

Rural Development and Enterprise Development

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Dear YES family:

The dream has come true! Four years after that the YES Campaign was launched in the Bibliotheca Alexandrina (BA) in 2002, we gather again in the same place for a mid-YES Campaign Forum with its leaders.

YES Alexandria Forum 2007 is possible thanks to the joint efforts of the Youth Employment Summit (YES) Campaign, Inc., (USA) and Bibliotheca Alexandrina, (Egypt) and the Arab Reform Forum. We want particularly thank Dr. Ismael Serageldin and his team at BA for his permanent support as a YES Campaign Committee member and host of this forum.

The YES 2007 as a mid-YES Campaign Forum has been planned to build and strengthen the capacity of the YES Country Networks, across the globe, to undertake youth employment projects and programs in country. The goal of the Forum will be to share good practices and foster synergies among the YES Country Networks.

The deliberations and activities at the Forum will centre around three identified sectors namely, Information and Communications Technologies (ICT); Integrated Rural Businesses; and Youth Employment and the Role of Social Entrepreneurship. We want specially to thank the YES Egypt for having prepared the toolkits in this three sectors which will help to build up the capacity of the YES networks on it.

We hope that you will enjoy these days with the YES family and that you will share with your peers, as well as you will take advantage to exchange and learn from the experts, development practitioners, donors, government and business leaders that will also join us during the forum.

We expect that this forum will renew the commitments of the YES family members and our partners, to build the core competence and the capacity of the young leaders to lead a youth employment movement across their countries.

In solidarity,

Poonam Ahluwalia
President
YES Inc.

Dear YES Leaders:

Welcome to YES Alexandria Forum 2007!

This Forum is particularly important for all of the YES family since it is a mid-YES event organised primarily for the leaders and members of the YES Country Networks and other key stakeholders from across the world.

We want to specially thank Bibliotheca Alexandrina (BA) and YES Egypt team for the great support we have received to organize this forum. Without their support this forum would not have been possible.

YES Alexandria 2007 intends to build capacities and support for the leaders of the YES Campaign in different parts of the world in order to develop strategy and programs for youth employment and entrepreneurship.

It is very important for all of us to put it into perspective that this Forum is the result of the conclusions and recommendations of the YES Coordinators Workshop in Kenya and that it is the first-ever capacity-building forum for YES Coordinators. Its key objectives are:

1. To frame and move forward the strategic goals of YES Inc;
2. To train and develop capacities of YES Coordinators and other participating youth in three strategic areas for entrepreneurship development: Information and Communications Technologies, Integrated Rural Businesses, and Youth Employment and the role of Social Entrepreneurship.
3. To strengthen the YES Networks by building capacity in three thematic tracks: Community Building, Program Development, and YES Programs; and
4. To build and strengthen institutional capacity by fostering linkages and synergies between the YES Coordinators and YES Inc.

We are confident that after YES Alexandria 2007, the YES Campaign leaders will be ready to move forward it to the next phase at the global, regional and national levels! Welcome to a new era at YES!

Warm regards,

Dacil Acevedo Riquelme
Global Networks Coordinator
YES Inc.

Dear YES Family and Partners,

In September 2002, the historic city of Alexandria has witnessed our launch of the YES Campaign with the gathering of 1600 youth leaders from 120 countries embracing the same values of unity, and adhering to a global youth vision. Hundreds of networks have been strongly established, thousands of plans have been effectively set, and hard work has taken off in almost all parts of the world.

Now, 5 years have passed the launch, and the YES family is coming together to review measures, evaluate actions, and set more goals to meet; all under the umbrella of better livelihood for the world youth, who make roughly 1.2 billion according to the UN's World Youth Report 2006. That enormous human force is the fuel of the future, and the driven force for a brighter tomorrow. The future of the world lies in their hands.

It is truly my happiness to welcome you all again on the lands of the beautiful Alexandria, my hometown, and the birthplace of the YES Campaign. It is with so much sincere gratitude and honest appreciation; we extend our heart-felt thanking to the prestigious Bibliotheca Alexandrina, pioneered by the legendary Dr. Ismail Serageldin, that gave, and still giving enormous support, guidance, and advice to the movement. The YES Campaign would not have been globally recognized, if it were not for the excellent management of Poonam Ahluwalia, YES Campaign President, and her very qualified team, and partners from all over the globe.

YES Egypt has recently celebrated the 4th anniversary on the establishment of the Sustainable Development Association (SDA), the NGO which was co-founded by the YES Egypt Team during the very first months of the Campaign, acting as its legal entity, and currently operating a great number of local, regional and international youth projects. The SDA has been committed to a doctrine of democracy and leadership rotation, highly manifested, and successfully experienced in moving the chairing from Mr. Abdallah Sobeih, after 4 fruitful years, to myself.

Many thanks go to the BA Team, YES Team, and our local, regional and global partners,

YES we strive to solve the problem,

YES we hope for better world

YES we work together

Haythem Kamel

YES Middle East and North Africa Region Coordinator

Executive Summary

The enterprise development and the integrated rural development is a very important, crucial and serious topics, since the United Nations has recently concluded that half of the world population is leaving in the urban societies. That should expect a world collective conscious and motive towards development in rural areas, since that the consequences of such conclusion is a dangerous instability in the social structure of both the rural and urban societies. We cannot also ignore the major economic consequences that appear in the lack of enough agricultural production (which is the most important output) represented in food and other consumption products and the process of industrial production and agricultural reproduction (the input), in addition to the environmental consequences.

Since youth are the most affected from the consequences of rural development, it is an obligation to discuss with them, by giving them the adequate information about it. It is important to give them the opportunity to share information and to experience it whether by establishing initiatives in order to find solutions or by being directly affected through using these data to find income sources which is the main goal of the Youth Employment Summit (YES) and the Sustainable Development Association (SDA).

It is important to mention that this toolkit is the result of research in several international development organizations' books and reports and it's not the solely point of view or experience of the author. We would like to thank the World Bank Public Information Center for supporting the research by its publications and conferences working papers.

Chapter One

Introduction

1.1 The Global Scenario:¹

Challenges, General Directions, and Specific Focus Activities for Each Region:

Africa

The overwhelming challenge in Africa is to increase food production and raise incomes in rural areas. Seventy percent of people in Sub-Saharan Africa live in rural areas, agriculture accounts for 30 percent of GDP, 40 percent of exports, and 70 percent of employment. Far more than any other area, a prosperous agriculture is the engine without which poverty cannot be reduced, natural resources cannot be managed sustainably, and food security cannot be assured.

The Region has set clear directions for lending: no more financing of agricultural marketing, input supply, processing, or rural credit through the public sector; focus on a few selected national and thereby systemic programs of high impact—in research, extension, animal health, and natural resources management (water, soil fertility, forests, pastures, wildlife), plus one or two other areas such as irrigation or rural finance, depending on the country. The second major challenge is to pursue rural, rather than just agricultural, growth. This is being done by designing a common strategy for development of the rural economy, with investment in infrastructure and social services to be undertaken through nonagricultural projects.

The third major challenge is to make national programs to work. Sector investment lending is rapidly becoming a privileged instrument; although still not yet proven, it has the potential to generate systemic change in the whole public rural expenditure program. This is particularly important in Africa where, with official development assistance at 11.5 percent of GNP in 1993 and many donors active in rural areas, donor coordination is essential. Agricultural policy reform would be more vigorously pursued through adjustment operations, as well as through nonlending activities. There will be expanded focus on generating African and donor commitment to agriculture and to agricultural policy reform through Africa-wide regional forums such as the Special Programme for African Agricultural Research, the West African and the Eastern and Southern African associations of ministers of agriculture, and through the African Water Pact.

Europe and Central Asia

The main challenge in Europe Central Asia is to reform agricultural policies that in the past encouraged inefficient farming practices. The Region's strategy is to base rural lending on a graduated response to thresholds of policy reform, including price and trade liberalization, agribusiness and farmland ownership change, demonopolization and deregulation of marketing, and financial sector reforms. Exceptions are made for projects with long lead times, such as research, or for activities such as land registration that will

¹ Rural development, from Vision to mission, the world bank, page 45 to 48

enable a policy change, when making, to take effect promptly. A second major challenge, unique to the Region, is the severity of the needed restructuring and rebuilding of agriculture and the agro-industrial complexes. This is a task without precedent: there is no blueprint.

The Region will continue to devote a relatively large share of resources to nonlending services, particularly to analyze land and rural property issues, and the impact of privatization on efficiency and equity, and to assist with determining the necessary legal and regulatory framework for agribusiness and rural services. A third major challenge is the intention of Central European and Baltic countries to be acceded to the European Union. For many countries this may mean the pursuit of suboptimal policies, as they try to position themselves in anticipation of the eventual application of the Common Agricultural Policy (CAP).

Here, also nonlending services will be significant, as the region endeavors to convince governments not to introduce CAP-type policies prematurely. The Region will also work with the European Union to reduce the likelihood that introduction of protectionist measures prior to accession negotiations results in compensation benefits from the European Union after membership.

Middle East and North Africa

The scarcest resource in Middle East and North Africa is water, and the overwhelming challenge is to increase the efficiency of water use in agriculture, currently the highest user. Water charges are symbolic, and operations and maintenance are inadequate because of weak user participation. Yet intersectional water transfers are inevitable. Urgent action is required and is being sought by the region through a series of investment operations in the water sector. A second major challenge is to improve the competitiveness of agriculture while taking account of most governments' preoccupation with maintaining low urban food prices. This preoccupation has led to the prevalence of state marketing companies that stifle commerce and to the implementation of ineffectively targeted food subsidies.

The fiscal drain is enormous, exacerbated by the recent steep increase in world grain prices. While sector adjustment operations have made significant progress in addressing aspects of competitiveness, much more remains to be done in designing targeted food consumption programs that are effective and politically acceptable. A third major challenge in Middle East and North Africa is posed by the scarcity of arable land and the severity of soil erosion, and the indifference of many governments: there is little investment in watershed management.

Many of the region's poorest people live in the upper watersheds, eking out livelihoods from forests, rangelands, and steppes, and contributing to watershed degradation in the process. Given the pervasiveness of urban bias in public expenditures, much more persuasive analysis is required in order significantly to increase investment in watershed management.

South Asia

The principal distinguishing feature in South Asia is the world's largest concentration of poor rural people. Landlessness is far more common there than elsewhere. Much rural poverty is found in rain-fed areas, where the resource base in both more limited and more fragile than in the irrigated plains. Poverty reduction is the main challenge. It is being addressed by working to reduce all distortions in agricultural product and factor markets.

The most important reason for these distortions is exorbitant government intervention in marketing, distribution, and finance, through prostates and overregulation, as well as through protection of domestic industry which generates higher input costs for agriculture. Redefining the government's role in agriculture and removing market distortion are the second most important challenge. The Region is encouraging speedy completion of trade policy reform and increasing competition in input and output markets, with an orderly transition to full private sector orientation. In addition the Region will strengthen sector work dissemination and dialogue with stakeholders to raise country commitment in decentralized participatory rural development programs.

A third major challenge is water resources management. This has several dimensions: intersectorial and intercountry disputes over allocation of scarce water, a crisis in irrigation service delivery, and a worsening problem of water logging and Stalinization, and pollution of both ground and surface water that threatens rural deistic water supply. The region is addressing the second two problems through innovative projects in irrigation and drainage, flood control, and rural water supply. It envisions taking a more proactive role in resolving water disputes by launching participatory analytical work on water resources management, supporting regulatory measures, and disseminating policy advice.

Latin America and the Caribbean

The most striking characteristic of the Latin America and Caribbean region is the incredible diversity of the countries in terms of socioeconomic conditions and agricultural practices. The region contains some of the Bank's highest-income borrowers (Mexico, Chile, Argentina), where much agriculture is technologically sophisticated and engine of growth, and some of its lowest income borrowers (Bolivia and Haiti), where much agriculture is subsistence-based.

Another characteristic is the extreme income inequality of the rural population—a result a long history of governments providing discriminatory access to land and capital to the wealthy and powerful. Poverty is deep and prevalent in rural areas, and is a major source of urban poverty, because a high proportion of the rural poor have fled to the urban peripheries. Many rural poor earn their livelihoods as laborers or subsistence smallholders in environmentally fragile

areas or on the frontiers, so rural poverty is closely connected to issues of natural resources management. At the same time, commercial farmers are beginning to better understand the concept of land conservation and sustainable farming, and are seeking assistance in developing and implementing these techniques.

Poverty reduction, better use of existing productive capacity, and sustainable natural resource management are the three main challenges for the Region. The region's strategy is to redefine the role of government, emphasize community-based approaches to natural resources management; target interventions to reduce rural poverty, emphasizing indigenous peoples; increase efforts to speed the pace of land reform and land allocation; work with governments to remove policy biases against small farmers, and mobilize rural financial resources.

East Asia and the Pacific

The main characteristic of East Asia and the Pacific is fast growth, including fast agricultural growth (4 percent per year since 1980), and good social service provision nationwide. Except for Indochina and the poorer areas of China, East Asia and the Pacific countries are not International Development Association (IDA)-eligible and have to borrow on the International Bank for Reconstruction and Development (IBRD) terms.

A major challenge is that borrowers have preferences for uses of IBRD lending, which may not be coincident with Bank priorities. Virtually all borrowing countries of East Asia and Pacific are willing to borrow for large dams, and the Bank response should be based solely on evaluation of economic, environmental, and resettlement costs and benefits. Many countries seem to have become less interested in borrowing for agricultural research or watershed management, and more persuasive analysis will have to be undertaken. Related challenges, in the sense that a sophisticated Bank response is required, arises with respect to financing high technology agribusiness and reforming marketing parastatals.

For the first, new types of collaboration with IFC are needed. For parastatal reform there is a danger, in nominally market economies, of replacing a relatively transparent and efficient parastatal by an opaque private monopoly. Pragmatism will be required in parastatal reform. A third challenge is the sheer heterogeneity of the region, ranging from some of the largest Bank borrowers (China and Indonesia) to some of the smallest (Laos, Fiji, Pacific Islands, and Mongolia). Donor competition is so strong but can be turned to an advantage if another donor is willing to take the lead in the agricultural sector of entire small countries.

1.2 If Rural Development Is So Important Why It is Not Happening? ²

Rural development has been neglected for many reasons, but three stand out as critical: poor commitment and capacities in partner countries, international interest in rural issues, and poor commitment and weak past performance in the bank. Actions to address these causes of poor commitment represent the key components of this rural sector strategy.

Poor Commitment and Capacities of Countries

Lack of political commitment on the part of partner countries to the broad vision of rural development is a major reason for the declining importance of the rural sector in World Bank operations, and the generally slow pace of agricultural policy and institutional reform. Why are client countries lacking commitment if the agenda is so important?

Partner countries frequently assign low priority to agricultural growth and rural development because:

1. They view agriculture as a declining sector, as countries develop the share of the rural and agricultural sectors in production (GDP) and employment shrinks relatively to the industrial and service sectors. Many developing countries have focused resources on the urban and industrial sectors, often at the expense of the rural sector. They failed to recognize the critical importance of productivity improvements and growth in the rural sector in the long transition from an agrarian to an urban-industrial society.
2. Falling real food prices over the last two decades have led to complacency toward the agricultural sector. Over the past two decades real cereal prices have declined, reducing the returns to irrigation and other investments in agriculture. While much of the decline in prices has been due to the technological improvements, some of it results from the protectionist agricultural policies pursued in OECD countries.
3. The rural poor have little political power. Because rural populations are geographically dispersed, and because rural communications and transportation infrastructure is often poor, rural people have great difficulty organizing and expressing their preferences through political processes. The rural poor, women in particular, have little political voice.
4. Urban elites pursue policies that disadvantage the agricultural sector. These policies include excessive taxation through overvalued exchange rates, industrial protection, export taxes, and low urban food price policies. This policy set, often identified as urban bias, has been pervasive in many countries. Rural elites are often able to obtain some

² Reaching the rural poor” A renewable strategy for rural development” page 90 to 104

compensation, but this amount is insufficient to offset urban bias, and often aggravates the impacts of urban bias on the rural poor.

Others factors hampering rural development include:

1. The roles of the state and traditional public institutions have been unclear. In many countries public institutions or parastatals have dominated the agricultural sector by controlling input and output markets, land markets, and access to finance. These institutions have often been highly inefficient and unresponsive to changes in market conditions, and provided privileges and rents to a favored few.
2. Resources have been concentrated in the hands of a few. In some countries resources, such as land, capital, and access to knowledge and technology, have been concentrated in the hands of elites. This distribution has sometimes led to the high level of unemployment and low-productivity among rural inhabitants, combined with overcapitalization of agriculture and poor utilization of productive land.
3. Designing incentive systems to deal with common property resources is inherently difficult. Natural resources, such as water, pastures, forests, and fisheries, are being overused and degraded in many countries because they are often treated as open access resources with few restrictions on who may use them. Designing and implementing effective community-based systems for managing these resources is difficult and only has just started in many countries.

The last three factors apply primarily to country and Bank relations—they are much less relevant to the IFC's pursuit of investment opportunities with private business partners. Indeed, the IFC's financing of agribusiness had grown from about US\$100 million in fiscal 1992 to about US\$600 million (including syndications) in fiscal 1995. This growth reflects the growing recognition by governments that agribusiness is essentially a private activity, and a willingness to foster private investment, including IFC. The World Bank Group can help countries strengthen their capacities in many ways. The followings are just a few:

1. Help policymakers understand the importance of agricultural growth, sustainable natural resource management, and rural development for overall development, employment, and poverty reduction.
2. Assist in redefining the role of the state in the rural sector. In many countries, responsibilities formerly handled by state institutions or parastatals are now being given to the private sector. The Bank can help by providing policy advice and financial support during this transition.
3. Help poor and vulnerable groups increase their income through local and community-based programs.

