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**The MDGs and Sustainable Rural Development in Sub-Saharan Africa:
Challenges and Implications for Education for Rural People (ERP)¹**

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¹ Statements, designations and country boundaries presented in this paper do not necessarily express any policy or opinion on the part of Food and Agriculture Organization of the United Nations.

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1. Summary

The vast majority of the human population in Sub Saharan Africa (SSA) is rural. In order to achieve the Millennium Development Goals (MDGs) a special effort must be devoted to promoting rural development and fostering better living conditions of the rural poor. In this respect, this paper justifies the need for a strong specific focus on rural people and argues that education is the most effective way to empower the rural poor to get out of poverty and to ensure that the MDG targets are met in SSA. The paper provides empirical data on the human development situation and trends for rural peoples of the region, explains the critical roles agriculture, food security and nutrition for the achievement of the MDGs, identifies key potentials and strategic challenges of sustainable agriculture and rural development, and highlights the important contribution of ERP for sustainable rural development and for achieving the MDGs. The ERP key contribution to poverty alleviation was also acknowledged by the *African Union Extra-ordinary Summit of Heads of State and Government on Employment an Poverty Alleviation in Africa (2004)*.

By common definition, **rural areas** comprise human settlements of less than 10 thousand persons, and the rural space is dominated by farms, forests, water, mountains and/or desert. Typically, **rural people** have agriculture as their main occupation, they are farmers, nomads, pastoralists, or fishermen; they deal with animal production, transformation and marketing of food and non-food products and services. Rural communities are diverse culturally, socially and economically. By and large, their labour is cheap because gainful employment options are limited, and many rural groups are marginalized. Usually rural people lack access to adequate basic social services because rural areas have low national priority and the rural people do not have political voice, especially the poor. This happens despite the fact that they are the majority of the population in developing countries and despite their critical role in determining food security and environmental sustainability, considering that agriculture is the primary interface between humanity and the environment.

Sustainable rural development is understood as a process of constant change and transformation of the rural areas, encompassing a wide scope of processes and programmes such as:

- Enhancement of governance at the local, district and provincial levels, including linkages with the private sector, civil society and government line agencies.
- Development of productive sectors: agriculture³, non-agricultural industry, mining, tourism, natural resources, environmental management, etc.
- Development of institutions and their capacities in key areas, i.e. education and training, health, research and extension, marketing, savings and credit, environment, transportation, etc.
- Development of rural infrastructure for roads, electricity, telecommunications, housing, water, sanitation, etc.

The goal of promoting rural development, particularly in developing countries, has been closely associated with the continuous, dynamic evolution of development models and approaches over the last 50 years, such as community development, small farm development, integrated rural development, market liberalization, participatory development, human development, sustainable livelihoods, poverty reduction strategies, food security programmes, sustainable agriculture and rural development (SARD) and, since the year 2000, the MDGs. Each model has particular strengths in that it focuses attention on strategic resources, constraints and challenges, or desired objectives in rural development.

2. The Past, Present and Future of Rural People

The human population of SSA doubled between 1975 and 2002, and it is projected to increase to 902 million by 2015 and 1.56 billion by 2050. *Table 1* presents the population figures for the countries represented at this seminar, for 1975 and 2002, as well as the projections for 2015 and for 2050 when the world population is expected to level off at some 9 billion people. The proportion of the population that is rural averaged 83 percent in 1975 declined to 70.6 percent in 2002 and will continue to decline to 56.9 in 2030, according to

³ Agriculture is broadly defined to include production, conservation, processing and marketing of crop, livestock, forest and fish products.

the World Population Report. For 2015, the only countries expected to have less than 50 percent in the rural areas are South Africa and Senegal, and countries like Uganda, Ethiopia, Burkina Faso and Niger will have more than 70 percent rural. These data are important because they indicate that, to achieve the MDGs in SSA and in the countries attending this seminar, specific strategies and plans of action to address the basic needs of rural people as defined in MGG 1 to 7 are urgently needed. Data on these population trends and projections are presented for other regions for comparison, e.g. India's future rural/urban distributions are similar to those of SSA.

