RISK MANAGEMENT: A POWERFUL INSTRUMENT FOR SUSTAINABLE DEVELOPMENT

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Abstract
The term, sustainable development, came into general use following the publication of the Brundtland Commission report in 1987. In it, the term Sustainable Development was defined as something which "meets the needs of the present generation without compromising the ability of future generations to meet their own needs."
However, this definition has been difficult to implement in practical terms, thus making it necessary to search for more specific definitions of sustainable development. It is now generally recognized that sustainable development does not focus entirely on the environment. In fact, this notion encompasses three primary aspects, namely the economic, the social, and the environmental. As such, sustainable development can be said to rest on three fundamental principles: economic development, social development, and environmental protection. The MDGs also contain economic, social and environmental aspects, however in this framework these three dimensions have been represented without having a strong connection between them. The MDG focuses more on the social dimension of development, covering issues such as hunger, education, gender equality, child and maternal health and combating major diseases. These Goals are evidently important, but they are also deeply linked with environmental and economic factors, a relation which the MDG framework does not fully reflect. The MDG framework was explicitly designed as a framework for supporting human development in developing countries and in particular among the poor.

Sustainable development and MDGs try to provide a growth parameter which eliminates extreme poverty and allows people to vulnerability distance themselves from the sustained growth that risk management offers. Risk management is an essential tool for sustainable development because people in developing countries are exposed to many risks, and an inability to manage those risks can jeopardize development goals, including economic growth and poverty reduction.

Turning development into something sustainable requires addressing natural hazard risks and vulnerability in development plans. Natural hazards, such as earthquakes, cyclones, floods and drought, pose significant threats to achieving and sustaining development plans and goals.
Disaster risk reduction is an integral part of social and economic development, and is essential if development is to be sustainable for the future

Based on UNSIRD the direct damage costs of disasters alone have risen from US$ 75.5 billion in the 1960s to roughly a trillion dollars in the past decade. These increasing figures have long-term social, economic and environmental impacts for the people and communities that are affected by the disasters. Considering that around 85 percent of the world's population that is exposed to natural hazards lives in developing countries, reducing disaster risks in order to achieve sustainable development is of central importance.
Based on a World Bank research covering the years of 1980-2012, an estimated loss of about US$3.8 trillion was attributed to disasters. Disasters trap people into poverty. Poor and marginalized households tend to be less resilient and face greater difficulties in absorbing and recovering from disaster impacts.

Based on the aforementioned points, the present paper consists of six sections:

The first section will discuss basic concepts and terminology. In the second section the differences and similarities between MDGs and sustainable development will be presented. The 3rd part will focus on risk management as a powerful instrument for Sustainable Development. Managing large systematic risk and natural hazard will be discussed in the 4th section. In the 5th part of the paper, some selected countries of the MENA region will be ranked based on the Risk Preparation index. And finally, in the last part, some concluding remarks will be presented.

Keywords: Millennium Development Goals, Risk Management, Risk Preparation Index, Sustainable Development, Systematic Risk

INTRODUCTION

In the late 1980s the World Commission on Environment and Development (better known as the Brundtland Commission) drew attention to some important links between increasing poverty and environmental degradation. "Many parts of the world are caught in a vicious downward spiral: Poor people are forced to overuse environmental resources to survive from day to day, and their impoverishment of their environment further impoverishes them, making their survival even more difficult and uncertain"[1].

A central theme of the aforementioned report was that "many present development trends leave increasing numbers of people poor and vulnerable, while at the same time degrading the environment"[2].

Despite growing acceptance that poverty and protecting the environment are both critical to long term economic growth. Development Economist often believe that the relationship between poverty and environment is akin to that between inflation and unemployment as postulated by Phillips Curve[3]. In spite of the fact that there exist a relationship between poverty and environment, development economists from the late 1990s have tried to explain some aspects of sustainable development in the framework of MDGs and SDGs. It is obvious that achieving those goals when a large population are in poverty is impossible. So any policy that reduce poverty may be considered as a kind of tool for sustainable development.