4. Assist poor men and women to understand policy options and articulate their demands. Our understanding of the political economy of agriculture and agrarian relations is increasing. The Bank has recently synthesized a large body of research on the political economy of the rural sector and will disseminate the findings to help operational staff better understand and deal with the political difficulties of implementing the vision for rural development. But still more research is needed so that these issues can be integrated into policy advice and country assistance strategies. One component of the rural sector strategy is to undertake such a research program.
5. Help countries strengthen their capacity for rural development. Governments often have great difficulty in coordinating many agencies responsible for rural policies and programs. These agencies include the ministry of finance and the central bank; the ministries of trade, agriculture, infrastructure, environment, education, and health; parastatal organizations carrying out marketing or land reform, rural financial institutions, and state and local governments.
6. Help countries strengthen their national research and extension systems, and link them to the IFC in order to sharply improve its agribusiness operations.
7. The International Finance Corporation (IFC) has been active in projects involving agro-business development since its early days. The IFC's involvement in this sector reflects its pervasive importance in the economies of borrowing member countries. Food and agrobusiness currently make up about 10 percent of the IFC's portfolio. Its experience indicates that the financing of agrobusiness generates significant benefits in terms of development, but that agrobusiness projects also entail unusual risks that are not generally found in other industrial activities.
8. In 1992 the IFC began to reflect seriously on its mediocre past agrobusiness experience and bring renewed focus to its investments in the sector. The IFC's activities in the agribusiness sector were consolidated in the new Agrobusiness Department. This decision was based on the lessons learnt in past operations and emphasized the following points:

*Staff resources should be concentrated in a specialist department with the capability of identifying and evaluating agrobusiness projects worldwide.

*To be managing the special risks of agrobusiness ventures, the Department should follow a supply-chain perspective and develop projects ranging from farm production to final consumption.

Also in 1992, the IFC took strong steps to improve the performance of its agribusiness portfolio, which contained a high share of underperforming, or nonperforming projects, through a two-pronged approach:

- 1 Aggressive cleaning-up of its inherited portfolio through workouts and restructuring, to minimize their impact on the bottom line.
- 2 Elective build-up of new high-quality assets. This approach has been successfully implemented. The agribusiness portfolio is now performing in line with the rest of the IFC, while the volume of financing in fiscal 1996 exceeded US\$800 million (including syndications), an eight-fold increase over fiscal 1992.
- 3 Barring a strong reversal of the current favorable investment climate in client countries, the IFC foresees continued but controlled growth of its agribusiness financing for the years to come. Recent experience has demonstrated that financing agricultural development can be profitable and therefore a good area for financing by the IFC. The IFC held a Board seminar on December 12, 1996 to discuss its food and agriculture operations. Its vision for these operations is fully consistent with the rural sector strategy.
- 4 Help design and implement natural resources management systems. There is a growing body of evidence showing that common property resources may be managed sustainably when their management is decentralized to the community level. The Bank can help countries design programs based on successful experiences and can support the piloting of promising new approaches.

There is no simple approach to rural development that is appropriate for all. In some countries land tenure may be important; in others managing scarce water resources is the main issue. In still others redefining the role of the state and of parastatals is the key concern. Each Region has prepared its own rural sector strategy based on its countries endowments, distribution of assets, and functioning of markets and incentive systems for the allocation of resources. The rural sector strategy includes such a diverse and wide range of actions so as to meet the incredibly varied needs of countries.

Waning international Commitment of Agriculture and Rural Development³

International interest in agricultural and rural matters had waned over the past decade. This has also been reflected in the decline of the Bank's activities in agriculture and rural development

There are many reasons for the decline, including the following:

- Real grain prices have been declining, leading to complacency. The continuation of a century-long decline in real grain prices has been linked to policy-induced "surpluses" in OECD countries, leading to the conclusion that global food supplies are not an issue. The downward trend is related to the faster growth in productive capacities relative to demand, a result of investment in research and technology. This is a positive sign of declining international commitment. Further, there is no

³ Rural development from vision to action, page 29 to 39

assurance that the long-term decline in prices will continue unless positive actions are taken to improve productivity and correct policy distortions.

- There is general aid fatigue among donor countries. The external assistance for agriculture in the developing world has declined by nearly 50 percent since 1986. This decline is a result of aid fatigue coupled with perceptions of surpluses- which lead to disproportionate reduction in agricultural support.
- There has been a perception that the world is awash in surpluses and that much excess capacity is held out of production by policies in the OECD countries. This perception persists despite the fact that between May 1993 and May 1996 grain stock fell to levels lower than at any time since World II, and international cereal prices rose by 50 percent. The land held out of production is marginal and is declining.
- During the 1980s development assistance increasingly diverted finance to project in environmental. Unfortunately, the link between environmental protection and increased in agriculture productivity has been neglected. Farmers who increase yields per unit of land have less reason to push into marginal, environmentally sensitive lands to meet food needs.
- Poverty alleviation programs have been increasingly disconnected from agricultural production. Recently, programs to reduce poverty have focused more on policy reform and on issues of gender, social, and institutional democratization rather than on increased production, diverting funds away from agriculture.

While there are positive signs of change successful inclusion of agriculture under the rules of the GATT and revitalization of the CGIAR- much remains to be done. Later, we recommend specific actions to raise international commitment to rural development.

Poor Commitment in the Bank:

Overcoming Poor Performance of the past:

The declining importance of agriculture in the Bank is in part a reflection of lack of government commitment (partner responsiveness), but also reflects factors internal to the Bank. Some are straightforward:

- Inadequate performance in the development of broad rural strategies has militated against developing borrower commitment and has led to inadequate attention to agricultural and rural development in the formulation of CASs.
- With increasing priority assigned to education, health, and the environment in Bank assistance programs, formerly large sectors such as agriculture have been reduced.
- Until recently, the large difference between the performance of agricultural and other projects encouraged reducing the priority given

rural development in CASs. Although the performance gap has disappeared, the perception of relatively poor performance has not.

- With the advent of dollar budgeting, the relatively high cost of rural projects has come under increasing scrutiny in the country budgeting process.
- The dispersal of technical capacities, use of technical staff as generalist task managers, and lack of validation of technical excellence, which lead to a loss of focus.
- Rigidities in organizational structures, budget procedures, and personnel policies which make cooperation across sectorial lines and sharing of responsibilities very difficult, if not impossible.

Chapter Two

Understanding the Rural Development

Agriculture

THE ROLE OF AGRICULTURE IN RURAL POVERTY REDUCTION⁴

Agriculture is faced with fundamental change. Human population growth, improved incomes and shifting dietary patterns are increasing the demand for food and other agricultural products. At the same time, however, the natural-resource base underpinning agricultural production is under threat, with growing threats to genetic diversity and the degradation of land and water resources. Revolutionary advances in biological and information sciences offer great potential to address these resource constraints. However, making their benefits available to small-scale farmers is a major challenge, especially women with limited access and control of productive resources. International trade is increasing rapidly bringing with it a set of global governance.

Agriculture employs nearly one-half of the labor force in developing countries. Indeed, a high share of rural communities and especially the rural poor are directly or indirectly dependent on agriculture through farming, food processing, fishing, forestry, and trade. A paradigm shift is underway from agriculture being an often protected and sometimes closed sector highly influenced by state interventions toward an open, diversified and highly competitive sector, tightly interlinked with other economic sectors and more strongly influenced by macroeconomic policies. This shift is occurring only slowly, however.

To reach the Millennium Goals of cutting hunger and poverty, agricultural growth must be put back on top of the development agenda-but 'business as usual' will not suffice. The dynamic changes now influencing agricultural production, diversification-and competitiveness require a through re-analysis to develop better ways to support tomorrow's agriculture.

Given the poverty-reduction focus of the World Bank, agricultural growth and competitiveness are seen in the context of broad-based rural growth with the following overall objectives. Improve the income-earning capacity of family farmers through improved technology and better access to input and product markets:

- Boost rural employment creation through competitiveness and access to global markets; and
- Enhance the availability and quality of food produced in rural areas, through increased supply, sustainable production methods, and efficient markets.

Agriculture's Multiple Contributions to Achieving Development Goals

Given the number of poor in rural areas and the changes in the agricultural sector-all compounded by the deteriorating natural resource base-the role of agriculture in achieving Bank goals has never been larger. Agriculture on the following goals; a) economic growth; b) poverty reduction; c) food security;

⁴ Reaching the rural poor, page 62 to 64

and d) the conservation of natural resources. Subsistence agriculture is the ultimate safety net for many of the poorest rural people.

In low-income countries, the agricultural sector is the primary engine of overall economic growth, due to its size and its important growth linkages to the rest of the economy. Agriculture is by far the largest employer in these countries, providing 68% of the labor force and 25% of GDP. In middle-income countries the share of GDP falls to 10% but agriculture still accounts for one quarter of total employment. Many of the world's poor depend directly on agriculture for their livelihoods. Increased agricultural productivity also provides cheaper food, which makes up a high share of expenditures of poor households. In addition, an evolving agricultural sector creates jobs in agricultural processing and marketing, input supply and consumer products and services, and indirectly generates jobs for those leaving the farm. Finally, for the poorest rural dwellers, subsistence agriculture often provides a survival strategy in the absence of jobs, and in the absence of commercially viable agricultural activity.

Future food and feed needs are large and expanding, driven by population and income growth and rapid growth in demand for grain for livestock feed. Projections by Rose Grant (2001) indicate that unless there is a renewed commitment to agriculture through increased public and private investment and favorable policies, the long-term trend to lower food prices will not be maintained to 2020, and Millennium targets for poverty reduction and malnutrition will not be met. Agricultural growth also makes important contributions to other dimensions of food security access to food (by increasing incomes of the poor who depend on agricultural production for their livelihoods), and utilization of food (through more nutritious, higher quality and safer foods).

Agriculture depends fundamentally on natural resources and has an important role in their conservation. The deteriorating land and water base in many regions presents a concern for many producers, and wider public awareness of environmental issues is bringing urgency to conservation issues are many global in nature. Protecting natural resources and the environment will require greater efforts to ensure sustainability of intensive agricultural production systems, and to manage natural resources in less-favorable and more fragile production environments.

PAST FAILURES AND SUCCESSES IN AGRICULTURE: UNDERLYING FACTORS

There have been significant achievements in terms of global agricultural productivity in recent decades. Commodity prices on world markets have shown a decline as a result of productivity gains and the increased availability of food from industrial countries that subsidize agriculture (figure 4.1). Rapid technological progress in the production of the major staples across much of the developing world has brought impressive results: low food prices, improved farm income, and the generation of employment in the farm and rural non-farm sector.

Empirical illustrations of Relationships between Agricultural Growth and Poverty Reduction

- A 10% increase in crop yields leads to a reduction between 6% and 10% of people living on less than \$1 a day. According to a recent study (Irz, et al., 2001). For African countries, a 10% increase in yields leads to a 9% decrease in the percentage of those living on less than \$1 a day.
- Wheat prices would have risen 34% and rice prices 41%, more between 1970 and 1995 in the absence of international agricultural research efforts (World Bank, 2001 d)
- The average real income of small farmers in southern India rose by 90% and that landless laborer by 125% between 1973 and 1994, as a result of the Green Revolution (World Bank, 2001 d)
- One percent increase in agricultural GDP per capita led to a 1.6% gain in the per capita incomes of the lowest income fifth of the population in 35 countries analyzed (Timer, 1997).

Over the past three decades, irrigated area doubled and fertilizer use increased 18-fold, resulting in a 20% increase in per-capita food production. Increased agricultural productivity and lower unit costs of food production have led to a sharp decline in real prices of cereals in world markets, providing significant bonnets to poor consumers. The major ingredients for this Green Revolution-led growth were public investment in irrigation and roads, public research on high yielding varieties, and reliable (sometimes private but often public) supply of inputs such as fertilizer. Returns on these investments have often been high especially in agricultural research, but variable. However, the yield growth expanded since the 1970s has slowed sharply in the 1990s due to diminishing returns to further input use, the rising cost of expanding irrigation, a slow in investment in infrastructure and research (in part induced by declining commodity prices), and resource and environmental constraints.

The agricultural development track record in development countries is rather uneven. In many developing countries especially in sub-Saharan Africa, agricultural performance has not kept pace with other regions, and is a major cause of continuing, or even deepening rural poverty. The sector has been subject to policy and institutional failures, in particular:

- Agriculture suffers from quantitatively inadequate support, excessive taxation, and discrimination in macro. Trade, and industrial policies;
- Agricultural marketing institutions, particularly parastatals, providing services to farmers, have been inefficient, uncompetitive, and poorly linked to international markets,
- Reform of parastatals has been incomplete and support to alternative private sector structures has been inadequate;
- Local and regional markets are underdeveloped and hampered by poor infrastructure, lack of security, and bureaucratic obstacles,

- Rural financial systems have failed to stimulate and capture agricultural savings and channel these into agricultural investment;
- Political institutions are weak, both within government and in civil society (e.g., farmers' organizations);
- Insecure property rights have inhibited investment in land improvements, and finally,
- OECD agricultural and trade policies have limited market access, depressed world market prices, caused greater price volatility and inhibited processing to add value within poorer countries.

In terms of agricultural development, the majority of successful examples are found in East Asia. Here agricultural development created a dynamism in rural areas, which, in later stages, was combined with rapid industrialization. The major lessons of this success are as follows:

- Policies must not discriminate against agriculture, nor give to special privileges and agriculture should be taxed lightly, using the same progressively and instruments as for other sectors,
- The economy should be open, employment be sensitive, and oriented towards smallholders;
- The importance of external, including specialty and niche markets, should be fully recognized and exploited;
- FDI should be an integral part of the agricultural development process;
- Land reform is essential where land is very unequally distributed;
- Rapid technological progress is needed, for which both the private and public sectors have important roles in research, extension, and financing;
- Rural areas need substantial investment in education, health, and infrastructure; and
- The needs of women, who constitute an important component of farmers and farm laborers, must be built into programs.

Agriculture's Central Role in Meeting the Millennium Development Goals⁵

Four of the MDGs relate directly to the agricultural sector: halving the proportion of people living in extreme poverty and hunger, promoting gender equality and empowering women, ensuring environmental sustainability, and developing global partnerships through increased market access. The remaining MDGs have important indirect links to agricultural growth. For instance, access to better-quality food will improve health and reduce disease susceptibility, especially in women and children; and additional income from higher agricultural productivity will increase household investments in children's education.² The sections that follow explore agriculture's direct and indirect links with the MDGs in greater detail

Agriculture is Integral to Reducing Poverty

To halve the global population who survive on less than US\$1 a day by 2015, the development community requires a multifaceted strategy that strongly supports agricultural growth that benefits the poor. In low-income countries,

⁵ Agricultural growth for the poor, the world bank, page 3 to 11

broad-based growth in agricultural productivity is one of the most effective ways of reducing poverty because it increases the income of small-scale farmers; raises the wages earned by landless laborers; and improves the availability, quality, and accessibility of food. Rapid increases in agricultural productivity in areas benefiting from the green revolution, for example, were accompanied by sharp increases in the incomes of poor households. Contrary to popular opinion, the benefits were often larger for landless laborers and small-scale farmers than for large-scale farmers (figure 1.1)

Aside from these direct benefits, increased agricultural productivity also brings strong indirect benefits to the poor by reducing food prices and creating jobs. Poor households, rural as well as urban, spend a large percentage of their income on food staples. Increased productivity of staple crops makes them less expensive. For example, cassava is the most important cassava varieties in Nigeria in the 1980s, yields rose about 30 percent. Consumers captured an estimated 72 percent of the benefits of cassava research through lower prices, and poor consumers, including poor farmers, captured a disproportionately high share of these benefits.

Increased agricultural production and value-added processing are often labor-intensive enterprises that create jobs for the poor both on and off the farm. As agricultural production grows, agricultural employment typically grows by 0.3 to 0.6 percent and employment outside of agriculture grows by around 0.9 percent. Estimates of the extent to which poverty falls as agricultural productivity rises are therefore generally high. For example, a 1 percent increase in croppy yield reduces the number for poor people by 0.72 percent in Africa and by 0.48 percent in Asia.

Table 1.1 Effect of 1 Percent Increase in Crop Yields on Poverty Reduction

Region	Percent in poverty	Number in poverty (millions)	Percent reduction in number of poor in relation to 1 percent yield increase
East Asia	15	278	0.48
South Asia	40	522	0.48
Africa	46	291	0.72
Latin America	16	78	0.10

Agricultural growth for the poor, the World Bank, page 9,

India, this effect on poverty reduction has been estimated at 0.4 percent in the short run and 1.9 percent in the long run, the latter through the indirect effects of lower food prices and higher wages (figure 1.3).

As one would expect, the contributions of agricultural growth to reducing poverty are quite specific to the local context. Agricultural growth has had a substantial, broad-based impact on poverty reduction where the following conditions are in place:

- Agricultural is important to the incomes of the rural poor.
- Climate and soils allow significant potential for productivity and profitability to grow.

- Land distribution is relatively equitable.

The poor consume non traded food staples. Even cereals in many parts of Africa are essentially non traded goods, because the lack of roads leads to high transport costs, which serve as a barrier to trade flows.