Table 1. Total population and percentage of rural population in Sub-Saharan Africa and selected countries

Countries & Regions	Total Population, millions				Rural Population, percent			
	1975	2002	2015	2050 ¹	1975	2002	2015	2030
Burkina Faso	6.1	12.6	18.6	39.1	93.7	82.6	76.9	67.0
Ethiopia	33.1	69.0	93.8	170.2	90.5	84.6	80.2	71.3
Guinea	4.1	8.4	11.2	23.0	83.7	65.8	55.8	44.7
Madagascar	7.9	16.9	24.0	43.5	83.6	73.7	69.3	59.3
Mozambique	10.6	18.5	22.5	37.6	91.3	65.5	51.5	40.0
Niger	4.8	11.5	18.3	50.2	89.4	78.4	70.3	58.9
Senegal	4.8	9.9	13.2	23.1	65.8	52.1	42.1	32.9
South Africa	25.8	44.8	44.3	48.7	62.0	53.5	37.3	29.9
Uganda	10.8	25.0	39.3	126.9	91.7	87.8	85.8	79.6
SSA	330.9	689.2	901.9	1,557.4	83.5²	71.5²	63.2²	58.3²
Asia Pacific	1,306.6	1,961.5	2,115.5	2,252.6	81.0	61.8	47.9	38.9
L Amer. & Car	321.9	558.3	628.3	767.7	38.6	23.8	20	20.2
Near East	189.4	402.3	487.8	745.9	55.1	41.4	Na	27.7
OECD	911	1,163.7	1,222.4	1,282.1	26.3	20.7	20.9	Na
India	620.7	1,096.9	1,246.4	1,531.5	78.8	71.9	67.8	58.6
World	4,066	6,200	7,200	8,920.0	na	51.7	Na	39.2

Source: FAO at faostat.fao.org/faostat/collections?; World Dev Indicators; 2030 & 2050 data from UN Common Database unstats.un.org; World Population [Report 2004, un.org/esa/population/publications/wup2003/2003UrbanRural2003_web.xls](http://un.org/esa/population/publications/wup2003/2003UrbanRural2003_web.xls) 1 = medium-variant projection; 2= average for these countries.

One of the key indicators for overall development in the world is the Human Development Index (HDI). This is a composite index based on three indicators: longevity, as measured by life expectancy; education attainment, as measured by a combination of adult literacy and the combined gross primary, secondary and tertiary enrolment ratio; and standard of living, as measured by gross domestic product (GDP) per capita. The HDI is used to rate and rank all the countries of the world, from 1 to 177 countries that are assessed every year. In 2004 the top four in the world include Norway, Sweden, Australia and the Netherlands. All countries were grouped into three groups: high (1-55), medium (56-141) and low (142-177). According to *Table 2*, except for South Africa, the other countries represented at this seminar are in the low development group. The data on poverty incidence, child malnutrition, average life expectancy, the incidence of HIV, adult illiteracy and primary school completion, explain the key reasons and effects of low levels of development. However, it is important to point out that between 1990 and 2002, the primary school completion rate is improving for all and dramatically for Burkina Faso, Ethiopia, Guinea and Mozambique. Between 1990 and 2002, the completion rate at primary level increased by an average of almost 50 percent for the eight countries (UNESCO 2005).

Data on the relative incidence of poverty among rural and urban people are not easily available. *Table 3* presents what could be assembled from various sources. A first observation is that in all cases, the proportion of those below the poverty line is much higher in rural areas, the difference being extremely large in Burkina Faso, Guinea and Uganda.

Hunger and malnutrition are the first and most severe expressions of poverty. In 1970, SSA had 18 million malnourished children and by 1997 there were 32 million, while the global trend was the inverse: 203

Table 2. Human development indicators for Sub-Saharan Africa and selected countries.

Countries	HDI Rank	Poverty < \$1/day, % 1990-2002	Health		HIV % for 15-49 yrs age	Education	
			Child Malnutrition ¹ %	Life expect- tancy ² , yrs		Adult Illiteracy % for those over 15 yr of age	Primary school completion, % 1990 2002
Burkina Faso	175	44,9	34	45.8	4.2	87.2	19.1 29.2
Ethiopia	170	26,3	47	45.5	3.9 – 8.5	58.5	21.5 36.9
Guinea	160	-	23	48.9	3.2	59.0	17.2 41.4
Madagascar	150	49,1	33	53.4	1.7	37.2	34.7 40.2
Mozambique	171	37,9	26	38.5	12.2	53.5	27.5 48.0
Niger	176	61,4	40	46.0	1.2	82.9	18.0 20.8
Senegal	157	26,3	23	52.7	0.8	60.7	42.3 47.8
South Africa	119	7,1	12	48.8	17.8	14.0	80.7 98.8
Uganda	146	na	23	45.7	4.1	31.1	na 58.4
Sierra Leone	177	57,0	27	34.3	na	64.0	Na na
SS Africa		46,4 (2001)		46.3	7.7	41.5	- -

