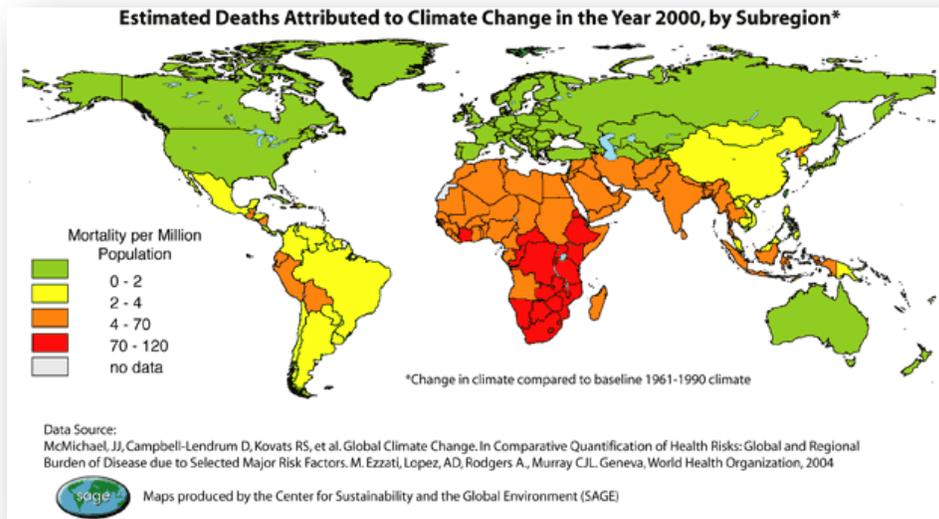
Figure 1-Climate Change Vulnerability



Many of the world's poorest countries are also the most vulnerable to climate change. When extreme weather events hit these regions their livelihoods are often destroyed. Whether it is physical destruction of a storefront or loss of crops, the result is often workers are left to have to re-establish a whole new form of income. This is often difficult and can push communities further into poverty.

Building on these impacts to livelihood, climate change is and will continue to have direct impact on loss of life. Figure 2 outlines lives lost from climate change.

Figure 2- Lives Lost from Climate Change



The environment has impacts beyond statistics, it is and will continue to have significant impacts on people's lives.

4 Key Elements

4.1 Mindsets

Albert Einstein defined insanity as “doing the same thing over and over again and expecting different results”. This has particular implications on sustainable development. Economic development interventions have been dominated by aid, yet increasing aid has not yielded much economic gains. Similarly, if the model of economic growth used by the developed world is used to develop the rest of the world, more of the same environmental degradation should be expected. If something different is desired, something different must be done. And in order for something different to be done the mindsets that inform those behaviors must first be changed.

Mindsets are powerful for a number of reasons first, because when energies are focused on defining and spreading desirable mindsets the potential for change is immense. While very little can often be done to change the context in which people operate, mindsets determine how one responds. Consequentially they determine the results achieved. Trying to address detrimental actions without addressing the mindsets that influence may provide superficial gains. Whether it is incentive or command and control efforts, when the incentive or the command mechanism is removed it can be difficult to sustain the change in behavior. Narrowing in on mindsets puts attention on the element that has lasting impact on one's actions.

Secondly, because mindsets are a uniquely individual they have they have the power to bring the sustainable development discourse back to the individual level. By focusing on mindsets sustainable development will be forced to move from the intellectual discourse of an elite few into the hands and minds of the masses. "A particular aspect of the human dimensions of sustainability that deserves special mention is the need to develop methods of deliberation and decision making that actively engage the relevant interests and communities in thinking through and deciding upon the kind of future they want to try and create" (Robinson, 2004, p. 380)

Lastly, mindsets are socially influenced. This means that while mindsets are individual they are influenced by shared events, experiences, and the mindsets of others. The implications are that

as individual mindsets are shifted, collective mindsets can be steered. The result can be the kind of significant communal and even societal change needed to propel sustainable development.