If agriculture is to help reduce poverty in areas where most of these conditions are not in place, agricultural growth must be targeted specifically to the commodities and agro-ecological regions that are important to the poor. In areas where agriculture's importance to the rural poor is declining, an increasing share of household income comes from remittances and from income earned off of the farm. There agriculture cannot contribute as much to reducing poverty as in other contexts. In areas where agriculture remains important but the distribution of assets, especially land, is extremely inequitable, over a; growth in agriculture may contribute little to reducing poverty. For example, in Latin America, where land ownership is highly unequal, a 1 percent increase in yields is estimated to reduce the number of poor by only 0.1 percent (table 1.1). On the other hand, in Sub-Saharan Africa, rapid growth in a large number of areas with the conditions for broad-based agricultural growth could make an enormous contribution to the MDG of reducing poverty.

Agriculture Is Integral to Reducing Hunger and Malnutrition

Food security is achieved when people have access to sufficient food for a healthy and active life. The world still has 800 million food-insecure or hungry people, including 150 million children. Today there is more than enough food to feed everyone, but many households still lack the economic resources to produce or purchase sufficient food. The two indicators for progress toward the MDG on reducing hunger are the percentage of underweight children under five years of age and the percentage of people who are undernourished. Despite impressive gains in improving energy intake, about 25 percent of children less than five years of age in developing countries are underweight. Large differences remain across countries and regions. Six percent of children under five are underweight in Latin America, for example, compared with 28 percent in Asia. Asia has the greatest number of chronically undernourished people-particularly India (214 million) and China (135 million) - followed by Africa (198 million). Africa is the only region where indicators for underweight children and undernourishment are worsening.

Most of the world's hungry and malnourished people are the rural poor, who do not produce enough food to meet household needs. Half of the world's hungry people are smallholder farmers; landless rural people add another one fifth; and pastoralists, fishers, and people whose livelihoods depend on forests make up one tenth⁵. These people are especially vulnerable to volatile food prices, which result from climate-and pest-induced fluctuations in food production, and to poor infrastructure, which limits access to food and input markets. During sustained food shortage, people are often forced to consume capital assets, such as breeding livestock and seed, which they would otherwise invest in future production. Insufficient food and poor diets deplete people's energy and immunity to disease, reduce their labor productivity and income, and deepen the cycle of poverty and hunger.

As farmers and mothers, women play a critical role in family food security, which makes the nutritional status of women a particularly important concern. Confronted with dwindling household food supplies, women often sacrifice their own nutritional well-being for that of others. For example, for every 10 percent drop in average rainfall compared with the long-term average in Zimbabwe, women's body mass index fell by 1.15 percent while men were unaffected.

Agriculture improves food security in many ways, most fundamentally by increasing the amount of food but also by providing the means to purchase food. Introducing new crop and livestock products and varieties (e.g., varieties that contain more nutrients or that mature more rapidly to mitigate seasonal hunger) can help ensure that more of the dietary needs of the poor are met and that seasonal food shortages are not as chronic as they were previously.

Through growth in agricultural productivity and higher farm profits, the rural poor can generate additional income to purchase more food, including more diverse kinds of food. Some poverty reduction strategies recognize the importance of satisfying the immediate need for food before addressing longer term development goals. For example, the "twin-track" approach to reducing poverty used by the Food Agriculture Organization (FAO) combines agricultural and rural development to create opportunities for poor people to improve their livelihoods, while meeting the immediate food and nutritional needs of seriously undernourished groups⁶ so that they can increase their physical capacity to work.

Unless more attention is given to promoting agricultural growth, debilitating hunger will persist. According to the International Food Policy Research Institute (IFPRI), without a renewed commitment to agriculture through greater public and private investment and complementary policies, the long-term trend of falling food prices will not be maintained to 2020, and the opportunity to achieve hunger-related MDG targets will be compromised (World Bank 2500b). The IFPRI projections show that child malnutrition will decline by only 21 percent worldwide under a business-as-usual⁷ baseline scenario, but a concerted effort (the "optimistic scenario") to improve policies and increase investments in agriculture could reduce child malnutrition by an estimated 43 percent between now and 2020—closer to the MDG target of 50 percent.

Agriculture Promotes Gender Equality and Empowers Women

The third MDG aims to promote gender equality and empower women. Nearly half of the world's farmers are women. Women often provide the largest share of agricultural labor, especially where the incidence of poverty and hunger is high, as in sub-Saharan Africa (figure 1.5). As more men pursue employment off of the farm, women assume a more critical role in rural areas. Approximately one third of the rural households in sub-Saharan Africa are headed by women, whose burden is often made all the heavier by the prevalence of HIV/AIDS.

In addition to income poverty, many rural women experience “time poverty,” which reduces their ability to produce food (thus further increasing food insecurity), limits their capacity to participate in income-generating activities (reducing household vulnerability). Heavy workloads can also induce women to remove their children from school.

Improvements to agriculture alone will not be sufficient to meet the goals of the “gender MDG”, a multicultural approach is fundamental. Women’s burden of work will be considerably eased by investments in water supplies and fuel sources. Women will benefit from opportunities in agriculture that help them to use their special skills for remunerative purposes, such as skills in small livestock production, horticulture, or processing and packaging.

Agricultural policies can be adjusted to support the needs of woman farmers. In Kenya, for example, gender equality in access to farm inputs could increase output by 20 percent or more.

Choices in Agriculture Can Restore the Environment

Choices made with respect to agriculture in the coming years will determine whether agriculture’s extensive influence on the environment is positive or negative. Agriculture is by far the largest user of land and water resources, accounting for 86 percent of water consumption in developing countries in 1995 and 34 percent of total land area in 2000. Agricultural production directly affects soil and water quality, the level of biodiversity, the aesthetic appearance of the landscape, and global changes in the environment.

Several agricultural approaches can bring the world closer to the specific land, water, forest, and global climate change targets⁸ of the MDG for environmental sustainability. These approaches must.

Intensify agriculture in a sustainable manner: Sustainable intensification of agriculture is critical to the seventh target of the environment MDG, which is to integrate principles of sustainable development into national policies and programs and reverse the loss of environmental resources. More than 1.9 billion hectares of land (a billion is 1,000 million), mostly in developing countries, have soils that have been degraded through human activity (FAO 2003b). Large-scale degradation of agricultural land occurs chiefly because of erosion, soil nutrient mining (particularly in Africa), nutrient overload, indiscriminate use of pesticides, and Stalinization caused by irrigation schemes. A further environmental and public health challenge is posed by the rapid growth, concentration, and intensification of animal production and aquaculture, especially the management of waste from these systems. Policy changes and investments to induce sustainable management will be critical for reversing these trends:

- *Pursue integrated approaches to water use:* Although irrigated agriculture will continue to be the major user of water resources, competition from other sectors (e.g., industry, environmental conservation, and domestic use) is increasing. Improving the efficiency of current water resources through

integrated approaches is far preferable than attempting to expand water supplies. Without integrated approaches in improving how water is allocated and used, the MDG target of halving the proportion of people without sustainable access to safe drinking water will not be met by 2015.

- *Reduce deforestation*: Over the past four decades, the total forested area, including new forest used for commercial purposes, has shrunk by 5 percent while agricultural area had expanded by more than 10 percent. The need or incentive to clear land for agriculture is lessened by making the world's current crop and pasture land more productive. Forestry can be incorporated into small-scale crop and livestock farming in many ways, including agro forestry, plantations for industrial use, and environmental services such as carbon sequestration and shade-grown produce. All of these approaches improve farmers' incomes while meeting the MDG target of increasing the land area dedicated to forest resources.
- *Reduce greenhouse gas emissions*: Agriculture is one of the largest contributors to the emission of greenhouse gasses. These gases are emitted by burning fossil fuels and biomass from deforestation, by ruminant digestion and rice fields (about 20 times more aggressive than carbon dioxide in global warming), and by nitrous oxide produced mostly from storing manure and overusing fertilizer (about 200 times more aggressive than carbon dioxide). Investments in sustainable agricultural systems such as conservation tillage, improved livestock nutrition, and manure management will contribute directly to the MDGs for improving energy efficiency and reducing greenhouse gas emissions. **Agriculture can also areas summer pastures are being used for “carbon farming.”**
- For many other countries, however, agricultural growth-and opportunities for MDGs-will be fostered largely through growth in the non farm economy and in agricultural exports that can expand the market for agricultural products

There is no universal pathway to development, but a stylized picture of structural transformation looks like this:

- The least-developed economies are largely agrarian, and agriculture accounts for the largest share of employment, GDP, and export earnings. Incomes are typically low, and most of the poor are farmers or laborers who depend on agriculture. Structural transformation begins when agricultural production is intensified through investments in land quality (e.g., irrigation), new agricultural technologies, market infrastructure, and new institutions to operate in the agriculture sector. In densely populated areas throughout the developing world, land-saving technologies, especially high-yielding varieties of food staples, have successfully catalyzed this transformation. The resulting production increases helped to raise farm income, reduce food prices, and spur increased demand for nonagricultural goods and services.
- This early stage of transformation emphasizes broad-based agricultural growth because of agriculture's comparative advantage among all

sectors of an economy and its strong links to growth in other sectors, aside from its direct effects on poverty. Where agricultural growth has the Share of Agriculture and Poor in Developing and Transitional Countries.

Table (1.2)

Country	Employment in agriculture (percent of total)	Agriculture, value added (percent of GDP)	Number living in US\$2/day poverty (million)	Number living in US\$2/day poverty (million)	Percent living in poverty (less than US\$1/day)
	1995a	2001a	2000a	2000a	2000a
East and Southeast Asia	49	14	873	261	15
Europe and Central Asia	25	10	101	20	4
Latin America	19	7	176	56	11
Middle East and North Africa	37b	11	32	8	3
South Asia	65	24	1052	432	32
Sub-Saharan Africa (excluding South Africa)	68b	27	504	323	49
All low-and middle-income countries	46	12	2,138	896	22

Sources: SIMA; World Bank 2003a, 2003c.

Note: The US\$1 and US\$2 per day poverty lines refer to \$1.08 and \$2.15 per day at 1993 PPP.

a. Data are for the years available for each variable.

b. 1990 figures.

1.1- IMPROVING ACCESS TO NUTRITION AND HEALTH

Disease and illness are frequent consequences of living in poverty while at the same time illness and disease are leading factors pushing families into poverty. Communities routinely mention that poor health is a characteristic of their poorest members. Disease and illness also effect labor productivity and economic growth. Current health and nutritional status of adults affects participation in the labor force and the intensity of work-effort. Among children, nutrition and health status affect cognitive development and learning abilities. Childhood malnutrition can also affect future labor-force participation and work-effort since it is associated with increased risks of morbidity and mortality during adulthood.

The area of reproductive health-and in particular culture-specific family planning-is essential to achieve the goals of the rural strategy. For example, the experience in Latin America shows that attention to reproductive health care would have direct payoffs by facilitating increased and effective participation of women in productive activities. Lessons from the World? Bank project including Ecuador and Argentina indicate that better development outcomes can be achieved if childcare and domestic responsibilities are considered in projects addressing agricultural and non-farm productivity.

Rural areas are also the scene of widespread malnutrition, which compromises natural immunity and contributes to disease burdens. In 2000, an estimated 32.5% of children under the age of five in developing countries were stunted. While the global prevalence of stunting has declined considerably during the past two decades there are still unacceptable numbers of children suffering from malnutrition. There is mounting evidence that child malnutrition rates are static or increasing in Sub-Saharan Africa. Micronutrient malnutrition also continues to be a significant problem affecting both children and adults throughout the developing world.

HIV/AIDS: A THREAT TO RURAL DEVELOPMENT AND FOOD SECURITY

HIV/AIDS is threatening the progress made in the past 40 years of agricultural and rural development undermining gains in life expectancy and threatening productivity. The disease is no longer just a health problem- it has become a major development issue, posing enormous challenges to governments, NGOs, and the international community.

Of the 36.1 million people living with HIV/AIDS, an overwhelming 95% live in developing countries. The situation is particularly dramatic in Sub-Saharan Africa, where approximately 9% of all adults carry the disease. Sub-Saharan Africa accounts for only one-tenth of the world's population, but nine out of ten new cases of HV infection. In nine countries in Sub-Saharan Africa, more than 10% of the adult population is HIV positive. In Botswana, Namibia, Swaziland and Zimbabwe, 20 to 26% of the population aged 15-49 is living with HIV or AIDS. Other parts of the world are also hard hit, however. In India, around four million people are currently infected with HIV. Further, it is estimated that by 2010 Asia will overtake Sub-Saharan Africa in absolute numbers. The

incidence of the disease is high in several Caribbean countries, although the spread of the epidemic in Latin America has been slower than in other regions and the epidemic is concentrated in urban areas.

Although HIV/AIDS has traditionally been regarded as an urban problem, it is gradually being recognized that rural communities are perhaps more vulnerable to it (UNAIDS, 2001). In absolute numbers, more people living with HIV reside in rural areas. For example, more than two-thirds of the population of the 25 most-affected African countries lives in rural areas (FAO, 2001). Information and health services are less available in rural areas than in cities. Rural people are therefore less likely to know how to protect themselves from HIV and, if they fall ill, less likely to get care. In addition, the costs of HIV/AIDS are largely borne by rural communities because many urban dwellers, at least in Africa, return to their village of origin when they become ill. At the same time, HIV/AIDS undermines agricultural systems and affects the food security of rural families. As adults fall ill and die, families lose their labor supply, as well as knowledge about indigenous farming methods. Families spend more to meet medical bills and funeral expenses, drawing down savings and selling assets. HIV/AIDS undermines the incentives and the ability to invest in farms, infrastructure and education, threatening future prospects for rural and national development.

HIV/AIDS disproportionately affects economic sectors such as agriculture, transportation and mining that have large numbers of mobile or migratory workers. AIDS reduces productivity as people become ill and die and others spend time caring for the sick, mourning and attending funerals. The result is severe labor shortages for both farm and domestic work. Labor-intensive farming systems with a low level of mechanization and agricultural input are particularly vulnerable to AIDS. The FAO has estimated that, in the 25 most-affected African countries, AIDS had killed seven million agricultural workers since 1985. Up to 25% of the agricultural labor force could be lost in countries of Sub-Saharan Africa by 2020. This is particularly worrisome because more than one-third of the GNP of the most-affected countries comes from agriculture. According to a recent FAO/UNAIDS study, agricultural output of small farmers in some parts of Zimbabwe may have fallen by as much as 50 percent in the past five years, mainly because of AIDS.

In East Africa, labor shortage caused by HIV/AIDS have led to a range of farm changes including a reduction in land under cultivation, a decline in crop yields and a shift from cash crops to subsistence crops, in general farmers have shifted away from labor-intensive cash crops, such as bananas and coffee, to subsistence crops that demand less work, such as cassava and sweet potatoes. As a result, incomes have fallen. The impact of AIDS on farming communities differs from village to village and country to country.

INCREASING ACCESS TO AND IMPROVING THE QUALITY OF RURAL EDUCATION

Education plays an essential role in reducing poverty, by enabling individuals and households to harness knowledge. Increase and diversify incomes,

manage risks, and increase social mobility, education offers the prospect of breaking through the cycle of poverty. In rural areas, education also improves agricultural productivity and efficiency. Skills acquired through both formal and informal education enhance a farmer's ability to acquire and decode market and technical information, select optimal cropping patterns, and purchase the right mix of inputs. Education also plays a critical role in facilitating off-farm employment and economic development. In addition to the direct impact on incomes, there are significant positive externalities that are associated with investment in education. Most notably, higher levels of women's education are associated with lower malnutrition, lower fertility and population growth rates, and better child survival rates.

There are two educational needs in rural areas. The first need is for general education (primary and secondary schooling), while the second, more specific need is education for agricultural and natural resource management.

MANAGING AND COPING WITH HOUSEHOLD FOOD SECURITY AND RISK FOR THE RURAL POOR⁶

Managing the risks with which rural communities and individual residents must cope received only brief mention in *Vision to Action*. Yet, as clearly articulated in the 2000/2001 WDR, an effective strategy for reducing poverty needs to enhance security by reducing the risk of natural, financial and health shocks and by enabling households to mitigate their consequences.

Many features of economic development indirectly reduce the risk of rural incomes as they facilitate growth. For example, investment in irrigation as well as improved roads, telecommunications, and modern banking systems reduce vulnerability. But there remains a need to design and adapt policies, institutions, and investments that directly manage, reduce, or counteract the risks facing rural residents, particularly the poor. This need may be evolving with climatic change with changing market structures.

In many areas, women have predominant responsibility for household food security. Removing constraints and improving conditions that enable women to carry out their roles more effectively would promote food security both within the household and outside.

⁶ (Anderson, 2001).

1.2- The Rural Energy Situation ⁷

Approximately one-third of all energy consumption in developing countries derives from the burning of wood, crop residues, and animal dung (biofuels). By some estimates, it amounts to around 1.000 million tons of oil equivalent energy per year, more than three times the energy of the coal mined in Europe in a single year and twice the energy of all coal mined in the United States or China. Most of this energy is used in rural areas, which account for about 60 percent of the population of the developing world, or up to 70 periurban areas is also large in many countries, as results in low-income economies. Consumption of fuelwood and charcoal in urban areas is also large in many countries, and result in deforestation and environmental damage in the surrounding countryside, with fuelwood eventually having to be trucked over large distance. This is especially true in African countries, where the costs of distribution and of acquiring appliances often inhibit the use of gas and electricity.