Source: UNDP Human Development Report 2000 and 2004; World Development Indicators of the World Bank; World Bank Educational Statistics. 1 = Underweight for age used as proxy; 2 = 2002.

million in 1970 down to 166 million in 1997. Hunger and undernutrition have a very severe impact throughout the life cycle in terms of child mortality, stunted child growth, damage to physical and cognitive development, school enrolment and completion, reduced physical activity and productivity,

Table 3. Rural and urban poverty incidence in selected countries of Sub-Saharan Africa: percent of population

Year	Burkina Faso		Ethiopia		Guinea ⁴		Mada-gascar		Mozam-bique		Niger		Senegal		South Africa		Uganda ²	
	rur	urb	Rur	urb	rur	urb	rur	urb	Rur	urb	Rur	Urb	rur	urb	Rur	Ur b	rur	urb
1992													40	24			60	28
1993											66	52					56	21
1994	59	10															54	21
1996			47	33													54	20
1997							76	63	71	62							49	17
1998	51	17																
1999							77	52									37	10
2000			45	37	52	24												
2001	52 ¹	20 ¹											72	44			41 ³	12 ³

Source: World Bank Global Development Indicators, unless stated otherwise

1 = Burkina Faso PRSP (2003); 2 = Uganda PRSP; 3 = 2002/2003; 4 = Guinea PRSP

susceptibility to infectious diseases, and even the transmission of its effects to the next generation (FAO, 2004 p.8). *Table 4* presents the changes in under nourishment levels from 1990 to 2002 for these countries, for the region and in comparison to other regions of the world. These rates are relatively high for all countries. The good news, however, is that between 1997 and 2002, SSA experienced a major drop in this indicator, from 36% to 33%.

The total cost of malnutrition is really impressive in cultural, social and economic terms. For example, FAO estimated the real economic cost of allowing protein-energy malnutrition and iodine deficiency to continue for another ten years as a percentage of one year's GDP. The estimates, presented in *Table 5*, are substantial for these countries. For example, the continued protein-energy malnutrition over the next 10 years in Burkina Faso is estimated to cause a 13 percent drop in GDP.

Many natural and human-induced crises seem to hit SSA too frequently, and undoubtedly rural people suffer the brunt of such disasters more than the urban people. Such are the recurrent droughts, agricultural pest infestation, civil armed conflicts and/or economic problems that cause crop failure, uprooting of huge

number of rural people and widespread under nutrition and starvation (e.g. Darfur in Sudan, Niger in 2005). These emergency problems are exacerbated by the lack of timely response on the part of governments and the international community and by the lack of political voice of those affected.

Table 4. Trend in prevalence of undernourishment in Sub-Saharan Africa and countries, % population

Countries	1990 – 1992	1995 – 1997	2000-2002
Burkina Faso	21	19	19
Ethiopia	na	61	46
Guinea	39	31	26
Madagascar	35	40	37
Mozambique	66	58	47
Niger	41	42	34
Senegal	23	25	24
South Africa	na	na	Na
Uganda	24	26	19
SS Africa	36	36	33
Asia & Pacific	20	17	16
LA & Caribbean	13	11	10
NE & N. Africa	8	10	10
Developing world	20	18	17

Source: FAO, 2004 na = not available

Table 5 Estimated percent of Gross Domestic Product foregone from continued protein-energy malnutrition and iodine deficiency

Deficiency	Burkina Faso	Guinea	Madagascar	Mozambique	Senegal	Uganda
Protein-energy	13.0	4.0	8.5	10.0	3.0	7.0
Iodine	8.0	1.5	2.0	11.5	8.5	12.5