4.2 Entrepreneurship Development

One important mindset that is being recognized is the importance of supporting entrepreneurship as a key mechanism for economic development. Organization for Economic Cooperation and Development (OECD) states that “entrepreneurship is central to the functioning of market economies. Entrepreneurs ensure the efficient use of resources, create employment opportunities, and help expand boundaries of economic activity. Entrepreneurship and SME policies, together with local strategies which integrate economic, social and labour market aspects within a good governance framework are instrumental to sustainable development reconciling economic growth and social cohesion.” (Organisation for Economic Co-operation and Development)

Given their critical role in economic development, a look at the meaning of the word entrepreneur would be useful. Some early definitions of entrepreneurs like that of Cantillon are centered around entrepreneurs exposure to risk or uncertainty. Others like Jean-Baptiste Say describe the main agent of production in the economy. However, Joseph Schumpeter “opposed the existing views of the entrepreneur as a risk bearer and a manager of a company. Instead, Schumpeter argued that an entrepreneur is an innovator” (Iversen, Jorgensen, &

Malchow-Moller, 2008). Joseph Schumpeter’s recognition of the importance of innovation is of particular interest.

Using innovations to bring about “valuable change, unconstrained by the way things are” (Bernstein, 2010) entrepreneurs have, and have the potential to, address some of the critical problems facing the developing world. This is in addition to the economic benefits of employment, taxes, etc. Nuru Light is a prime of example of entrepreneurship as innovation. Nuru Light created a product to replace the toxic, expensive, dangerous kerosene that is used throughout Africa and the rest of the developing world (Nuru Lights, 2009). The impacts have been cross cutting. Economically, figure 3 illustrates the considerable savings for consumers compared to the kerosene alternative. Furthermore, “employing local people, to sell and recharge the lights, Nuru Light provides employment to thousands living in poverty” (Nuru Lights, 2009). This is in addition to the 30% increase in income that United Nations Development Program (UNDP) expects families with improved lighting to have. Environmental benefits are a equally impressive: “Nuru’s countries of operations (Rwanda, Burundi, Uganda, Kenya, and India), kerosene-based lighting systems result in over 25 million tonnes of carbon dioxide every year. Worldwide, kerosene is responsible for 100 million tonnes of carbon emissions annually.” (Nuru Lights, 2009)

Figure 3- Nuru Cost Savings

	NURU*	Kerosene
Cost per hour	\$0.007	\$0.13
Cost per week	\$0.10	\$2.36
Cost per month	\$0.44	\$10.12

Cost per year	\$6.50	\$118
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*Assuming 2.5 hours of light per day

4.3 Vision:

“Vision is the best manifestation of creative imagination and the primary motivation of human action. It’s the ability to see beyond our present reality, to create, to invent what does not yet exist, to become what we not yet are. It gives us capacity to live out of our imagination instead of memory.” (Covey, 1997) This definition is powerful when thinking of developing a new way to approach economic development. A new vision is needed to forge past the present reality of widespread poverty and environmental degradation to one where all the planets inhabitants can prosper while protecting the environment on which that prosperity depends.

Business offers an equally impacting definition of vision. Vision can be described as an “aspirational description of what an organization would like to achieve or accomplish in the mid-term or long-term future. It is intended to serves as a clear guide for choosing current and future courses of action.” (businessdictionary.com, 2010) While this definition refers to an organization, a vision can be equally impactful for a nation. Beyond simply something to aspire to, a country that has invested in developing a guide for choosing its course of action will be far more likely to achieve its aspirations.

Fast Company is just one of many publications that have taken note of Rwanda’s incredible economic transformation calling it “a new model of economic development” (Chu, 2009). That