Effects of Biofuel Use by the Poor

Aside from the economic hardship associated with gathering and cooking with biofuels, the indoor air pollution created by such fuels is a health hazard, particularly to women and children. In addition, collection of biofuels frequently leads to ecological damage to forests, woodlands, and farmlands and biofuels are generally energy-inefficient.

Pollution and Health⁸

As the 1992 World Development Report (WDR) noted (World Bank 1992), studies of smoke from the use of biofuels in rural areas (Smith 1987, 1988; Smith and others 1993) have found levels of solid particulate matter that regularly exceed the safe levels cited in World Health Organization guidelines by several orders of magnitude. Cooking can expose women and children to such levels for several hours a day, and has serious health effects that have only recently been studied systematically, even though they are often just as serious as the effects of cigarette smoking. Carbon monoxide emissions may give rise to ambient concentrations that interfere with the body's normal absorption of oxygen.

Estimates indicate that smoke contributes to acute respiratory infections that kill some 4 million infants and children a year. Recurrent episodes of such infections show up in adults as chronic bronchitis and emphysema, which can eventually lead to heart failure. Studies in Nepal and India of nonsmoking women who are exposed to biomass smoke have found abnormally high levels of chronic respiratory disease, with mortality from this condition occurring at far earlier ages than in other populations and at rates comparable to those of male heavy smokers .

⁷ Rural energy situation, the world bank, page 20 to 27

⁸ Source: Kumar and Hotchkiss (1988); Smith (1987, 1991). See also Cleave (1974) for surveys of people's use of time in Africa.

When fuelwoods are scarce, the time people spend collecting fuels reduces the time they can devote to productive agricultural activities. A recent survey in the hill areas of Nepal, for example, found that even in regions with relatively good supplies of fuelwoods, women still need to spend more than an hour a day collecting biomass, and the time they devoted to agriculture was correspondingly less compared to people not dependent on the fuels. In the more deforested areas where fuels are scarcer, the time and effort women expended were even greater, with about 2.5 hours per day being spent collecting fuelwood, fodder, and grass. Surveys in Africa dating back to the 1970s have similar findings.

The use of biofuels also has an adverse effect on the health of women and children, especially children, though the provision of improved woodstoves along with household education and extension programs can help remedy this. A study of 500 children under five years of age in Gambia found that girls who were carried on their mothers' backs as they cooked in smoky huts had a risk of acute respiratory illness six times that of other children. Studies in Papua New Guinea and India have cooked on biomass stoves for many years exhibit a higher prevalence of chronic lung disease than those who have had lower levels of exposure to cooking smoke.

In conclusion, the quality of life of women and children can be improved by improving access to biomass and providing improved biomass stoves.

Ecological Damage

The costs to the environment of biofuel use in terms of increased deforestation, soil erosion, and reduced soil fertility have also attracted much attention. The consumption of fuelwood and dung is not the only cause of these problems logging and clearing land for agriculture often cause greater damage-but it is, nevertheless, a source of environmental damage and cannot be ignored.

A study on Ethiopia found that where tree cover losses were severe, all the natural cycles through which nutrients were returned to an initially rich topsoil had been breached: first through the losses of trees themselves, and then through losses of grasses, crop residues, and dung when they were used for fuel instead of being used to fertilize the soil. Another consequence is that the soil retains less moisture, which results in reduced crop yields. Investigators have found that farms with good tree cover-where farmers have planted trees as windbreaks or shelterbelts, for example-have yields 20 to 50 percent higher, depending on local climates, terrain, and ecosystems, than those without good tree cover (Anderson 1987; Doolette and Magrath 1990; Gregersen, Draper, and Elz 1989; Spears 1986).

(Table 1.3) Indoor Air Pollution from Biomass Combustion in Developing Countries:-

Location and year of study	Measurement period	Concentrations of suspended particulate matter as multiple of WHO peak guideline

China, 1987	Cooking	11
The Gambia, 1988	Average over full day	4-11
India, 1987-88	Cooking with – wood - dung - charcoal	75 (15-minute peak) 90 (15-minute peak) 25 (15-minute peak)
Kenya		
1987	Average over full day	5-8
1972	Overnight (space heating)	12-34
Nepal, 1986	Cooking	9-38
Papua New Guinea, 1975	Overnight (space heating)	1-39
Zimbabwe, 1990	Cooking (two hours)	6
Brazil, 1992	Stoves with flues	< 0.4

Rural energy situation, the world bank.,page 22

Note: The studies are not completely comparable because of different measurement methods. a. The WHO peak (98th percentile) guideline recommends that a concentration of 230 micrograms per cubic meter not be surpassed by more than 2 percent (seven days) of a year. Source: Smith (1988).

Recognition of the linkages between biomass use and the productivity many would argue the sustainability-of agriculture had done much to revive interest in the once time-honored practice of agro-forestry. Development practitioners now understand that they should not view the “fuelwood problem” and its resolution in an isolated way, but as part of the larger problem of energy supplies, poverty alleviation, and the protection of natural resources in rural areas. More people now also recognize that the use of biomass need not to be inherently negative. In principle, biomass fuels and be supplied-from forests, woodlands, or farmlands-and used in sustainable ways. One can cite several examples from Kenya and India of farmers turning to agro-forestry autonomously to respond to local demand for wood and to improve the local ecology.

Biofuels are traded and are an important source of cash income for many of the world’s rural people, and growing fuelwood can yield a comparatively high return. IN Africa alone, the production and marketing of biofuels represents a US\$5 billion business that provides gainful employment to more than 400,000 people.

Nevertheless, some regions in densely populated countries have already passed the point of sustainable production of biomass fuels. In areas of China and India, the combination of intensive use of land and rural population growth has already transformed many forests into farmland, leaving only marginal lands to supply trees and shrubs. In the northern Chinese country of Kezuo, for example, people have already cut most of the trees around the agricultural lands and are now turning to less efficient fuels-straw and dung while wealthier households are using coal. Deforestation has other

undesirable effects on energy production: in Yongchun County, Fujian Province, China, lands and forests had become so degraded by 1983 that situation had reduced annual hydroelectric production from the 1960 level of 5,000 hours to only 2,200 hours.

Energy Efficiency

Figure 2.1 presents data on the efficiency of various cooking fuels. Biofuels are generally much less efficient for cooking than modern fuels such as liquid petroleum gas (LPG) and kerosene. An exception is biogas. This is derived from digesters of dung and farm residues, and both China and India have done much to develop biogas and encourage its use among people in rural areas.

The least efficient fuels are agricultural residues, leaves, and grass. With few exceptions, people use these fuels because they are available from the local environment at no cash cost, not because they value them as convenient cooking fuels (Agarwal 1983). Many parties have worked hard to try to raise the efficiency with which biofuels are used by introducing improved stoves often with positive results.

Urban and some rural households generally purchase wood, charcoal, coal, and kerosene. These fuels have higher energy values per unit of weight than wood and are generally used in more efficient stoves. In addition, the level of heat output of kerosene stoves can be adjusted relatively easily, so kerosene is more convenient for preparing a wide variety of dishes. Households with the highest income use gaseous fuels as LPG. LPG burns cleanly and efficiently, it is convenient, and it has an easily adjustable heat level.

The Transition of Modern Fuels

As their incomes grow, rural people begin to use modern fuels more extensively. Summarizes some typical changes in patterns of energy use by households and in agriculture and small industrial enterprises. The initial dependence of biofuels in the home eventually gives way to the use of electricity for lighting and fossil fuels for cooking. In agriculture and industry, diesel engines and electricity replace manual and animal power for a variety of purposes. Where rural electrification from the grid is not available or is too costly, diesel generators may be used instead. More recently, photovoltaic systems have become an attractive option for small-scale electricity supplies for homes, businesses, refrigeration and lighting in health clinics, and water pumping.

However, as shows, the transition to modern fuels is likely to take some time. In the lower-income developing countries, high percentages of rural people in particular, but also of the urban poor, continue to rely heavily on biomass. Even residents of countries approaching the lower-middle income range, such as Ecuador and Uruguay, still consume large amounts of biomass energy.

As regards the regional use of biomass, in Africa about 86 percent of the total energy used is in the form of biomass, in South Asia this figure amounts to 60 percent estimates of the current shares of biomass in total energy consumption and of likely levels in 2000 and 2010. The actual rate at which the transition to modern fuels will occur will depend on countries' economic performance and development policies; the extent to which people currently use

(Table 1.4) Rural Energy Use Patterns in Developing Countries by End Uses

Household income			
End use	Low	Medium	High
Household			
Cooking	Wood, residues, & dung	Wood, residues, dung, kerosene & biogas	Wood, kerosene, biogas, LPG, & coal
Lighting	Candles & kerosene (sometimes none)	Candles, kerosene, & gasoline	Wood, residues, dung, & coal
Other appliances	None	Electricity & storage cells	Electricity & storage cells
Agriculture			
Tilling	Hand	Animal	Animal, gasoline, diesel (tillers & tractors)
Irrigation	Hand	Animal	Diesel & electricity
Post-harvest processing	Hand	Animal	Diesel & electricity
Industry			
Milling & mechanical	Hand	Hand & animal	Hand, animal, diesel, & electricity
Process heat	Wood & residues	Coal, charcoal, wood, residues	Coal, charcoal, wood, kerosene, & residues

Rural energy situation, the World Bank. Page 22

Biomass, coupled with population growth, suggests that a large number of people will depend on biofuels for many years to come. Even in East Asia and the Pacific, a region that has experienced significant economic growth and a major increase in the use of commercial energy, biomass use still accounts for 33 percent of energy supplies and is expected to decline only by some 50 percent during the next fifteen to twenty-five years.

(Table 1.5) (Percentage of total energy used)

Region	1990	2000	2010
Sub-Saharan Africa	85	83	80
South Asia	60	52	43
East Asia and Pacific	33	26	20
North Africa and Middle east	27	23	19
Latin America and Caribbean	26	22	19
Source: World Bank estimates			

Rural energy situation, the World Bank. Page 27

The conclusion must be, therefore, that energy policies will need to be as concerned about the supply and use of biofuels as they are about modern fuels, and so have two aspects, not one. They must create the necessary conditions so that modern fuels-primarily electricity from the grid, renewable energy sources, liquid fuels, and LPG-can be efficiently supplied to large populations that still lack them. Second, they must support the ways to use biofuels more efficiently and sustainably, a task is not confined to those working in the energy sector, but must also involve those working with agriculture and forest management.

Innovations in Renewable Energy⁹

Recent developments in renewable energy technologies have greatly added to the options available for improving rural energy supplies. The main technologies suited to rural areas are micro-hydro, biogas, wind generators, wind pumps, solar heaters for hot water, and sustainable ways to provide wood supplies. All these are important sources of energy and can be developed further, as illustrated by the examples of China and Pura in India. A more recent development has been the use of photovoltaic (PV) systems to provide electricity supplies for such small-scale applications as electric lights and domestic appliances, refrigeration for clinics, village water pumps, street lighting, and health clinics and schools.

For small scale applications in rural areas, PVs are often less expensive and more reliable than grid supplies or diesel motors. The encouraging feature of the Kenya example discussed in was that it was financed on a purely private basis. Solar thermal electric systems using parabolic dishes are also showing much promise for small-scale supplies. Aside from their environmental appeal, new renewable energy technologies are attracting professional interest for several reasons, namely: the abundance of the solar resource, from which most forms of renewable energy are derived, technical progress and cost reductions, and the modularity of the technologies. The rest of this chapter will focus on technological progress and on the supporting policies needed if renewable energy is to be widely used in rural areas.

Technical Progress in Using the Solar Resource

Each year, the earth receives energy from the sun equal to 10,000 times the world's commercial energy consumption and more than 100 times the world's proven coal, gas, and oil reserves. Modern solar electric schemes, such as PV systems and solar-thermal power stations, can currently convert 7 to 15 percent of the incident energy into a form useful for consumption, and in theory would need less than 1 percent of the world's land area to meet all its energy needs. Solar energy is an abundant and infinitely renewable resource.

Insulations are about 2,000 to 2,500 kilowatt hours (kWh) per square meter per year in many areas of developing countries, which means that a PV scheme of 1 square meter can supply 100 to 300 kWh, depending on the type of cell used, which is sufficient for lighting, radio, television, and ironing, while a 5 square meter panel set is sufficient to meet the water pumping needs of a village or to provide for irrigation on a small farm.

Technical developments have been impressive, and reductions in the costs of all major solar energy technologies, including derived forms of solar energy such as wind, have been substantial. In the early 1970s PV modules cost several hundred thousand dollars per peak kilowatt and applications were largely confined to aerospace and other specialized uses. By 1990 costs had fallen to US\$6,000 per peak kilowatt and PVs had become commercially viable for a wide range of small-scale uses, costs have declined by another 20

⁹ Rural energy and development” improving energy supplies”, the world bank, pages 58 to 66.

to 30 percent since. An estimated 100.000 to 200.00 systems are installed in developing countries, including 40.000 in Mexico, 20.000 in Kenya, 16.000 in Indonesia, 15.000 in China, 10.000 in Brazil, and 4.000 in Sri Lanka.

China has long promoted renewable energy technologies for its large rural population. Nearly 800 of China's 2.166 counties depend on small-scale hydro for electricity, and some 5.5 million households use biogas systems that process animal manure, kitchen wastes, and night soil into biogas for cooking. Many small-scale wind machines are in household use 120.000 in Inner Mongolia alone. The Ministry of Agriculture estimates that private artisans have assembled more than 4 million square meters of solar heaters using devices designed by China's Solar Energy Research Institute. This is equivalent to the heat that several hundred megawatts of electricity generating capacity could deliver. Demand has grown by 50 percent in each of the past two years, stimulated by a rise in farm incomes. Until recently, the PV program had reached a modest 4.5000 households. However, an active research program is under way, isolations are good, plans call for PV electrification of 100.000 households in the next twenty-five years¹⁰.

Engineering and economic data show that further progress is likely on two fronts:

- Scale and production economies. World output grew from 1 megawatt per year fifteen years ago to around 70 megawatts today, a growth rate of more than 30 percent per year. Markets are still small, but the technologies are modular, and economies of scale and the technical possibilities for batch production have barely been exploited.
- Cell, module, and system design, along with improvements in conversion efficiencies. Improved materials, multifunction devices and novel cell designs to capture more of the solar spectrum, and concentrator lenses to focus sunlight onto high-efficiency cells are further areas of rapid development.

The technologies are now at the point where they are competitive for off grid supplies, and are therefore of special interest to rural areas. On Indonesia's experience with PVs provides a good example of the respective economics of grid and PVs for supplying rural areas. At high load densities the grid is clearly preferable, at lower load densities PVs are a more cost-effective option.

Good progress has also been made with small-and large-scale thermal solar schemes and with derived forms of solar energy, such as wind and biomass resources for power generation. In China and Middle Eastern countries solar-thermal collectors are a popular heat source for domestic hot water, and promising experiments with solar cookers are afoot in Asia and Africa. Another promising solar-thermal technology is the parabolic dish for small scale power generation, and when scaled up, for grid supplies. Studies by the U.S.

¹⁰ Source: Terrado and Cabraal, staff.

Department of Energy have indicated that the costs of 25 kilowatt modular units vary from USc12 to USc20 per kWh. In the case of wind for power generation on a larger scale, costs have declined from around USc 15 to USc 25 per kWh to USc 4 to USc 8 per kWh in favorable locations. For small-scale applications the costs are USc 20 per kWh, but can be competitive for off-grid supplies.

Of all renewable energy sources, biomass (ligneous and herbaceous crops and agricultural and municipal wastes) is the largest, most diverse, and most readily exploitable. Biomass residues are often available in large quantities as agro-industrial wastes. Recuperation, more efficient production, and more rational use of biomass residues and forest resources could make many agro industries energy self-sufficient as well as provide additional energy to the economy in general. This requires the conversion of biomass into cleaner and more convenient fuels (gases, electricity, and briquettes).

Developing-country agro-industries (saw mills, sugar mills, and palm oil mills) already use biomass residues to generate power and heat for the industry's own use. On-site utilization is currently limited to raising process heat and power, but its use could be expanded to heat for drying and product treatment. Also, cogeneration of electricity for a mini-grid can be economically beneficial. Off-site utilization of residues includes direct utilization of residues in industrial oil, wood, and coal-fired combustion systems.

Biomass conversion technology may find application in situations where petroleum fuels are either unavailable or where the cost of power from engines fueled by producer gas is lower than from diesel or gasoline engines. Gasification combined with the use of gas in an internal combustion engine or turbine is an efficient way to convert solid fuels into shaft power or electricity on a small scale, and more advanced processes for larger scale gasification are under development. Heat gasifiers are technically reliable and economically attractive compared with conventional alternatives. Apart from use in the rural agro-industry (for example, for tea drying), non-agro-industrial applications are also viable (for instance, brick and ceramic kilns). Consequently, this technology is already in large use in developing countries.

Economists believe that the costs of new renewable energy technologies will decline further because of economies of scale and the stimulus that market growth will give to further research and development and innovation. Japanese and American studies of the learning curves for PV technologies have found that for each doubling of the cumulative volume of production during the past fifteen years, costs have declined by 20 percent. Renewable energy technologies are fertile ground for innovation, the possibilities for further developments and cost reductions are far from being exhausted.