Source: FAO, 2004, p. 12

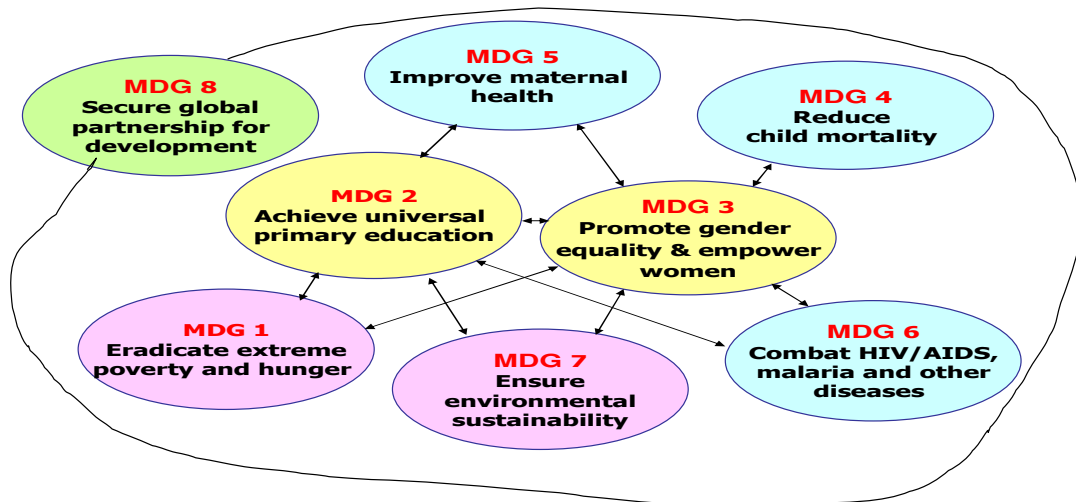
The main development challenges in SSA including population changes, education, health and poverty are to be found in rural areas, yet the international financial institutions have drastically reduced their support to the rural areas. Although rural livelihoods in Sub-Saharan Africa are showing some general improvements, they are not enough according to the data presented above. These are the reasons why rural people, in particular the young and entrepreneurial, are leaving for the cities and foreign countries and more will follow unless timely strategies are put in place to address the problem.

3. The MDGs, Rural People and Agriculture

The achievement of the MDGs is probably the single most important priority on the international development agenda today. There are eight MDGs and each has specific targets by which to measure progress at the national level. Although the majority of the world poor and of those affected by the problems addressed through MDG 1 to 6 are mainly among rural people, the MDGs have no provisions for monitoring their achievements at decentralized levels, for example at provincial or districts or for rural people and other vulnerable target groups. All of the goals are interdependent and mutually reinforcing. In *Figure 1*, you can appreciate the pivotal importance of MDG 2 and MDG 3 for achieving other MDGs. In fact addressing MDG 1 and 7 will depend on the achievement of all other MDGs and vice versa. MDG 8 can be considered an all-embracing mechanism for mobilizing political will, professional skills, resources and cooperation to address effectively all other MDGs.

The direct and indirect contribution of agriculture, rural development and hunger reduction in pursuit of the MDGs has been elaborated by FAO and UNESCO (2003), Hunger Task Force (2004) and FAO (2005). These contributions are briefly summarized as follows:

Figure 1. Interactions among all 8 Millennium Development Goals



Goal 1 - Eradicate extreme poverty and hunger. Poverty and hunger could be reduced by improving agricultural productivity, increasing farm-related employment and incomes, promoting better nutritional practices at all levels, and promoting programmes that enhance the availability, access, stability and utilization of food by the neediest. Malnutrition erodes human capital and reduces productivity by diminishing physical and mental capacity. Early child malnutrition is often irreversible and intergenerational, with consequences for chronic disease later in life. Agricultural growth focused on small farmers and the rural poor promotes overall income and employment that has a strong poverty-reducing effect. Fishing and fisheries are valuable too for rural communities. Also forest foods enhance palatability of staple diets and provide vitamins and proteins, often important in filling seasonal and other food gaps, particularly in hard times. By facilitating better access to skills, tools, services and rights help the rural poor make lasting improvements in their own livelihoods. Addressing this Goal increases the impact of work directly targeted to other Goals.

Goal 2 - Achieve universal primary education. Illiteracy is a strong correlate of poverty and hunger and is mainly a rural phenomenon which hinders rural development and food security, threatens productivity and health, limits opportunities to improve livelihoods and to promote gender equity, and is particularly high among rural girls and women. School enrolment, achievement and completion of children are compromised by hunger and malnutrition. Poor families often cannot afford to send their children to school and malnourished children are less likely to enrol in school and complete the primary cycle. If they do at all, they enrol later than other children. Hungry children are also more likely to drop out of school to seek employment. Improving nutrition standards is important for achieving this Goal.