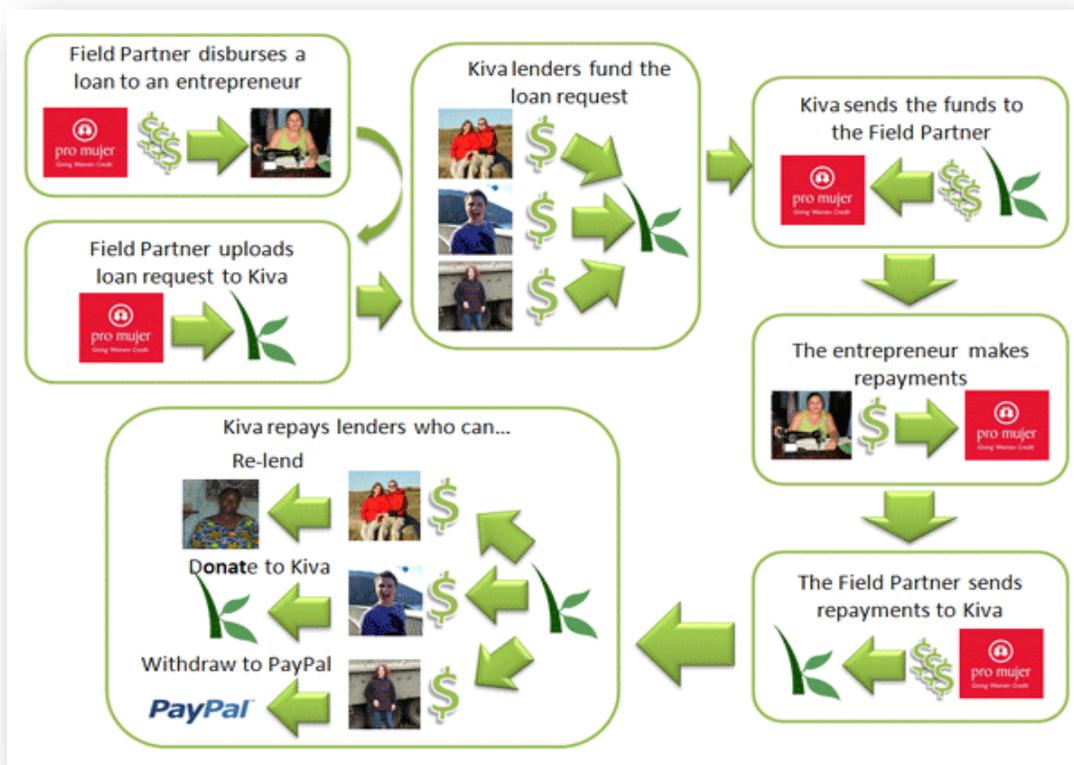
new model of economic development is characterized by a marked focus on supporting the private sector and encouraging entrepreneurs. Central to developing and pushing that model forward has been a strong vision initiated by the government. This vision is captured in Rwanda's Vision 2020 document.

Vision 2020 was developed in 2000 and outlines the country's economic goals, including becoming a middle income country by 2020. More than just a list of economic ambitions, Vision 2020 has spread a shared vision that puts the private sector at the centre of Rwanda's plans for economic transformation. It has been successful on many levels. First, it has set real measurable goals. Second, it lays out a course of action which recognizes that all citizens have a role to play in the nation's economic development. Most importantly, it has been able to reach beyond a policy that is circulated among politicians to a collective mandate that has been embraced by the masses.

Kiva presents an example of an initiative that is rooted in both a change in mindsets about aid and a marked support of entrepreneurial development. Most of the aid that is distributed to the developing world is done from governments to governments. However, a large proportion of aid is generated from individual donations to NGOs and other international organizations. "Americans gave away 2.2 percent of their personal disposable income to nonprofit groups of various sorts in 2008... \$229 billion" (Lieber, 2010). The portion of these individually donated funds that make their way to the developing world has for the most part been distributed through religious organizations, humanitarian organizations, and other aid organizations.

Rather than continuing to do the same thing. Kiva founders recognized an opportunity to think differently about how individuals in the Western world can engage in the fight against poverty. By connecting these individually donated funds with the entrepreneur focused movement, Kiva was born. "Kiva's mission is to connect people, through lending, for the sake of alleviating poverty. Kiva empowers individuals to lend to an entrepreneur across the globe. By combining microfinance with the internet, Kiva is creating a global community of people connected through lending." (Kiva, 2010) The prospective borrowers are processed through a network of MFIs (field partners) that partner with Kiva at the local level. A Kiva donor can then log on and choose which perspective donor they would like to support. Figure 4 illustrates how Kiva uses funds from individuals to provide microcredit to entrepreneurs in the developing world.

Figure 4- How Kiva Works



5 Solutions

5.1 An integrative approach

It is clear that sustainable development will be best served by an integrative approach. Several complimentary issues must be integrated in order for sustainable development to become a viable reality. The first is balancing economic and environmental objectives. Putting environmental protection ahead of economic development or vice versa will have devastating effects on those at the bottom of the pyramid. Those at the bottom of the pyramid have a

critical need to address poverty, but this need must be balanced with the earth's critical condition.