Policies toward New Renewable Energy Sources in Rural Areas

New renewable energy technologies still account for less than 2 percent of the primary energy supplies of developing countries, but in light of their promise, with good economic and environment policies and with the development of the necessary support systems for installation and maintenance, their market

shares should expand. Investments will also be required to acquaint energy engineers and managers with the technologies and to educate and train engineers and skilled workers. As with all new and innovative technologies, developing the best approaches will take a good deal of effort (and some trial and error)

A recent review of PV programs in the Pacific Islands, for example, found that many PV systems failed after installation, and it was only when supporting services were introduced that the programs began to succeed. These services included training technicians, ensuring timely maintenance, collecting fees on a regular basis, providing proper oversight to prevent the diversion of revenues to other projects, and abstaining from prompt feedback on needs from local user communities and passing the information on to the supplying utility. Similarly, a program in India introduced PVs in several states for domestic and street lighting, community televisions, water pumping, and other purposes during 1986-92. Yet out of more than 5,000 street lights, more than half in some states all were not working a short while later, and the other applications exhibited similar failure rates. The findings were particularly disturbing because PVs are durable, are relatively simple to install, and require little maintenance. As in the Pacific Islands, the problem, turned out to be the lack of supporting services.

Solar home systems using PV technologies have the potential to provide electricity to a large number of rural households. In Indonesia 3,000 solar home units were installed during 1988 – 92. A recent evaluation found that the units are working as planned. Today, more than 16,000 units have been installed through public programs and by commercial dealers.

In a typical 50-watt-peak system, a solar PV panel is installed on the roof of a rural home or shop. The panel charges an automobile-type battery that is used at night to run up to four energy-efficient light bulbs and a black-and-white TV or a radio for four to five hours a day—approximately equivalent to consumption of 0.5 kWh of grid electricity per day. Systems ranging from 20-watt-peak (for lighting alone) to 200-watt-peak (for schools, meeting halls, or higher-consumption households) have also been used successfully.

Solar home system units offer a fast and least-cost means of providing decentralized rural electrification in two “ niche “ markets: (a) where the grid may be nearby, but consumers are dispersed and the load density is low, making grid extension to individual consumers expensive, and (b) where the grid is more distant and is not expected to be extended soon. In these two markets combined, the economic potential for solar home systems in Indonesia is estimated at more than 5 million of the approximately 30 million rural household that lack grid supply .

Solar home systems also offer (a) superior quality and quantity of light, compared with kerosene lamps, along with absence of indoor fumes, pollution, and fire hazard associated with such lamps, (b) no need to haul battery to a central charging facility, and (c) environmental benefits. One

environmental problem, that must be dealt with in all solar home projects involves ensuring proper disposal or recycling of batteries.

Successful programs require two main ingredients: (a) paying proper attention to program development, for example, initiating surveys of renewable energy resources, carrying out project identification and preparation, and investing in education and training, and (b) creating good enabling conditions through economically efficient pricing, credit, and tax policies.

Program Development

Establishing a program involves significant effort. The first task is to survey solar and wind resources. Such surveys have long been carried out for hydro programs, as geological and engineering investigations have usually been carried out for many potential sites, and data on river flows have been collected for several decades, but they are rarely available for solar or wind energy. In addition, a program of field tests of equipment with a fairly substantial number of consumers (often several thousand households) will be necessary not only to justify the investment in the equipment, but to establish supporting maintenance services and to monitor progress.

As with any new area of investment, issues arise in connection with risks and uncertainties. In the field of renewable energy, some of the questions raised are at a quite elementary level. For example, some projects designers may not even have assessed the level of solar, wind, and biomass resources, while potential consumers are often not up-to-date on technical developments, costs, and how similar projects elsewhere have performed. The predisposition of institutions to resist change is also a factor that widely impedes new investment and initiative.

Another major task is to familiarize professionals in the electricity industry engineers, managers, financiers, regulators with the new possibilities. Expanded education and training, including visits to operating projects, may help to change negative perceptions and aid the development of investment programs. Beyond this, the facilities and curriculums of universities and technical colleges may need to be developed to provide appropriate education and training.

The financial requirements needed to develop programs, identify and prepare investments, and provide education and training are generally small in relation to the costs and benefits of the investments that eventually emerge. As with the development of programs using more traditional renewable energy forms, such as micro-hydro schemes and sustainable ways of using fuelwoods, the participation of nongovernmental organization in project development can be beneficial. Bilateral aid organizations and nongovernmental organizations, often working in collaboration, have also been influential in establishing pilot schemes and offering education and training to engineers and technicians from developing countries. The many applications of PVs in developing countries owe much to such efforts.

Prices

For rural areas both peak and average costs are sometimes twice the marginal costs of electricity supplies in typical urban situation. If new renewable energy technologies are to succeed as an economic alternative to conventional power plants and to grid electrification in rural areas, then as chapter 4 emphasized, the electricity industry must adopt cost-reflecting price policies. Such pricing policies include time-of-data and seasonal, as well as regional, variations in prices .

Given the high costs of meeting peak demand and the declining cost of PVs, several European countries, Japan, and the United States are now conducting trials on the use of PVs to supplement peak loads. These trials include “ net metering “ arrangements such that small users can sell surplus power to the grid. Aside from the cost advantages, the relevance for rural areas and towns is that decentralized generation reduces line losses and voltage drops and provides a backup source of supplies in the event of line failures.

Credit

As with some other forms of rural energy, the initial cost of acquiring the equipment constitutes a significant barrier to the widespread adoption of renewable energy sources. The development of innovative financing schemes, including supplier credits and leasing arrangements, is thus a critical element of any renewable energy program. Those who have studied the credit problem closely have concluded that subsidies are not needed, at least for small-scale applications, for which renewables are competitive.

Taxes and Subsidies

In recognition of their positive externalities (of innovation) and their environmental advantages, one can make a good case for exempting renewable energy technologies from or at least substantially lowering taxes and duties, while at the same time taxing conventional energy industries supplies in accordance with standard principles of tax policy. Experts have also long argued in favor of imposing corporate and sales taxes on electricity on the grounds that it is a fairly price inelastic product. In practice, however, governments have typically pursued the opposite policy, namely, of not only exempting electricity from taxes, but often subsidizing it, and imposing significant taxes on renewable energy equipment¹¹.

There is, furthermore, an economic case for providing public financial support for renewable energy technologies in program development, demonstration, education, training, and monitoring, in recognition of their positive externalities and environmental advantages.

¹¹ See Cabraal and Cosgrove-Davies 1995, who report that in Sri Lanka, import duties added some 30 percent to the costs of PVs. Kenya also has duties and taxes on PVs while subsidizing electricity to encourage local manufacture and assembly.

This is the rationale behind the Global Environment Facility's (GEF's) financing of renewable energy: during 1991 – 94, the GEF financed renewable energy projects in eight countries that included PVs, wind power, and micro-hydro in India and biomass for power generation in Brazil (the GEF quarterly operations reports provide more details). Twenty-five renewable energy projects are currently under review or in various stages of preparations and appraisal in twenty countries.

At the national level, financial support could come either from public revenues or from user charges or surcharges on the use of fossil fuels. The latter has the advantage of making the programs less dependent on public financing. A good example is the United Kingdom's "noffo" or non-fossil-fuel obligation program, which applies the revenues from a small surcharge on electricity to support the winners of competitive bids to supply electricity from renewable energy sources. Several similar schemes exist in Europe, Japan, and the United States, all of which have active public programs to develop renewable.

Cooking Fuels

Toward More Sustainable Supply and Use

As incomes rise, rural and urban households gradually shift from using dung, crop wastes, and wood for cooking to modern fuels, such as liquid petroleum gas (LPG) and kerosene. Households in rural areas and lower income urban households rarely use electricity for cooking. Given that people will be suffering for many years to come, policies should focus on (a) improving the efficiency with which fuels are used, (b) promoting more sustainable ways to supply fuels, and (c) facilitating the transition to the use of modern fuels for cooking .

Improving End-Use Efficiency with Biomass Stoves

The modern biomass stove is an important development for the millions of people who have ready access to low-cost biomass, but who cannot afford more expensive modern fuels. The fuel savings, often as much as 30 percent, reduce cash outlays, diminish the time spent collecting fuel wood, decrease smoke by improving combustion and the use of flues, thereby reducing the worst health effects of fuel use (see the figures on Brazil in table 2.1), and reduce pressures on scarce wood resources .

Developing-country governments, donors, and nongovernmental organizations (NGOs) supported programs implemented in the late 1970s and early 1980s, and commonly assumed that their benefits were self-evident. They believed that people would adopt the improved stoves quickly, and that the initial promotional programs would lead rapidly to self-sustaining markets in the new products. Hence, most early efforts focused only on dissemination, and were oblivious to local customs, the economic setting, and the availability.

1.3- Natural Resources¹²

Lessons learnt from past Bank Natural Resource Management (NRM) activities confirm the strong relationship between resource degradation and poverty. For one thing, natural resource degradation significantly increases the level of poverty. For another, the lack of income sources for investments in natural resource management by the poor often leads to increased resource degradation. For the most part, though, these resource-degradation phenomena can be attributed to either market or government failures. The following are brief summaries of the extent of the degradation of four of the principal resources (land, water, forests and biodiversity). Also, included are projections relating to the effects of climate change.

Land

Most of the land available to meet current and future food requirements is already in production, any further expansion must necessarily involve fragile and marginal lands. This is particularly so in developing countries where population growth is high, poverty is endemic, and existing institutional capacities for land management are weak.

Only about one-third of the world's land is generally suitable for sustainable arable cropping, with perhaps another third suitable for sustainable rangeland use. Land that is not really suitable for agriculture requires intensive labor or maintenance (as on slopes), or is highly prone to erosion, (steeply sloping), or is not amenable to mechanization (too stony, too steep). On these lands, agriculture may be feasible for a few years by people lacking alternatives, after which the topsoil will be lost or exhausted and the land will be abandoned. For these reasons there is a severe limit to the expansion of the land area suitable for agriculture. At the same time, some suitable land is being lost in an irreversible manner by degradation. !

The sources of market failure involved in such degradation are several. Insecure property rights in the land resource is a major problem in many countries (such as Ethiopia), whereby the usual custodial roles of farmers are compromised by an obligation to have exceedingly short planning horizons in their use of the land. In more arid areas where pastoralist may be a dominant land-use, and where regulatory controls are limited, similar situations contribute to processes of desertification. Failures to produce sufficient public goods in the form of better understanding of such processes are yet another source of market failure. Externalities associated with practices of farmers high in a catchments, with disregard for the downstream consequences of their actions for other farmers and other water users, is another important source of market (and sometimes too government) failure frequently encountered. Such diverse sources of market failure provide scope for cogent policy analysis and intervention, as is also noted for the other resource categories discussed below.

¹² , Rural development, natural resources and environment, the world bank

Overall current trends indicate that land has become a limited natural resource, and that it is being rapidly depleted. This depletion is still only moderate in AFR and LCR, strong in EAP, and severe in MNA and SAR. In three of the regions, land that is not suitable for sustainable agricultural production is currently being cropped, or will have to be cropped in the future. While AFR and LCR have still much land that could be brought into cultivation, major investments and socioeconomic changes would be required to convert those lands to arable farming, and due account must be taken of the environmental costs of any such conversion. Many such lands are forests or wetlands with significant option value for their biodiversity and other environmental (including global climate-related) values, and therefore they are candidates for conservation rather than conversion to agricultural land.

The review of regional land-use developments indicates that the situations in EAP, MNA and SAR call for major interventions to reduce further degradation, and that massive food imports are the only alternative to meet current and future demands.

In areas with marginal agriculture but where cropping could improve the prospects for economic returns to land management investments by farmers thus reducing land degradation. But on lands where agriculture will be unsustainable in the long run, non-farm employment and income generation programs will be required. At the same time, strong intensification of production in favorable areas is an effective way to increase food security and, in areas where most suitable land is already used, is the only real food-supply option, in addition to international food trade.

In AFR there is still adequate and suitable land for agriculture. However, there is the problem of inaccessibility, and constraints to settlement due to climate and diseases. The situation in EAR indicates that the region as a whole is close to utilizing all suitable land for cultivation and that since population distribution and activities are not homogeneous, increasingly, land is being cultivated in manner that is ecologically unsustainable.

LCR is, of course, a highly heterogeneous region. It's the relative size of South America means that it rather dominates Central America in the regional picture, although the degradation problems in the latter are typically more severe.

Water

Water is the key ingredient for life, and its interaction with land and forests provides the refuge for all terrestrial species. Water use is often categorized as agricultural, domestic, or industrial. In recent years the environmental use of water for aquatic habitats has become important. Water is distributed across countries and regions very unevenly. At one extreme, LCR with only 8% of world's population is endowed with 34% of the world's total renewable water resources, while at the other extreme; SAR with over 20% of the world's population has only 5% of the renewable water resources.

An increasing number of countries are suffering from water stress (insufficient water supplies for sustainable use) as population's and aquifers are exploited at faster rates than they are replenished. Water scarcity leads to increased competition between sectors and increases the potential risk of damage to ecosystems from which water is withdrawn and where return flows are discharged. This situation rises as follows:

- Water is becoming a more and scarcer resource in many countries, with growing demands and increasing competition across sectors and uses. With rapid growth in urbanization and industrialization in most developing countries, there is an increasing pressure to transfer water from agriculture to these sectors.

- Water allocations to environmental sector, which received little attention in the past, are expected to increase with growing recognition of the need and benefits of water in this sector.

- Despite the expected large growth in water withdraws for the above sectors, agriculture will remain the dominant water user in most developing countries.

- Pollution due to return flows agriculture, municipal and industrial uses, as well as other wastes deliberately disposed or caught by floods, has begun to show far-reaching health impacts with serious economic and ecological implications .

- Agriculture is expected to rely increasingly on treated wastewater and agricultural drainage water which puts the rural community at the forefront of environmental and economic risk.

- Water logging and Salinization are long-term problems that cannot be treated adequately through the time frame of ordinary project cycles.

- Economic incentives important as methods for addressing the twin problems of water scarcity and deteriorated quality.

- Climate variability becomes and institutions for improved management at supplier and sure levels will become increasingly an important factor, affecting both the supply and the demand for water by the various sectors.

Agriculture is the largest single user of water, accounting for 74% of the total amount withdrawn in 1995. Irrigation increases agricultural productivity and was a primary factor (along with high-yielding varieties and fertilizers) in the success of the Green Revolution from the 1960s to the 1980s.

It is pertinent to pose the question; can today's rural development challenges be met through a second Green Revolution? The countries most in need of help no longer enjoy the surpluses of water that characterized the period of the initial Green revolution. The opportunity cost of irrigation water is much higher today, not only because of scarcity within the agriculture sector, but because of much higher competition from other sectors vying for the use of the same water. Projections indicate that water withdrawal for agriculture will

not exceed 67% of the total water supplies in 2025. The biggest challenge will be to increase agricultural productivity with less water available for irrigation.

Environmental impacts of irrigation water are significant, and there are enormous potential payoffs from improved environmental management. Water logging and Salinization are the most pervasive threats from irrigated agriculture, about 80 million hectares of the world's irrigated lands suffered from Salinization by the late 1980s. Discharge of saline effluent from irrigated lands have causes serious downstream environmental problems (as in the case of the Aral Sea Basin and Indus Basin).

As agriculture is forced by other sectors to reduce its use of freshwater supplies, reuse of treated wastewater and agricultural drainage water will continue to increase. In Jordan, 20% of the irrigation water is treated wastewater with a potential to increase to 60% by the year 2025. Egypt reuses about 7 billion cubic meters of agricultural drainage water in irrigation. This trend involves economic, environmental and health risks due to the high contents of salts, nutrients, sediments, agricultural chemicals and pathogens.

Since water is critical for human survival, it can be characterized as a public good, and public authorities in most countries have assumed central responsibility for its overall management. Reliance on market forces a swindle that will not yield satisfactory outcomes. At the same time, however, government actions often cause serious misallocations and waste of water resources three problems related to government activities are of particular concern: (a) fragmented public sector management that has neglected interdependencies among government agencies and jurisdictions (b) reliance on overextended government agencies that have neglected financial accountability, user participation, and pricing while not delivering services effectively to users and to the poor in the particular, and (c) public investments and regulations that have neglected water quality, health, and environmental consequences .

Problems related to scarcity of water resources continue to increase. Policies for development of water resources are also undergoing change. The current environment for water resources policy can be captured by the following key observations:

- The growing demands for fiscal austerity in most countries have stimulated interest in least-cost alternatives for meeting water needs,
- There is heightened public awareness and concern about the environmental impacts related to the construction of hydraulic infrastructure. Particularly dams, and
- increasing competition by various sectors for scarce water resources adds further pressure to water development decisions.

These changes have caused a fundamental shift in the way that water resources development is considered a shift from relying on construction, as a means for solving water needs to a reliance on improved policies and management as the solution. The strategy of achieving substantive improvements in water-use efficient and water quality through better policies

and management relies heavily on detailed knowledge on which management decisions can be based, and on a system of management, which can implement the decisions taken. Most developing countries are markedly deficient in both respects. Information needs for effective management include data on how water is presently used, interactions between water-use sectors and users along a watercourse, equity/poverty considerations, conditions of water supply, Accurate and timely forecasts of meteorological events, alternative institutions for water management (e.g., basin planning organizations and water markets), and conditions requisite for their effective operation. Management needs include the institutional structures (policies, organizations) for implementing water management and also the governance resources for reforming the existing institutional structures.

Forests

Forests, woodlands, and scattered trees have provided humans with shelter, food, fuel, medicines, building materials, and clean water throughout recorded history. Forests have recently also become sources of new goods and service including pharmaceuticals, industrial raw materials, recreation and tourism. Forests regulate water quality by slowing soil erosion, and filtering pollutants, and they help regulate the timing and quantity of water discharge. In addition, protection of forest, a forestation and reforestation also play very important roles in preventing and reducing land degradation.