In this paper the role of risk management in poverty reduction and sustainable development will be analyzed. For this purpose elements of risk management and its linkage with poverty reduction and sustainable development will be discussed too.

Sustainable Development

Before defining Sustainable Development it is necessary to define economic development. Economic development can be referred to as the quantitative and qualitative changes in an existing economy. Economic development involves development of human capital, increasing the literacy ratio, improve important infrastructure, improvement of health and safety and other areas that aims at increasing the general welfare of the citizens.

The concept of sustainable development can be considered as a process through which there is a satisfaction of human needs while simultaneously preserving the quality of the natural environment.

The linkage between economic development and the natural environment was perhaps first acknowledged in 1980 when the International Union for the Conservation of Nature (IUCN) in one of its publication entitled *World Conservation Strategy* states that.

Human beings, in their quest for economic development and enjoyment of the riches of nature, must come to terms with the reality of resource limitation and carrying capacities of ecosystems, and must take account of the needs of future generations. For the object of development is to provide for social and economic welfare, the object of conservation is to ensure Earth's capacity to sustain development and support all life.[4]

sustainable development, came into more general use following the publication of the Brundtland Commission report in 1987[5] (Brundtland Commission, 1987). This Commission, was formally known as the World Commission on Environment and Development, which was created by the United Nations General Assembly). The Brundtland

[1] WCED (1987), P. 27
[2] Ibid, P.4
[3] Jefry Leonard H. and Contributors(1989). P. 4
[4] IUCN (1980), P. 8
[5] Brundtland Report (1987). p 43.

Commission defined sustainable development, as development which "meets the needs of the present generation without compromising the ability of future generations to meet their own needs."
Since this definition has some difficulties for implementing in practical terms It is now generally recognized that sustainable development does not focus entirely on the environment. The notion of sustainable development encompasses three primary areas: the economic, the social, and the environmental. As such, sustainable development can be said to rest on three fundamental principles: economic development, social development, and environmental protection.
According to jenifer A. Eliot (2006)[6] "Literally, sustainable development refers to maintaining development over time. By the early 1990s, it was suggested that there were more than 70 definitions of sustainable development in circulation (Holmberg and Sandbrook, 1992)[7]"

Millennium Development Goals (MDGs) and Sustainable Development

In September 2000, 189 member states of the United Nations came together at the Millennium Summit and adopted the Millennium Declaration, including commitments to poverty eradication, and protecting the environment. Many of these commitments were drawn from the agreements and resolutions of world conferences and summits organized by the United Nations during the preceding decade. A year later the UN Secretary General's road map for implementing the Millennium Declaration formally declared eight goals, supported by 18 quantified and time-bound targets and 48 indicators, which became known as the Millennium Development Goals (MDGs). The MDGs focus the efforts of the world community on achieving significant, measurable improvements in people's lives by the year 2015. They establish targets and yardsticks for measuring results not just for developing countries but for the rich countries that help fund development programs and for the multilateral institutions that help countries implement them.

The eight MDGs listed below guide the efforts of virtually all organizations working in development and have been commonly accepted as a framework for measuring development progress: (1) Eradicate extreme poverty and hunger (2) Achieve universal primary education (3) Promote gender equality and empower women (4) Reduce child mortality (5) Improve maternal health (6) Combat HIV/AIDS, malaria, and other diseases (7) Ensure environmental sustainability (8) Develop a Global Partnership for Development

The critics of the MDGs point out that they also have a number of weaknesses: (1) They constitute an incomplete agenda, and they cover only some dimensions of multidimensional poverty. (2) The MDGs neglect distributive issues. (3) Some MDGs do not measure the *outcomes* or *impacts* of development and they measure only *outputs* or *inputs* of development. (4) Some MDGs cannot be measured – either because no indicators or targets were set, or because for certain indicators no data is available. (5) The MDGs cannot easily be transformed into national objectives. They were originally formulated as global goals[8] (6) The MDGs are generally short to medium term while sustainability, have to be inherently for a longer-term