In order to balance these two objectives it will be important that governments invest in developing clear visions for their development while also investing in campaigns that challenge existing mindsets that do not serve the goals of sustainable economic development. Vision while often a top down exercise, must be balanced by the recognition that real change must be addressed through mindsets at the individual level. An integrated model that recognizes the importance of government initiatives and grass roots initiatives is critical to making purposeful lasting changes. Integrating these levels of intervention will be an important step in making sustainable development a reality.

Finally, development has been primarily an issue for the public sector. It will be critical that an approach that better integrates the private sector into the sustainable development discourse be adopted. A strong private sector can have numerous positive impacts. In order to benefit from these it will be important that private sector, more specifically local entrepreneurs, be further engaged. Policies should be developed in such a way as to nurture this key segment. Engaging entrepreneurs in the sustainable development agenda will encourage innovation that serves both economic and environmental needs. Integrating public and private sector will have significant impacts on the success of sustainable development initiatives.

5.2 Implications at the International, National, and Local levels

Internationally: On the international stage environmental crisis has risen to centre stage. Climate change, being one of the most pressing concerns, was described by UN Secretary General Ban Ki-moon as the “greatest collective challenge we face as a human family” (The Associated Press, 2009). While the international community looks for ways to support the sustainable development of the developing world, it will be important that they look at ways of supporting an integrated approach. This will require supporting entrepreneurial initiatives in the developing world. By supporting the local private sector entrepreneurs are empowered to meet economic, social and environmental needs of their communities.

Nationally: On a national level it will be critical that governments lead the integrative approach by developing economic visions that recognize the importance of environmental stewardship. These visions must move beyond lofty goals to action oriented plans. Furthermore it will be important to invest in spreading the vision to ensure that it moves past a policy document to a collective mission. Sharing this vision will be mechanism for developing and enhancing desired mindsets.

Local level: Mindsets are shaped at the grassroots level. Therefore, it will be important that local communities begin to collectively embrace mindsets that support economic growth and environmental stewardship. Recognizing the need to balance short term economic gains with

longer term environmental benefit will be paramount. Local leadership and individuals will need to engage in encouraging winning mindsets.

5.3 The Example of Rwanda's tourism sector

In Rwanda, as in the rest of the developing world, abject poverty and its many symptoms are of primary concern. With 60% of the population living below the poverty line as of 2001 (Central Intelligence Agency, 2009), Rwanda suffers from the typical symptoms of abject poverty; low life expectancies, lack of access to education, malnutrition, etc. To add to this challenge Rwanda has an even greater challenge. Rwanda is the most densely populated country in Africa and more than 90% of its population is engaged in subsistence farming (Central Intelligence Agency, 2009)

While there remains much room for improvement in the field of sustainable development, there have been several noteworthy success stories. Rwanda's tourism sector represents an example of Vision, changed mindsets, combined with an embracing of entrepreneurship.

First, Rwanda's leadership had a vision that their country could become a tourist destination despite its violent history. Amidst skepticism from international tour operators, and travel experts, Rwanda's government made the decision to make tourism one of its key export sectors.

6 Conclusion

The developing world is facing a difficult challenge. With the pressing need to address poverty economic development is paramount. Yet with an understanding of the importance of environmental stewardship, this development must be done with careful consideration for the environment. The current models have not been successful at achieving development nor sustainability. Faced with a broken model the developing world can chose to do more of the same, or look for innovative ways to approach this ideal of sustainable development.

By reviewing initiatives that have successfully balanced economic development and environmental protection we can begin to identify key elements that are likely to garner the desired sustainable development. These best practices indicate the need for an integrative approach that recognizes the role of government and the private sector. It will balances nationally developed vision with the recognition of the importance of efforts that address individual mindsets. Lastly the integrative approach will have to balance ecological and economic objectives. This last integration is at the heart of the sustainable development discourse, it can be facilitated by recognizing the interconnectedness of the environment and ecology.

What is particularly critical is that sustainable development be pushed beyond ecological and economic discourse. It is important that communities be recognized as key stakeholders. Their engagement will be require an approach that meets their needs and emphasizes their stake in

the cause. This integrating all these elements will be paramount to the success of a new model of economic development.

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