Forests cover about 25% of the world's land surface, excluding Greenland, and Antarctica. Global forest cover has been reduced by at least 20% since pre-agricultural times and possibly by as much as 50% forest area has increased slightly since 1980 in industrial countries, but has declined by almost 10% in developing countries. Tropical deforestation probably exceeds 130.000 km² per year, and perhaps the greatest threats to forests currently are conversions to other forms of land use. These include fragmentation by agriculture, Logging, road construction and mining. Mining is notably responsible for opening up intact forests to pioneer settlements, and to increases in hunting, poaching, fires, and exposure of flora and fauna to pest outbreaks and invasive species.

Although human actions have caused the world's forest cover to shrink significantly over the past several millennia, precious measurements of this shrinkage are difficult to make. FAO in its 1997 forest assessment attributes the principal causes of forest loss in the various regions of the world as follows: a) Africa – the expansion of subsistence agriculture under pressure from rural population, b) Latin America – large scale cattle ranching, clearance:

- Facilitating access to credit for beef cattle, mechanized agriculture, and large-scale forest and tree crop plantations in areas with substantial natural forests promotes forest conversion and provides limited long-term local employment.

- Reducing poverty at the forest margin through improved market access, technology, and credit supply can potentially increase forest conversion by attracting migrants to the forest frontier.
- Agriculture research and technology transfer will tend to encourage forest conversion when it promotes innovations that are : a) capital intensive, b) applicable to agricultural frontier situations, c) for export products, and d) used by farmers who face few labor or capital constraints .
- Irrigation investments and infrastructure and support services for labor-intensive fruit, vegetable, dairy, and flower production outside frontier regions can offer alternative sources of employment and reduce migration to agricultural frontiers.
- Policies favoring small-scale agriculture in areas with little natural forest can discourage migration to the agricultural frontier. Forest fragments and planted trees in these areas often provide substantial environmental services and forest products.
- Eliminating fertilizer subsidies in regions where they influence farmer's decision whether to use more or less land-extensive cropping systems can lead to greater forest clearing.
- Directed settlement not only leads to forest clearing but also rarely appears cost effective in the medium-term. In the longer term, it may raise small farm incomes and regional production. Long-term effects on land concentration and the sustainability of local agriculture vary.
- Uneven land distribution associated with production systems that provide limited employment may encourage poor rural families to migrate to forested areas. Under these circumstances, providing tenure security will only lock in existing inequalities.
- Poorly designed agrarian reform policies can endanger forest remnants on large landholdings by either stimulating large landowners to remove forest or transferring land to smallholders under conditions that induce them to do so.
- Tenure security promotes long-term investment. Whether this favors forests depends on what producers invest in. They may either invest in planting trees and managing natural forests or in converting forests to agricultural use. Making forest removal an explicit or implicit precondition to obtain ownership security promotes that activity.
- Land taxes favor reforestation, conservation, and intensive land uses over extensive agriculture can promote sustainable land use, but are difficult to implement and most countries exempt smallholders from payment
- Recognition of indigenous territorial rights reduces pressure on forests, at least in the short term. These groups lack the means to engage in highly destructive agricultural and forest activities and may refrain from doing so due

to cultural factors and local regulatory norms. Nevertheless, timber sales to external purchasers can lead to forest degradation.

Asia – pressure from subsistence agriculture and economic development schemes, equally growing road networks are a prime cause of forest fragmentation, resulting in two significant areas of impact: a) the direct effect on species biodiversity by diminishing the amount of natural habitat available, blocking migration routes, providing avenues for invasion by non-native species, and changing the microclimate along the remaining habitat edge, d) the indirect effect by providing access for hunting, timber harvest, land clearing and other human disturbances that further change the characteristics of the local ecosystem .

In addition to outright conversion and fragmentation of forests, a third human-related pressure is fires. Wildfires are a natural and necessary phenomenon in many forest ecosystems, helping to shape landscape structure, improve the availability of soil nutrients, and instantiate natural cycles of plant succession. In fact some plant species cannot reproduce without periodic fires. The human-related fires, however, greatly exceed naturally occurring fires in their frequency and intensity. Some are set intentionally for timber harvesting, land conservation, or shifting agriculture. Fires also result from disputes over property and land rights.

There is no single answer to the question as to what causes deforestation and forest degradation. Due to the complexity of the issues, the indirect nature of many of the causal relations involved and the wide diversity of situations, it is difficult to generalize. However, in many cases, inappropriate policies and market failures often lead to inappropriate forest clearing and degradation of forest resources as well as increased poverty. Often those who use the forest, or who cause negative impacts do not have to pay, or pay too little for the use of this resource or for the damage they cause. Governments have often not been effective in introducing economic and institutional (regulatory) measures to tackle market failures.

Despite significant resource flows, international concern, and political pressure, the potential of forests to reduce poverty, realize economic growth, and be valued for their contributions to the local and global environment has not been realized. A combination of market and institutional failures has led to forests failing to contribute as significantly to rural incomes, economic growth, or the local and global environment as would be possible under good economic and technical management. Instead, the forest sector often demonstrates the failure of markets and governance to capture the full value. Forests have often been disregarded in economic policy or considered a resource to be plundered for short-term gain and at the expense of rural people who depend on forest resources for their livelihoods. It is not surprising that forest policy has become one of the most controversial and heated issues in development.

Biodiversity

Biodiversity lies at the heart of sustainable agricultural systems. Agriculturists have created an impressive storehouse of knowledge through the development of landraces – genetically distinct varieties of crops – and complex techniques to select store and propagate valued species. The Tzeltal Mayans of Mexico for example can recognize more than 1.200 species of plants that can be used for agricultural, medicinal and spiritual requirements. In the soil, a wide range of organisms from fungi to beetles provide nutrient cycling and the fertility crops require, while flying insects, bats, and other species perform essential pollination services and help protect crops from increases in pest populations.

The findings of a study entitled the “Global Biodiversity Assessment“ suggests that the earth contains some 14 million different species, the majority living in tropical forests and marine systems. Despite recent significant investments in biodiversity studies, it is believed, that decades, if not centuries, of further research will be required to provide anything more than the most rudimentary level of information regarding these species. Existing knowledge, however, provides some measure of appreciation of the extent of the diversity that exists, for example, roughly 3.000 bacteria have been scientifically described (although a recent study of one gram of forest soil in Norway uncovered 5.000 seemingly different species), and barely eight million species of insects even have a scientific name .

While our knowledge of nature’s diversity is extremely meager, there is enough evidence that this heritage is being rapidly eliminated, with adverse consequences for natural products and sustainable use for economic activities. There is evidence of an “ extinction momentum “ in the earth’s biodiversity with present rates of loss in the range of one to then thousand times higher than historical rates. For example, 12% of all mammals and 11% of all bird species are threatened with extinction. Also, 52% of freshwater fish species are declining, while only 11% are increasing. With regard to habitat degradation, there is evidence that 58% of the coral reefs are degraded, and over 80% of he world’s mangroves have disappeared, While 50% of all wetlands have been lost.

It is important to recognize the root causes of biodiversity and habitat loss, and the relationship between specific socioeconomic factors and the environment. The consensus is that these root causes may fall into the following five categories: a) demographic changes, b) poverty and inequality, c) public policies, markets and politics, d) macroeconomic policies and structures, and e) social change and development. It is important to emphasize that the losses, generally speaking, are occurring at the local level. They result from such things as farmers clearing trees for new land to plant crops, timber companies opening forests for logging, and hunters gathering game meat for urban markets. In various ways he factors listed above lead to loss of biodiversity essentially because the value of biodiversity, to the global society and the national society, is not recognized sufficiently by market forces. In other words, those who make decisions affecting biodiversity (farmers, logging companies, etc.) do not consider the loss as part of their cost. This market failure (e.g., conservation) in some cases, national

government is reluctant to bear a high cost on behalf of the global community or on behalf of future generations.

In the area of agricultural biodiversity, which is of primary importance for agricultural growth and productivity, the past century has seen an erosion of the genetic resources needed to sustain agricultural production, leaving the world's food supply more homogeneous and vulnerable to pests and diseases. Of the world's major food crops, just three – rice, wheat and maize – account for 60% of the world's caloric intake. The tremendous gains in yield since the Green Revolution have come at a cost of greater dependence on fertilizers and pesticides, reduced diversity, and reliance on a narrower gene pool.

Climate Change

With regard to agriculture and climate change, evidence shows that the past two decades have been the warmest in the past 100 years. Climate change caused by human activities (primarily burning of fossil fuels, deforestation, and agricultural activities) is already occurring, and further climate change is inevitable.

There is evidence that manmade greenhouse gases have probably already contributed most of the observed warming over the past 50 year. Unless concentrations of these gases are stabilized, the probable rise in their concentrations in the atmosphere could mean:

- Severe water stress in the arid and semi-arid land areas in Southern Africa, the Middle East and Southern Europe.
- decreased agricultural production in many tropical and subtropical countries resulting from increases in temperature.
- Higher worldwide food prices as supplies fail to keep up with the demand of an increasing population,
- increased vector-borne diseases, such as malaria, in tropical countries,
- Major changes in the productivity and composition of critical ecological systems, particularly coral reefs, and forests, and
- Increased risk of flooding and landslides due to rising sea levels and increases in rainfall intensity in coastal areas.

Predictions that climate change will mean severe flooding of coastal areas, an increase in storms and heavy rains in some regions and more rapid desertification in others have enormous implications for agricultural productivity, Water resources and natural ecosystems.

Investments in programs for better management of these and other major climate change effects should be in three key areas : a) mitigation of greenhouse gas emission, b) reduction of vulnerability and adaptation to climate

change, and c) capacity building to promote and implement these interventions .

1.4- Gender in Rural Development¹³

The critical role of women in producing food, nurturing future generations, and furthering development in general has been increasingly recognized. Over the past decade countries have paid much more attention to women's issues. Recently, women's issues have been the focus of the Social Summit, the United Nations World Conferences for Women, and the World Food Summit.

Improving conditions for rural women should be a central objective in all the work we do, rather than an add-on or a special project. Bank policy is to integrate gender concerns into all policies and programs. In some cases targeted gender programs are necessary. But more carefully gender-sensitive planning and implementation is the key to ensuring that the concerns of both men and women are fully understood. Our work in this area is still inadequate, but improving:

- Participatory methods for gender analysis are being used to ensure that gender concerns are reflected in poverty assessments and sector studies. Participatory poverty assessments have proved to be particularly effective instruments for understanding the gender dimensions of poverty and how women are affected by periods of economic stress. Countries where poverty assessments have directly addressed gender issues include Argentina, Benin, Brazil, Kyrgyz Republic, Morocco, Poland, Russia, Vietnam and Zambia. An example of a sector study is the Morocco Sector Study on Integrating Women into Economic Development.
- Gender makes a difference. Women account for more than one-half of the labor required to produce food in the developing world, and about three-quarters in Africa. African women perform about 90 percent of the work of collecting food crops, and nearly all the work of collecting water and fuel wood for cooking. In Africa 80 to 90 percent of the female labor force is engaged in agriculture. In other parts of the world many women participate without being counted.
- Yet in many countries women cannot own or inherit the land on which they work. Women often have difficulty obtaining seeds, fertilizer, credit, technical information, or access to markets. Thus in many countries women smallholder farmers are the under performers in agricultural production. We know from research that women are at least as productive as men, when some limitations are removed.
- There is strong evidence that women spend their additional income on investments in family welfare, thus having potentially greater immediate and long term impacts on poverty than increased earnings for men.
- Many CASs now incorporate gender concerns. While gender issues are a concern in all sectors, the CAS addresses gender issues within an overall development strategy. Recent CASs directly incorporating gender issues include those for China (with a focus on poverty alleviation), Indonesia (poverty and health) and Bangladesh, India, Pakistan, and Sri Lanka (the participation of women). In the Africa

¹³ Reaching the rural poor: a renewable strategy for rural development", the world bank

Region, efforts are being made to include three key constraints facing women in all CASs.

- In agricultural projects women's concerns are being addressed in many ways. For example, in India three agricultural projects worked with local women's groups to improve women's access to scarce land resources. In Africa, through the Structural Adjustment and Gender in Africa Initiative, ministries of agriculture are being trained in how to incorporate gender dimensions into the selection, design, and implementation of agricultural projects.
- In agricultural research women-friendly technologies are being promoted in many parts of Africa. For example, in Kenya and Uganda the Bank is supporting the development of improved techniques for growing vegetables near houses, simple, lighter-weight tools for weeding and harvesting, and improved village-level food processing techniques. A special effort is being made to elicit women's views in determining production constraints and, consequently, research priorities. Women are represented in the formal research program review committees of research centers and institutes.
- In rural education, health, nutrition, family planning, water and sanitation, women are generally involved in project planning, design, and execution. Projects designed with extensive input from women's groups include
- Agricultural extension can significantly accelerate the adoption of improved technology. Private entities commercial input suppliers, industry and trade organizations, commodity and farmer groups, and management consultants – are actively involved in seeking out new technologies and providing potential end-users with appropriate information. However, where the private sector neither does nor provide all stakeholders with relevant information – as is often the case for small farms and the poor – the public sector must help finance this activity.

Since the mid-1980s the World Bank has invested heavily in agricultural extension. In Africa, where the Bank has been especially active, a key objective has been to reach smallholder farmers through the training and visit (T & V) extension approach. Efforts have been so successful that most countries in Sub-Saharan Africa have undertaken extension investment projects involving some form of T & V.

Labor-intensive extension services, however, have high recurrent costs for both personnel and field operations, although resources allocated to extension. Although resources allocated to extension are likely to generate high benefits, extension services must compete with other public services, such as health and education. For this reason concern is growing about the fiscal sustainability of many of the Bank-supported extension services.

To address the issue of sustainability, agricultural extension investment must be tailored carefully to fit not only the needs of agricultural producers, but the fiscal capacities of countries. Face-to-face services for smallholders will not always be feasible, and services have to be prioritized. Agricultural extension

must develop responsive systems capable of providing services to a diversity of farming systems, taking into account the quality and educational level of staff in national extension systems. Programs must also aim to transform traditional supply-driven, top-down attitudes in public sector extension services, creating services focused on strong participatory relationships with clients.

In Africa recent projects based on T & V systems are trying to address at least some of the common problems. For example, in the recently approved agricultural project in Cote d'Ivoire, staffing at the extension agency was substantially reduced, farmer organizations were given a larger role in extension programming and information transfer, the use of economic analysis and a whole-farm approach replaced the narrow message delivery system, and capacity for continuous monitoring and analysis was installed to enable program adjustments as necessary.

By the mid-1980s national agricultural research systems (NARSs) in developing countries employed 80,000 agricultural researchers and had annual budgets of almost US\$ 4.5 billion (1980 values) a level comparable to that of all the industrial countries combined. Nevertheless, the percentage of agriculture research in developing countries was only about 0.7 percent, which is much lower than the average of about 2 percent in industrial countries. Furthermore, expenditures per researcher have not kept pace with the growth in staffing. This is threatening the efficiency, effectiveness, and fiscal sustainability of many systems.

Sustained investment in national agricultural research is therefore essential. A key role for the Bank is to highlight the importance of investment in research during policy dialogues with national authorities. A second role is to help countries increase the payoffs to resources already committed to research by undertaking major institutional reforms to improve incentives to researchers and managers, by increasing the share of operating funds relative to salaries, and by improving the technical content of research. A third role is to mobilize local sources of funding for research through public sector support, private sector involvement, or farmer financing.

To ensure high quality and impact of research, it is critical to employ the best available scientists and provide them with appropriate incentives, routinely invite critical reviews of research programs by independent authorities, and establish stronger linkages between research and extension. It will also be vital to strengthen institutional capacity through better planning, priority setting, and evaluation.

Several potentially important participants in the agricultural research system have been insufficiently recognized as alternative suppliers of new technologies. These include universities, which often have access to highly-trained scientists but which have seldom been integral parts of national agricultural research systems, private companies selling technology for a profit, farmer organizations and cooperatives that might organize their own

research institutions or support research in other ways, and NGOs, which have become more important in all sectors over the past decade.

Key elements of a strategy for NARSs over the next few decades thus include:

- * Increasing the efficiency of the use of existing resources in public sector NARSs through improved management and incentives, better priority setting, and greater competition for research resources.

- * Building partnerships with universities, NGOs, farmer groups and the private sector.

- * Convincing policymakers to properly support public agricultural research that is adequate in scope and scale, maximizes its sources of nontraditional funding, had divested itself of responsibilities that can be undertaken by private entities, and operates efficiently.

1.5- Public policy puzzle¹⁴

In the past decade, there has been increasing recognition among development stakeholders that good governance is crucial for achieving sustainable development and poverty reduction, this recognition brought about improvement in many aspects of governance in general. However, the speed and impact of these improvements in governance has not been felt as much in rural areas due to the lower average level of education, the lower average qualification of civil servants, the smaller enforcement ability of governments, and more widespread traditions of paternalism. In general, several factors contribute to determine the quality of governance some countries.

Better processes by which governments are selected, monitored and replaced : More accountability and public representation, greater civil liberties, more political rights, better procedures for disclosure, and greater independence of the media, which serves an important role in monitoring those in authority and holding them accountable, lead to more effective public development activities .

Improved capacity of government to effectively implement sound policies: Such capacity depends on the quality of services provided by the public sector, the quality of the bureaucracy, and the competence of civil servants, and their independence from political pressures. Higher quality was achieved in many countries by adopting personnel policies based on merit, rules of conduct that entail checks and balances, and budgetary processes that limit waste.