Sustainable Development Goals (SDGs)

There was the idea of sustainability that became popular at the Earth Summit 1992 in Rio de Janeiro and at the Rio+20 summit. "Rio+20" is the short name for the United Nations Conference on Sustainable Development which took place in Rio de Janeiro, Brazil in June 2012 – twenty years after the landmark 1992 Earth Summit in Rio. This conference generated a parallel concept to the MDGs: the so called *Sustainable Development Goals* (SDGs)
The official discussions focused on two main themes: how to achieve sustainable development and lift people out of poverty; and how to improve international coordination for sustainable development.
One of the main argument of this summit was that if we are to leave a livable world to our children and grandchildren, the challenges of widespread poverty and environmental destruction need to be tackled now. We will incur far greater costs in the future — including more poverty and instability, and a degraded planet — if we fail to

[6] Jennifer A. Eliot (2006), p.9.
[7] Holmberg, J. and Sandbrook, R. (1992) Cited in Jennifer A. Eliot (2006) p.9
[8] For a detailed analysis of the issue see:
German Development Institute (2012), P.2

adequately address these critical challenges now. Rio+20 provides an opportunity to think globally, so that we can all act locally to secure our common future.

One of the main outcomes of the Rio+20 Conference was the agreement by member States to launch a process to develop a set of Sustainable Development Goals (SDGs), which will build upon the Millennium Development Goals and converge with the post 2015 development agenda

The General Assembly, recalling its resolution 64/236 of 24 December 2009, in which it decided to organize the United Nations Conference on Sustainable Development at the highest possible level in 2012.

Eradicating poverty is the greatest global challenge facing the world and an indispensable requirement for sustainable development. All of these conferences were trying to find solution for this problem and in this regard we are committed to freeing humanity from poverty and hunger as a matter of urgency.

Some Issues that the Rio+20 declaration has suggested to be addressed by *Sustainable Development Goals* (SDGs) are as follows: (1) Poverty reduction (2) Food security, nutrition and sustainable agriculture (3) Water and sanitation (4) Energy (5) Sustainable tourism, Sustainable transport, Sustainable cities and human settlements (6) Health and population (7) Promoting full and productive employment, decent work for all (8) Social protection (9) Small island developing countries and Least developed countries (10) Africa (11) Regional efforts (12) Disaster risk reduction (13) Climate change (14) Forests, Mining, Mountains, Oceans and Seas (15) Biodiversity, (16) Desertification, land degradation and drought (17) Chemicals and waste (18) Sustainable consumption and production (19) Education (20) Gender equality and the empowerment of women

Risk Management, a Powerful Instrument for Sustainable Development.

The past 25 years have witnessed unprecedented changes around the world, many countries have embarked on a path of international integration, economic reform, technological modernization, and democratic participation. However, it seems that still there exist some old and new risks, from the possibility of job loss and disease to the potential for social unrest and environmental damage. ignoring, these risks, can turn into crises that reverse hard-won gains and endanger the social and economic reforms that produced these gains.

On the other hand the world is constantly changing, and with changes come uncertainties. Among these uncertainties, people must decide how to prepare for risks they may face. They must decide either preparing for risk, or acting only after a shock has occurred. In some cases, there is a trade-off between risk and return—by reducing the riskiness of an undertaking, people may also diminish the potential return they can get.

Risk management is an essential tool for sustainable development because poor people in developing countries are exposed to many risks, and an inability to manage those risks can jeopardize sustainable development goals. Particularly poverty reduction goal.

Failure to prevent and prepare for risk may have tragic consequences and developing countries usually, be more exposed to natural hazards, have less robust building structures, and have low capacity to prevent disasters.