Media and civic organizations have increasingly exposed and battled cronyism and favoritism, and have championed non-tolerance of corruption. All these improved the ability of a society to develop an environment in which fair and predictable rules form the basis of economic and social interactions.

Fiscal Decentralization is an Essential Component of an Improved Administration System

Financial responsibility is a core component of decentralization. If local governments and private organizations are to carry out decentralized functions effectively, they must have an adequate level of revenues – either raised locally or transferred from the central government – as well as the authority to make decisions about expenditures.

An adequate decentralization of resources is particularly important for rural development, as it is generally associated with a new increase in the amount of resources benefiting rural areas. Fiscal decentralization can take many forms, including : a) self-financing or cost recovery through user charges, b) co financing or co-production arrangements through which the users participate in providing services and infrastructure through monetary or labor contributions , c) expansion of local revenues through prosperity or sales

¹⁴ Reaching the rural poor, page 37 to 38

taxes, or indirect charges, d) intergovernmental transfers that shift funeral revenues from taxes collected by the central government to local governments for general or specific uses, and e) authorization of municipal borrowing and the mobilization of either national or local government resources through loan guarantees .

Political Decentralization

Political decentralization is also important as it leads to better accountability and governance reforms at the local level. Political decentralization aims to give citizens or their elected representatives more power in public decision-making. It is often associated with pluralistic politics and representative government, but it can also support democratization by giving citizens, or their representatives, more influence in the formulation and implementation of policies.

Political decentralization has a great importance for rural areas in light of the fact that the rural people generally have a weaker political voice. Decisions made with greater participation will be better informed and more relevant to diverse interests in society than those made only by national political authorities. The selection of representatives to know better their political representatives and allows elected officials to know better the needs and desires of their constituents. International experience has shown that when local institutions are empowered, existing democratic systems, they become more responsive to local development needs and more effective to local development needs and more effective at supporting a favorable business climate.

Chapter 3

Case Studies¹⁵

¹⁵ Rural development , natural resources and the environment, the world bank,

1.0- AZERBAIJAN: Farm Privatization¹⁶:

By: Thirumangalam Sampath:

Background

Reforming and restructuring the agricultural sector in Azerbaijan is vital for improving the standard of living of the rural population, which constitutes nearly half the country's total population. The agricultural sector claims and estimated 39% of the labor force, is responsible for about 10% of the country's GDP, and generates about 9% of total exports-from cotton, vegetables, and fruit. Increasing agricultural productivity is important, and will continue to be important, even if the depressed foreign exchange earnings from petroleum exports were to recover.

Traditionally, agricultural production was confined to collective and state farms, about half the total agricultural land (4.2 million hectares) is used for crop production. Three-quarters of this land depend on irrigation; the remainder was used for rain-fed agriculture and natural pastures. Since 1992, the Azerbaijani agricultural sector has undergone a major transition. Production declined by more than 30% immediately after independence, the use of agricultural inputs declined by 6% to 70%. Agricultural terms of trade deteriorated dramatically, and farm profitability had taken a downturn. To reverse these declining trends, the government of Azerbaijan took the initiative to restructure and privatize the agricultural sector, with the specific goal of having privatized 70% of the state and collective farms over the next few years. The Farm Privatization project was designed to: (a) help the government develop and implement suitable guidelines, procedures and policies for privatization of farms; (b) design better farm privatization procedures; and (c) provide replicable models for privatization in the rest of the agricultural sector.

Objectives

The goal was to restructure six state and collective farms, transfer land and non-land assets into private ownership and provide post-privatization support to allow the new units to operate as independent entities. This post-privatization support included titling, credit, creation of water user associations and improved infrastructure.

Description

Farm Privatization Support Services. This component provided essential support services for privatization at the national level and in the selected regions, or administrative units of Barda, Lankaran, Salyan, Sharur, Udjhar, and Khachmaz. It has two sub-components. The first subcomponent included a land registration system sub-component designed to provide an accurate, cost-efficient system for mapping and recording ownership and other interests

¹⁶ Rural development, natural resources and the environment, the world bank,20

in land to serve as a basis for the creation of a land market. The second sub-component included support services aimed at providing guidance and services to farm members in the state all collective farms through the privatization process.

Post-privatization Support for farms. This component consisted of three sets of activities. The first was to provide seasonal capital for funding the procurement of farm inputs, labor, fuel, machinery, transport, and marketing services on privatized farm machinery and rehabilitation and realignment efforts of on-farm irrigation and drainage works and other farm structures. The third financed inter-farm infrastructure.

The farm privatization process had many important features. It was:

- Voluntary. It was based on the farm members' decision to reorganize.
- Choice-driven. Farm members were allowed to decide which activities to undertake, to determine how to manage their newly acquired farm assets and to reconstitute themselves as individual farms, joint stock companies, holding companies, partnerships and lease holders. They also had the option to exit the project.
- Transparent. Farmers were able to trade entitlements, organize enterprise structures and resolve disputes in an open environment. Farm members received information, advice and guidance to help them make informed decision when privatizing and restructuring their farms.

Results on the Ground

Dismantling of the former state and collective farms. In this activity, a total of six former state and collective farms were dismantled; the land (along with land ownership certificates) was distributed to eligible farm members through a lottery system. A strong sense of private ownership has resulted, motivating new owners to maximize earnings from their newly acquired land.

Privatizing farm units. Land assets were transferred into private ownership with full immediate rights to engage in land transactions.

By the end of November 1998, 367,000 land ownership titles with clearly defined boundaries had been issued to private individuals, families, or groups of individuals. By the end of 1999, about 750,000 land titles were expected, thus completing the privatization of all the former state and collective farms (a total of 1,745) in the nation.

Establishing WUAs each of the six former state and collective farms now has a WUA operated by the farmers themselves to manage all water related issues, including cost recovery of operations and maintenance (O&M) for irrigation infrastructure.

Provision of working capital to newly privatized units. To date, almost US \$1 million has been disbursed, and the repayment rate is 99%.

Lessons Learned

A massive information campaign to farm informing them of their rights and opportunities and involving them in the restructuring process was a key success factor in this project. Strong political commitment from the top (in this case the President) was important for this program. The lottery system was perceived as very fair and transparent approach for creating ownership and support. Provision of credit and infrastructure (post-privatization) was critical to make the system operational after privatization.

Complete write off of old state and collective farm debts (which were not collectible in any case) was essential for the process to move forward. Complementing the privatization with a titling and registration system, whereby the new owners could actually see their land rights legally specified on paper, generated added commitment from the farmers and instilled confidence in the process.

Conclusion

This project is one of the few cases of real land privatization in the CIS. The privatization process was made completely transparent with the assistance of the project. Land was distributed to all eligible beneficiaries according to a transparent lottery system. Farmers were allowed to express preferences for groups having contiguous plots with self determined groups.

Land plots were physically demarcated and titles were distributed and land certificates indicating borders with coordinates were registered. Full land rights were transferred, including the rights to plant any crop and the right to lease or sell the land.

These new land rights immediately conferred a sense of ownership and led to significant increase in yields, despite continued difficulties obtaining key inputs and credits, as well as in marketing output. The strong commitment of the government at all levels, from the President to local region officials were particularly striking, a factor that has contributed to the success of the program.

1.1- MOLDOVA: Rural Finance Project¹⁷

Hoonae Kim

Background

Moldova is a small, densely settled country that relies heavily on agriculture. The Agriculture sector contributes about 42% of GDP and employs about half the total labor force. The country produced a variety of high value agricultural products including wine, fruit, and horticulture products. The government has taken decisive actions to: (a) stabilize the economy; (b) provide a supportive environment for the emerging private farming sector; and (c) advance land reform and farm restructuring. The number of private farmers is increasing rapidly. However, these newly emerging farmers and rural enterprises have difficulty obtaining loans from commercial banks due to the small size of the loans they request (with proportionately higher transaction costs) and the lack of fixed assets which can be used as collateral. Against this background, an Ida credit for the Rural Finance project (RFP) amounting to US \$5 million was approved in January 1998. The RFP has been designed as a learning and Innovative Loan (LIL) to test new ideas and learn from the experiences for future operations. The RFP was one of the projects that received the World Bank's Excellence Awards in 1999.

Objectives

The objectives of the Rural Finance project are to develop and test a cooperative rural banking system that would efficiently provide financial services to small private farmers and rural entrepreneurs. In order to achieve these objectives, the project has established Savings and Credit Associations (SCAs) and training their member with assistance of the Moldova Microfinance Alliance (MMA). Created a regulatory body for SCAs, strengthened the Rural Finance Corporation (RFC), and financed a rural credit line to SCAs. In conjunction with these components, the project is designed to create a self-sustaining microfinance system that can reduce the costs and risks of small-scale lending it rural populations. This is achieved through the activities of community-based organizations that screen loan applicants, ensure repayment, and mobilize rural savings.

Results on the Ground

A pilot program of the RFP started in December 1996 and by the end of 1997 the first set of seven SCAs were already created. The regulatory framework including statutes, regulations, financial prudential rules, eligibility criteria for loans and for savings have been developed based on international experience, existing local framework and a participatory approach of the first village association.

The pilot results were modified and improved and the RFP launched on May 1998. Since then, all legal and prudential regulations for SCA operations have been finalized, and against a target of 130 SCAs to be created by mid 1999. As of September 30, 1999 a total of 172 SCAs were established and

¹⁷ The last reference, page 56

operating. State Supervisory Body and Federations of SCAs have been established and started to receive critical institutional capacity building technical assistance (TA).

The IDA credit is on lent to SCAs through the Rural Finance Corporation (RFC), a non-banking financial institution. The RFC is fully farmer-owned and operates as a commercial entity with audited financial statements. In addition to the RFC, two private commercial banks have experimented with lending to SCAs, with one bank still holding outstanding loans to SCAs, with one bank still holding outstanding loans to SCAs.

As of September 30, 1999, a total of about MDL 15.3 million (about US \$1.5 million) was disbursed to over 152 SCAs with 9,800 members. An average loan amount per member in 1999 was about US \$180, with loan amounts ranging from as low as US \$50 to about US \$400. All loans made to date are for working capital for up to one year, with a balloon repayment in one installment at maturity. The RFC receives IDA funds at a nominal rate of 30% and on lends to SCAs at around 35%. In addition, the RFC has received a subordinated loan (convertible to equity) from the government at zero interest. This is being considered as a development subsidy to build institutional capacity and train staff. The RFC has already achieved a net positive profit (after income taxes), and its lending is expected to nearly double in year 2000.

The repayment rate of SCAs in 1998 was 100%, and the performance in 1999 is expected to be equally good. In one case, some members experienced minor problems but a SCA have repaid the loans from its reserve fund.

Moldova Microfinance Alliance (MMA) was established with donor funds to create and train SCAs. Since its inception, the MMA has been the principal agency that crated SCAs. In addition to the MMA and the RFC itself, a newly created Rural Development Center, and commercial banks are also involved in creation of SCAs. In limited cases, some villages created SCAs by themselves. The creation of SCAs from multiple sources re-emphasizes the need for a sound regulatory and supervisory institution. The State Supervisory Body (SSB) of SCAs has been designated to issue a license and also to regularly monitor SCA performance. The national Federation of SCAs has been created to voice and lobby for SCA interest. Both SCAs and the Federation need additional technical assistance; donor funds are being sought for this purpose.

One of the unexpected outcomes of the RFP to date is the voluntary participation by the Agroinbank and Fincembank. The latter discontinued its participation, but the Agroinbank remains an active lender to SCAs today. A donor had provided an exclusive partial guaranty to Agroinbank but not to RFC, resulting in an uneven operational environment for these lenders. This issue is being addressed at present.

The current financial state of the agricultural sector in Moldova is depressed, which partially explains the lack of savings by farmers. As a result, SCAs have

not been able to attract savings nor to make medium term loans. However, more proactive efforts are needed to mobilize savings, if SCAs are to be self-sustaining in a long run. IDA, donors, and other international financial institutions are exploring various measures, such as deposit insurance and other incentives to mobilize savings.

Lessons Learned

- The Moldova RFP is a variation of group-lending models that the Bank group has used in other countries. Each model should be tailored to a counters specific socio-economic needs and cultural traditions.
- Community based borrowing can work but it takes substantial initial learning curves to overcome to establish prudent borrowing disciplines and to train members about individual and group responsibilities.
- A clear legal framework for group borrowing, institutional statute, and prudential regulations are prerequisites for successful savings and credit operations. Also, it is imperative to establish an appropriate regulatory and supervisory body at the outset. This should not be left for project implementation.
- Group borrowing can be an attractive alternative for commercial banks to lend to small-scale clients to reduce transaction costs. Also, group borrowing based on social peer pressure can lead to high repayment rates, demonstrating that borrowers are willing and able to pay market rates.
- Establishment costs of SCAs are high; these are essentially a development activity which requires substantial grant financing for a least a few initial years before being able to achieve self-sufficiency. Savings mobilization will come only gradually and not until each SCA has adequate capacity to manage the funds and there are sufficient safeguards for savings. SCAs require continuous training and should be continuously monitored and supervised.
- In a LIL operation like the RFP, in order to maximize the results and impact, borrowers, donors and the IDA should be as flexible as possible and coordinate their activities.

Conclusion

The macro-economic and financial crises in Russia have had a negative effect on Moldova's financial markets, causing a 70% devaluation of the Moldovan Lei. But the RFC and SCAs both weathered the crisis relatively well. This is a direct consequence of prudent, risk adverse behaviors and built-in safeguards against default in the SCA system. The Moldovan experience demonstrates that, if well designed and implemented, group borrowing can be an effective way to deliver credit to small-scale borrowers. However mobilizing savings is more challenging and may require substantial efforts including additional measures such as a deposit insurance scheme. The group lending through SCAs can, and should, be done only at market rates which enables SCAs to offer attractive rates to encourage savings mobilization.

1.2- Turkey: Agricultural Policy Notes ¹⁸

John Nash

Background

Weaknesses in Turkey's agricultural policy framework-the price support system, associated trade policies, subsidies for input use, and credit subsidies-have the effect of creating distortions in economic incentives and have a negative impact on the fiscal deficit and associated macro-economic variables. In addition to other shortcomings, these policies also serve barriers to Turkey's integration into the EU economy.

While previous governments have recognized some of the problems created by these policies, reform has proven difficult. Support policies have traditionally been used by politicians as "goodies" to buy political allegiance, but subsidies and supports are captured mainly by large farmers: the Turkish Treasury estimates that only 10 percent of the benefits reach the intended recipients-poor, small farmers. Problems with the subsidy system were addressed in the World Bank's Agricultural Structural Adjustment Loan (ASAL) to Turkey in the early 1980s, but the recommended reforms were either not carried out, or reversed at a later date. It was not until 1997 that the new government agreed to the terms of a World Bank strategy to get the reform agenda back to track.

Methodology/Approach

The Bank focused its efforts on producing short, action-oriented policy notes addressing areas of greatest concern. These notes were intended to document the importance of reform and to suggest a strategy that would be practical, consistent with international best practice, and politically acceptable. These notes also outlined ways in which the World Bank could help support the recommendations.

Bank specialists studied each support policy area and made recommendations for phasing out the current subsidies and replacing them with support systems for farmers that was se-coupled from production levels. This exercise was neither as broadly focused nor as data-intensive as standard World Bank sector work. Rather, it was an action-oriented plan, aimed explicitly at the client. The policy notes fully supported the Bank's sectoral strategy outlined in the Country Assistance Strategy, which recommended:

- Continued lending only to small operations that had a direct impact on rural poverty and subsectors in which the policy framework was supportive; and
- Carrying out sector work to demonstrate the high costs of the current policies and help the government find acceptable alternatives.

Policy Results on the Ground

¹⁸ The last reference, page 42

During the initial exercise and in subsequent discussions, the government expressed definite interest in a project to implement the farmer registry which had been recommended by the Notes and to undertake a regional pilot program to eliminate some of the subsidies and substitute direct income support. In January 1999, the Turkish government prepared a project concept paper, the design of which is currently under discussion.

The policy notes were discussed extensively with the government and then presented in a public forum- a one-day workshop in November 1998, in which World Bank staff, Turkish government officials, and representatives of the Farmers' Union participated. While there was some good discussion and considerable convergence of views, the level of government participation was not high enough to generate widespread media coverage, public debate, or concrete policy decisions. The government and the Bank subsequently cosponsored a follow-up workshop in February 1999 for high-profile ministers and the deputy Prime Minister, which was widely attended and focused the attention of key policy-makers on a new approach to these issues. This event had extensive media coverage. Several regional workshops are currently under discussion to generate grassroots support for the reform program.

Lessons Learned

It is critical that the Bank expand its policy dialogue within the government to include not only the Ministry of Agriculture, but also other agencies with a broader mandate, such as the Ministries of Finance and the Economy. The reasons are simple; first, many of the main policy issues-reducing or eliminating subsidies and support prices, and restructuring and privatizing state-owned enterprises-are not exclusively the responsibility of the Ministry of Agriculture. Second, reforms that are expected to generate immediate budgetary savings may cause some large farmers to be worse off. As these farmers typically have political clout, they are likely to pressure the Ministry of Agriculture to oppose reforms and fight any changes in support mechanisms that render farmers vulnerable. The key economic ministries are important constituencies for such initiatives and can provide significant impetus for action in these areas.

It is also necessary to work with private sector representatives (and through direct discourse with the public) to convince the agricultural community that interests are not threatened. As a result of public discussion and education through the policy workshops, the farmers' union-the main private sector organization for farmers-has reduced its opposition to the principle of substituting direct income support for subsidies.

The bank should work closely with the International Monetary Fund (IMF) on important agricultural policy issues. The IMF often focuses on short-term expenditure-reducing measures. Good coordination with the Fund can have important benefits. First, it can include key reforms as structural benchmarks in its programs. Second, it is another important constituency for budget saving measures which are likely to be resisted by important agricultural interests.

It is important to demonstrate to policymakers and farmers that changes in the way subsidies are administered do not necessarily imply that all forms of support to farmers will be eliminated, while the policy notes suggest a number of changes in subsidy programs. Including a reduction in overall levels, the fact that alternative support strategies will continue makes the package politically palatable.

Conclusion

It is clear from this exercise that the process is as important as the final product. Under Turkey's current period of political instability, it is unlikely that any major new reforms will be carried out. Thus, the strategy of the World Bank the reform-minded elements in the current caretaker government were to focus on the dissemination effort and the pilot project until after the elections April 1999. Now that a new government is in place, the policy dialogue has begun again in earnest in the context of a comprehensive stabilization and structural reform program that could be supported by the IMF and the World Bank.

Chapter 4

Recommendations

Dear YES Leaders:

This chapter is your contribution in writing the toolkit, after you understood the strategic importance of the development in rural societies and the possible ways to create an enterprise development in this context.

Now we invite you to fill this chapter, in order to share with the YES family the process of writing a new success story. We will collect all the workshop participants' entries to create one general YES recommendation, in order to guide the world in the art of creating rural development.

All the best

Muhammad Abushaqra

Yes Family Member

1- In regard to aspects of the rural development, what are the positive regulations and facilitators in your country that support rural development? And why?

Regulation such as Low, culture orientations, behavior...etc.

2- In regard to aspects of the rural development, what are the negative regulations and obstacles in your country that support rural development? And why?

Regulation such as Low, culture orientations, behavior...etc.

3- What are the opportunities in your country that you assume are supporting rural development? And why?

Opportunities such as funding initiatives, international organizations aiming to foster rural development... etc.

4- What are the threats in your country that you assume are challenging rural development? And why?

Opportunities such as funding initiatives, international organizations aiming to foster rural development... etc.

5- What are the strengths of your country YES Network that you assume is supporting rural development? And why?

Strength such as adequate resources, human capital, management structure ... etc.

6- What are the weaknesses in your country that you assume are challenging rural development? And why?

Weakness such as shortage of resources, absence of human resources... etc.

7- Please, tell us if you have been inspired in YES Alexandria 2007 with any idea, and what are you going to do in order to implement it?

Share how you are going to implement in your country what you have learned in this forum and what are yours plans to move it forward.

8- Over here, a letter to yourself with your commitments after YES Alexandria 2007. We will collect it and send it to you in six months as a reminder. Don't forget to include your address...!

9- Did you get benefited from this forum, please tell us the positive and the negative points?

The negative points allow us to be better in the future, and the positive points give us the confidence in our methods and work. So please, be fair and judge the work done.

Annexes

Annex 1:

References: Bibliography?

1- Rural areas development planning; principles, approaches and tools of economic analysis, the World Bank Group,

2-Rural development and the environment towards ecological and social sustainable development in rural areas, World Bank

3-Rural development: from vision to action, the World Bank Group, 1997

4-Rural development, natural resources and environment, Edited by L. Alexander Norsworthy, 2000, the World Bank Group

5-Rural development: putting the pieces in place, the World Bank Group, 1996

6-Rural energy and the development: improving energy supplies for two billion people, the World Bank Group, 1996

7-Reaching the rural poor: (a renewed strategy for rural development)

8-Agricultural growth for the poor, by Csaba Csaki, the World Bank Group, August 2003

9-Rural energy and development, the World Bank Group, 1996

10-Themes for the third millennium, Dr. Ismail Serageldin, 1996

About YES Inc.

Let us be clear. Half-educated, unemployed youth, with no prospect of being integrated into a better future is a prescription for disaster. If young people do not have a stake in the existing social order and political order, if they do not feel there is a way for them, why should they sacrifice today for a better tomorrow? Why should they have an interest in protecting the stability and social safety of that system?

Ismail Serageldin Vice President, World Bank May 1999

On September 11, 2002 under the Co-Chair of Mrs. Mubarak and President Clinton, the Youth Employment Summit (YES) launched a Campaign to create a systemic approach to youth employment generation. YES was launched by over 1,600 delegates from 120 countries, including 45 ministers. Four years of global consultation culminated in five dynamic Summit days that led to the development of a concerted response to the problems faced by unemployed youth. In four years by the end of 2007 the Campaign had organized 3 Global Summits – Egypt, Mexico, Kenya and 2 Regional Forums – India and Paraguay; launched over 80 YES Country Networks, initiated more than 400 projects all over the world, and published more than 100 original publications.

YES Inc. serves the following objectives:

- (1) Build the YES Fund: Global Fund for Youth Entrepreneurship (Clinton Global Initiative)
- (2) Build Capacity of the YES Leaders: in over 70 countries to develop programs with YES Networks.
- (3) Organize the 3 remaining YES Summits: Azerbaijan 2008, (To be defined) 2010, Alexandria 2012.
- (4) Develop Youth Social Entrepreneurship programs: through the Institute for Youth Social Entrepreneurship, a partnership initiative between YES Inc. and Cambridge College.

Our Challenge – consider this:

- ⇒ World population has reached 6 billion. One billion are young people between the ages of 15 - 24 years, out of which 850 million are living in developing countries.
- ⇒ Estimates project that over the next three decades the global labor force between the ages of 15 - 24 will increase in sheer numbers by another 1.2 billion. Most of this growth will be in developing countries.
- ⇒ One of the greatest challenges facing the world is to generate productive work opportunities for the young people in developing countries and enhancing the skill level of youth in developed countries.
- ⇒ Out of 6 billion of us, 1.3 billion live on less than a \$1 a day, and 3 billion under \$2 a day.

Our Design Principles:

Three major principles underlie this mission.

First, the YES Campaign believes that every person is capable of leading and seeks to provide opportunities for youth to realize their leadership abilities. **Next**, the Campaign believes in the power of knowledge-sharing and is aware that many effective practices exist. The challenge is to identify these practices and to create opportunities for dissemination, replication, adaptation, and learning. **Third**, the YES Campaign strives to act as a catalyst that inspires fresh and innovative approaches

to human development by connecting critical stakeholders in the private and public sectors. The Campaign focuses on youth, the creative change agents of today, to drive this effort.

(1) Build the YES Fund – A Global Fund for Youth Entrepreneurship. *In today's world with burgeoning populations there are just not enough jobs in the private and public sectors. The YES fund will work to create markets and unleash entrepreneurship in developing countries by helping young people to identify business opportunities, prepare their business plans and compete for the best ideas. This fund will support young entrepreneurs to participate in the Business Plan competition and the winners will be provided small-scale risk capital, start-up funding, credit and loan guarantees, and innovative business development services to start their businesses.*

(2) Build the capacity of the YES Leaders: *To generate an in-country infrastructure of youth-led networks to disseminate information, develop programs, be advocates for innovative policies, and implement projects that promote youth employment and leadership. Currently there are over 80 YES Country Networks in various stages of development. They will be provided leadership and entrepreneurship training to help them develop the systems and partnerships needed to generate youth employment.*

(3) Organize the 3 remaining YES Summits (Azerbaijan 2008, TBD 2010, Alexandria 2012): *To continue to hold and maintain a burning focus on the issue of youth unemployment on the global agenda: we do this by convening stakeholders at our Global Summits which have been held in Egypt 2002, Mexico 2004 and Kenya 2006. The next one in 2008 is in Azerbaijan. At these Summits – the youth delegates meet with experts, donors, practitioners, and other stakeholders to develop program and policies that will help build in-country capacity to provide the education, training and other services needed by young people to find productive work.*

(4) Develop the Youth Social Entrepreneurship program *this program will provide the practical training and development services for engaging and inspiring young people to 'be the change they want to see'. It will take the lessons learnt and pathways unfolding through the work of the YES Leaders over the last 8 years to become a leading program for building the capacity of young people to be change makers. It aims to become a source for innovative and creative solutions for action in the social sector. All of the programs offered will have a theoretical and a project based approach to learning. It will be organized through the Institute for Youth Social Entrepreneurship a joint partnership of YES Inc. and Cambridge College.*

...All good ideas are pipe-dreams if not backed by committed leadership and investment – we are seeking yours. We have spent the last five years placing the issue of youth employment on the global agenda, making a call for action, building coalitions, and piloting good ideas. We need your help to move the Youth Employment Campaign to the next level to our shared passion for generating youth employment to the resources that can make it happen. We have uncovered bubbling youth leadership and drive; identified promising sectors for employment generation; enrolled world leaders; built partnerships; discovered quantifiable, innovative and practical solutions; and overseen the development of world-wide youth networks that provide the perfect vehicle for unleashing the talents and energies of youth to create sustainable livelihoods. With your active involvement we can make a world of difference in the lives of thousands of youth in developing countries around the globe. We invite you to make a difference

...After the final no there comes a yes and on that YES the future of the world hangs...”
~ Wallace Stevens (1879 – 1955)

Bibliotheca Alexandrina

The Bibliotheca Alexandrina (BA) is an Egyptian institution of international character, devoted to the promotion of enlightened values, good governance, and sustainable development in Egypt and the Arab world, as well as elsewhere in the world. The BA issues an annual report and audited accounts. It is governed by an international Board of Trustees, and is not part of the Egyptian Government. It is established by a special law (law No. 1 for 2001) that attaches it to the head of state.

The BA, the New Library of Alexandria, is dedicated to recapture the spirit of the original. It aspires to be:

- *The World's window on Egypt;*
- *Egypt's window on the world,*
- *A leading institution of the digital age; and, above all;*
- *A center for learning, tolerance, dialogue and understanding.*

To fulfill that role, the new complex is much more than a library. It contains:

- *A library that can hold millions of books;*
- *A center for the Internet and its archive;*
- *Six specialized libraries for (i) audio-visual materials, (ii) the visually impaired,*
- *(iii) children, (iv) the young, (v) microforms, and (vi) rare books and special collections;*
- *Three Museums for (i) antiquities, (ii) manuscripts, and (iii) the history of science;*
- *A planetarium;*
- *An Exploratorium for children's exposure to science;*
- *Three permanent exhibitions;*
- *Six art galleries for temporary exhibitions;*
- *A conference center for thousands of persons;*
- *Seven research institutes covering (i) manuscripts, (ii) documentation of heritage,*
- *(iii) calligraphy and writing, (iv) information sciences, (v) Mediterranean and Alexandrian Studies, (vi) arts, and (vii) scientific research;*
- *A discussion forum; and*
- *An Institute for peace Studies*

Today, this vast complex is a reality, receiving more than one million visitors a year, and holding hundreds of events every year.

About YES Egypt

Sustainable Development Association SDA, the YES Egypt host Agency, based in Alexandria, developed a long term Action Plan to engage the Egyptian youth in several activities in order to raise their capacities through the available opportunities all over the world. It has been made possible through creating or participating in long term partnerships as the Global Knowledge Partnership (GKP), which allows SDA to have direct cooperation with various leading ICT institutions, there are the Ministry of Information and Communication Technology, and the Egyptian Federation for youth, among others. We also need to mention that SDA/YES Egypt and other civil organizations established the Egyptian Youth NGOs Federation, and the Egyptian Youth Consultant Group for the National Youth Policy for Youth Employment with the Support of H.E. Mrs. Aicha Abdel Hady Minster of Manpower and Migration in

cooperation with the Youth Employment Network YEN/ILO and other various stakeholders.

This year 2007, SDA/YES Egypt has a plan to raise the awareness among students in the preparatory schools. YES Egypt Network is actually creating a structure between schools in Alexandria, where the university students and graduates will provide solid information about the job market opportunities and challenges, allowing the young generation can take its chances on solid bases.

Now that almost half of the YES Campaign Decade is over, this project is in its preparation stages to be launched in September 2007 in cooperation with the Ministry of Education. Additionally, thanks to the support of the World Bank Public Information Center, YES Egypt, is also launching the International Model of United Nation (AIMUN) in focus of Sustainable Development in countries emerging out of conflicts, followed by a mass capacity building program across Egypt, to inform youth about the World Bank opportunities, researches and the Global Challenges.

2008 and 2009 are appearing as good years, too. By the dates, YES Egypt is launching a program for young women from excluded areas to be informed and trained about ICT opportunities. This initiative has been approved by The Anna Lindh Foundation and Digital Opportunity Trust.

And in cooperation with the Anna Lindh Foundation, SDA/YES Egypt will host 2 major projects, the first one in July 2007 which is the water campaign (the BIG Jump) that aims to raise the awareness about water issues and environmental awareness, which is implemented in 6 different locations all at the same time in Jordan river , France, Spain , Italy and Morocco beside Alexandria which is implemented through the SDA

Another project which will be implemented in Alexandria next November 2007 titled (Crossroad of Cultures) with youth participants from Spain , Czech Republic , Turkey , Netherlands , Tunisia and Egypt to demonstrate a cultural festival in Alexandria, at the same time a big number of projects are implemented and going on within SDA members and Staff.

More than 200 SDA members have participated in wide number of projects and capacity building program in more than 30 countries since the establishment of YES Egypt. This is all a result of well established training tools and specialists to increase the knowledge amongst other youth in Egypt. In 2005, H.E. Mrs., Suzan Mubarak, First Lady of Egypt, honored the Euro-Med Youth Award from the European Commission, which one of prizes was won by SDA.

About SDA¹⁹

Sustainable Development Association (SDA) is a Non-Governmental Organization (NGO) based in Alexandria, Egypt.

SDA gives a hand to young people to let each encountered resistance to their goals, and overcame the tremendous odds against them to discover the new horizons of opportunities at local, national, and international levels. We work tirelessly for young people paving them the way for a better future. We were officially registered in 2003, and our board is considered to be one of the youngest and most dynamic in the country.

Our main objectives are to encourage and enable youth, by identifying the key problems facing them and their society, and to give them the necessary skills to address these problems. The organization complements the school and the family, filling needs not met by either. At the organization young people discover the world beyond the classroom. They develop self-knowledge, and the need to explore and to know more.

The SDA helps young people to develop intellectually and socially. The SDA is a challenge for adults as well. It is a way to improve understanding between generations. In the service of young people, adults receive valuable training and experience adding to their own personal development.

Our vision is to create a society in which young people play an active role, and in which their needs and desires are fully represented, respected, and achieved.

We see SDA as a dynamic, innovative social movement with good resources, simple structures, and democratic decision making processes in which organization, management and communication are effective at all levels, and work together to achieve our objectives.

Our mission is to contribute to the education of young people, and to help build a better generation in which young people are self-fulfilled as individuals and play a constructive role in society.

This is achieved by:

- Meeting the needs and aspirations of young people.
- Focusing on the distinctive contribution SDA can make to the education of young people, particularly through indirect and non-formal methods.
- Reaching out to more young people by encouraging participation.
- Attracting and retaining well qualified staff and consultants with experience in youth issues.
- Working with others to better serve young people, by enabling each individual to become the principal agent of his or her own development as a self-reliant, supportive, responsible and committed person.
- Assisting young people to establish a value system based upon humane social and personal principles.

¹⁹ www.sda-web.org

About the Author

Muhammad Mustafa Abushaqra

Muhammad M. Abushaqra, member of the Sustainable Development Association (SDA). He graduated from the faculty of law-English department, Alexandria University. Abushaqra, also, is a member in a group international institutes and networks that specialize in dispute settlement and ADRs (Alternative Dispute Resolutions) which include, the (ACI Arb) an associated member in the chartered institute of arbitrators, London, the (YIAG- LCIA) Young International Arbitration Group in London Court for International Arbitration. Abushaqra serves as a registered researcher in a number of international networks that care with development, international affairs and youth which include the Global Development Research Network (GDRN), the World Bank's Online Consultation Group for the World Development Report 2008(WDR2008) and the Youth Employment Summit (YES).

Abushaqra participated in a large number of voluntary activities like; the Peace for Development Forum (the Euro-Med and Suzan Mubarak International Peace Movement) in which he trained more than 150 youth in three Egyptian cities.

He participated in the Alexandria International Model United Nations (AIMUN2006) and awarded as the best delegate and the best presenter. He will be the secretary general of the AIMUN2007.

Abushaqra participated in organizing a number of local and international conferences like the launching of the Egyptian Human Development Report2005(EHDR) with the United Nations Development Program(UNDP), the World Development Report2007 (the World Bank) and the African Development Indicator2006 (the World Bank).

Abushaqra participated in a countless number of conferences and seminars concerning culture, law, dispute resolutions, sustainable development, international affairs, knowledge and philosophy,...etc, with a large number of international and local entities like; the international institute for peace studies, the Arab reform forum, the league of Arab states, the Cairo Regional Centre for International Arbitration (CRCICA), UNDP, World Bank, Bibliotheca Alexandrina, the Dialogue Forum, Egypt Culture Association, UNs office in Egypt.

Abushaqra is a member in three cultural centers, the British Council-Knowledge and Learning Center, the American Centers in Alexandria (2002-2005) and the French Cultural Center (2004).

Abushaqra is an Egyptian national born in Alexandria in 1986. He is single. He likes classical and POP music. His main interests are playing football and reading. He is tri-lingual Arabic, English and developing French.