In Africa more people die from drought than from any other natural hazard, whereas virtually no one has died from drought in developed countries in the past four decades.[9]

Risk management can be a powerful tool for development and has the potential to bring about security and future prosperity to people in the developing world. Effective risk management approaches can protect the poor, for example, farmers in Ghana and India, among other countries who have rainfall insurance have increased their investments in fertilizer, seeds, and other inputs.[10]

What is Risk?

Risk is the possibility that something harmful or undesirable may happen. This could include harm, injury, or abuse to your organization's clients, volunteers,

board members, employees, property, or reputation[11]

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[9] Karlan and others (2012), Cited in WDR 2014, P. 8

[10] http://www.weitzenegger.de/content/?p=28229

[11] Karen Six, EricKowalaski, (2005), p. 2

In the context of project management, risk refers to any factor (or threat) that may affect adversely the successful completion of the project in terms of delivery of its outputs and securing of outcomes, or adverse effects on resourcing, time, cost and quality. These factors include risks to the project's business environment that may prevent the project's outcomes from being realized fully.

Risk may be defined as the possibility of loss. Even when risk is taken on in the pursuit of opportunity, the results are not guaranteed: risk thus implies a possibility of loss. By contrast, opportunity is defined as the possibility of gain (it can be regarded as the upside of risk). People's exposure to risk is determined by their external environment. For example, whether a house is exposed to the risk of coastal flooding depends on its location.[12]

Some Key Concepts in Risk Management Analysis[13]

(1) Risk management: The process that involves confronting risks, preparing for them (ex ante risk management), and coping with their effects (ex post risk management). (2) Systemic risk: Risk that is common to most members of an entire system. (3) Idiosyncratic risk: Risk that is specific to some members of a system. (4) Shock: A change in the world that may be positive or negative and that may occur gradually or suddenly. (5) Exposure: The external environment that determines the shocks to which a system is subject. (6) Vulnerability: A high susceptibility to loss from negative shocks resulting from a system's exposure, internal conditions, and risk management. (7) Uncertainty :The situation of not knowing what the outcome will be.

Sharing Risk: A Kind of Risk Management

Changes usually, contain risks and the solution for avoiding risk, is not to reject changes but should prepare for the opportunities and risks that changes entail. Managing risks responsibly and effectively has the potential to bring about security and a means of progress for people in developing countries and beyond. Although individuals' own efforts, initiative, and responsibility are essential for managing risk, their success will be limited without a supportive social environment especially when risks are large or systemic in nature.

The WDR 2014 argues that people can successfully confront risks that are beyond their means by sharing their risk management with others. This can be done through naturally occurring social and economic systems that enable people to overcome the obstacles that individuals and groups face, including lack of resources and information, cognitive and behavioral failures, missing markets and public goods, and social externalities and exclusion. "These systems—from the household and the community to the state and the international community—have the potential to support people's risk management in different yet complementary ways."[14]

Components of Risk Management

To achieve the goal, risk management needs to combine the capacity to prepare for risk with the ability to cope once a risk has materialized. Preparation (or
ex ante risk management) includes a combination of three actions that can be taken in advance: acquiring knowledge (gathering information and making
judgments about risk); obtaining protection (to influence the likelihood and magnitude of risk); and obtaining insurance (to transfer resources between
good and bad periods). Risk cannot—and should not—be eliminated altogether.

So in this part the four elements of risk management, namely knowledge, protection, preparation and insurance will be discussed.

Knowledge

People face uncertainty when they confront risk, increased knowledge is an essential component of the potential consequences and informing future action. Even with increased knowledge, many decisions must be made with imperfect information. In most cases, therefore, although people know what the possible outcomes are and can assess their probabilities, there is still uncertainty about what will actually happen.

Protection

Protection, includes any actions that lower the probability and size of negative outcomes. Thus protection includes action to prevent negative shocks from occurring or to mitigate their impact. Similarly, it includes actions to increase

[12] Hallegatte and others 2012
[13] WDR (2014), P. 61
[14] WDR (2014), p.

the propensity for positive shocks and gains from them. Protection can be self provided, purchased from the market, or provided publicly by the community or the state.

Insurance

When protection cannot completely eliminate the risk of negative outcomes, insurance can help to mitigate the impact of the adverse shocks. Insurance includes any instruments that transfer resources between good and bad times (savings, formal insurance contracts, loans, credit lines, hedging instruments), as well as means of transferring resources to those especially in need in bad times (social safety nets, community support, or other risk-pooling mechanisms). It can be self provided; achieved by pooling risk with others (formally through a market, or informally); or provided by the state. Continuing with the malaria example, the family could save to provide a financial buffer in case of illness (self-insurance) or buy health insurance to cover potential treatment costs (market insurance). Public insurance (by the community or the state) might include building social networks that could provide support to the family in case of illness, offering medical treatment in subsidized state hospitals, and providing unemployment insurance if workers in the family contract malaria.[15]

Together, knowledge, insurance, and protection constitute preparation (or ex ante risk management). Important progress to increase preparation has been made in some areas, which has helped prevent some risks from developing and has averted some serious losses.

Coping

Coping, encompasses all actions that are taken once a risk has materialized (ex post risk management). These actions include updating relevant knowledge by assessing the new People's preparation for risk at the country level includes actions by and contributions from all social and economic groups and institutions, including the state.

Coping action include best use of all available knowledge and deploying all necessary insurance and protection.

Although risk management is individual's own responsibility, but their success will be limited. When people share their risk management with others they can successfully confront risks which are beyond their means. As it can be seen in the following quotation from Marcel Fafchamps (2008) "It has long been observed that human beings rely on friends and family for assistance in times of trouble Ben-Porath (1980). Assistance takes many forms: help to find a job when unemployed (e.g. Granovetter 1995, Montgomery 1991, Topa 2001), to deal with illness and health-care costs (De Weerdt and Fafchamps 2007), to compensate for a bad harvest (Townsend 1994), to cope with old age (Edmonds, Mammen and Miller 2005), or to overcome the death of a loved one (Dercon, De Weerdt, Bold and Pankhurst 2006). Mutual assistance between households is particularly important in poor countries where social insurance is weak or inexistent and where risk is omnipresent (Fafchamps 2003)." [16]

As WDR (2014) mentions, without a supportive social environment, individual risk management will not be successful and from the civil society and the private sector to the state and the international community, all have the potential to support peoples risk management in the following different but complementary ways:[17] (1) Social society and the private sector by: Households, Communities, Enterprise sector and the Financial system, (2) The state may has a role in people's risk management by providing social protection, Public goods and Public policy (3) The International community by Resources, expertise, global rules and coordination.

The interlink between private sector, public sector and international communities for their contribution to risk management can be seen in the following diagram (figure 2).

Concluding Remarks

The paper begins by giving definitions of development and sustainable development. As can be seen, preliminary definitions are more focused on environment. However, developmental economists have recently acknowledged that sustainable development should not be entirely focused on the environment. They argue that there are three fundamental components involved in this concept, namely economic, social and environment.

The paper also argues that the key barrier to achieving sustainable development is poverty and that the main issue in the international debate on development has in recent years been on how to reduce poverty. Another argument of the

[15] WDR 2014, p 67

[16] Cited in, Marcel Fafchamps (2008), P. 1.

[17] WDR (2014), P. 19.

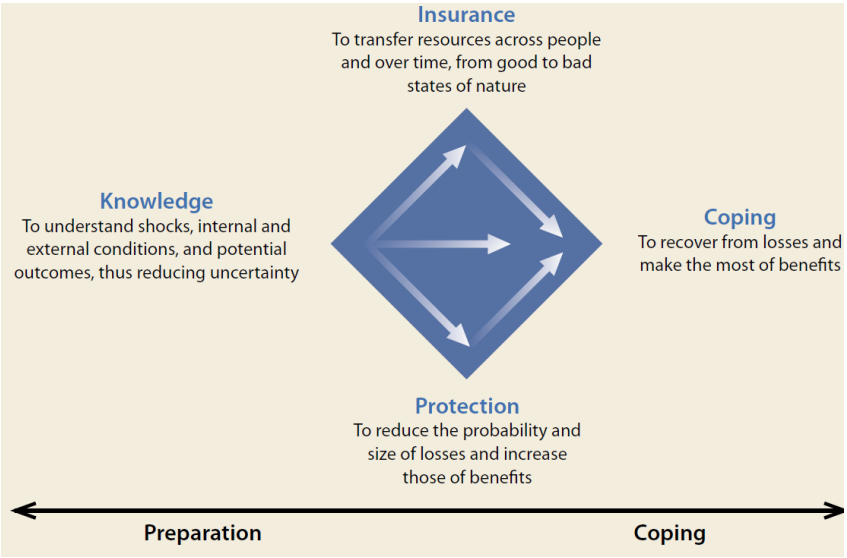

Figure 1: Relationship between different component of risk management
Source: WDR (2014), P. 65

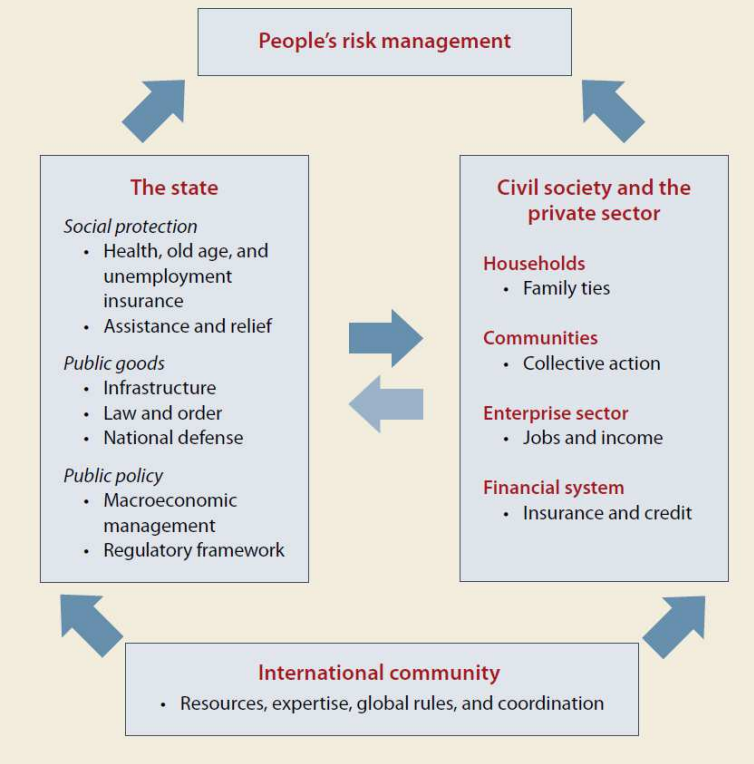

Figure 2: The contribution of private sector, public sector, and the State to risk management
Source: WDR (2014), P. 19

present paper, is that the MDGs and SDGs are instruments for achieving sustainable development and their major goal is to reduce poverty.

Risk management and its impact on sustainable development make up the second part of this paper. Therefore after analyzing, risk management and its four components namely knowledge, protection, insurance and coping, the paper concludes that risk management is a powerful tool for reducing poverty and achieving sustainable development. It also concludes that, although risk management is an individual's own responsibility but sharing the responsibility with others and having a supportive social environment, as well as the assistance of the private and public sectors and the international community can make it much more effective.

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