Goal 3 - Promote gender equality and empower women. In countries where agriculture is still labour-intensive, women produce up to 80 percent of food. Helping to eliminate discriminatory policies against women, improving their access to land, agricultural inputs, financial services and skills, and promoting labour-saving technologies all work in favour of empowerment, equality and better lives for women and their families. Gender inequality increases risk of the female malnutrition, disease incidence, child mortality and other family problems that erode human capital and further reduces women's access to assets. The target of eliminating gender disparity in education, crucial for MDG 3, can only be achieved by a special effort to ensure equitable access to quality education for girls and women in rural areas, where most illiterate girls and women are found. Educated women have easier access to resources, employment and income-generating options which mean better support for their families and contribute directly to the other Goals.

Goal 4 - Reduce child mortality. It was estimated that about five million child deaths each year can be traced to hunger and malnutrition which is higher among rural people. Programmes to improve household food security, nutrition information and mothers' education increase children's chances of growing to

adulthood. Malnutrition is directly or indirectly associated with 56% of all child mortality. Malnutrition is the main contributor to the burden of disease in the developing world. Micronutrients (i.e. vitamin A and zinc) are the key to child survival.

Goal 5 - Improve maternal health. Promoting education and nutrition awareness among women, especially in rural areas, introducing labour-saving technologies, and ensuring greater household food security will contribute to better maternal health. Maternal health is compromised by malnutrition and an anti-female bias in allocations of food, health and care. Malnutrition is associated with most of the major risk factors for maternal mortality. Stunting increases risk of cephalo-pelvic disproportion and obstructed labour. There are multiple micronutrients, referred to as hidden hunger, that are associated with maternal health, e.g. iron, vitamin A, zinc, foliate, iodine and calcium.

Goal 6 - Combat HIV/AIDS, malaria and other diseases. Education and adequate nutrition are essential in the preventing and mitigating illness and especially to slow down the transition from HIV infection to full AIDS. Illiterate people are more exposed to risk behaviours and poorly nourished people succumb more quickly to illness. Malnutrition may increase risk of genital ulcers (associated with increased HIV transmission). Maternal malnutrition increases risk of mother-to-child- transmission via effects on maternal immune status (vitamin A). Malnutrition may compromise efficacy and safety of anti-retroviral treatment and weaken the resistance to opportunistic infections. Malnutrition increases the probability of death from malaria. Forests complement and reinforce health too, by availing medicinal plant products and medicines. Special support services including those for HIV/AIDS orphans and widows and for nutrition training for rural communities and families can mitigate the disastrous effects of AIDS, malaria and other diseases.

Goal 7 - Ensure environmental sustainability. Environmental sustainability will only be achieved if agriculture, the largest use of the world's land and water, is practiced in an ecologically sustainable manner. Increased access to safe drinking water and sanitation is critical to alleviating malnutrition. Hunger and poverty often compel the poor to over-exploit and thus degrade the natural resource base on which their own livelihoods depend. The diverse array of goods and services provided by ecosystems (e.g. clean water, fertile soils, forests, vegetated landscapes, hydro-electricity, biodiversity and carbon sequestration) must be managed in ways that sustain present and future populations, not only for meeting their food requirements but also a variety of other environmental, cultural, social and economic needs. It is important to support the integrated management of land, fisheries, forests and genetic resources, e.g. through conservation agriculture, integrated pest management, water conservation and responsible water-use practices, and the protection of biodiversity. Other priorities include the sustainable development of environments at risk and assistance to those communities living in marginal areas with livelihood approaches and ecosystem management principles.. Fostering education, and especially of education for rural people, contributes directly to MDG 7.

Goal 8 - Develop a global partnership for development. Malnourished and illiterate people are unlikely to be fully able to participate in economic, social and cultural opportunities increasing with globalization. By allowing huge populations to remain poor, malnourished and illiterate, wealthy countries are pre-emptively eliminating potential partners and opportunities for profitable investment, wasting potentially large consumer markets for their industrial products and endangering the possible building of a peaceful and secure world. Governments should form partnerships with their civil society and private sector, with UN partners, international financial organizations, bilateral donors, the WTO and others to mobilize support and resources for investing in agriculture and rural development, education for rural people and in revitalizing rural communities for achieving the MDGs. With the purpose of contributing to MDG 8, an Education for Rural People partnership was launched in 2002, to bridge the efforts of Ministries of Education and Agriculture with Civil Society and others to address basic learning needs of the rural poor.

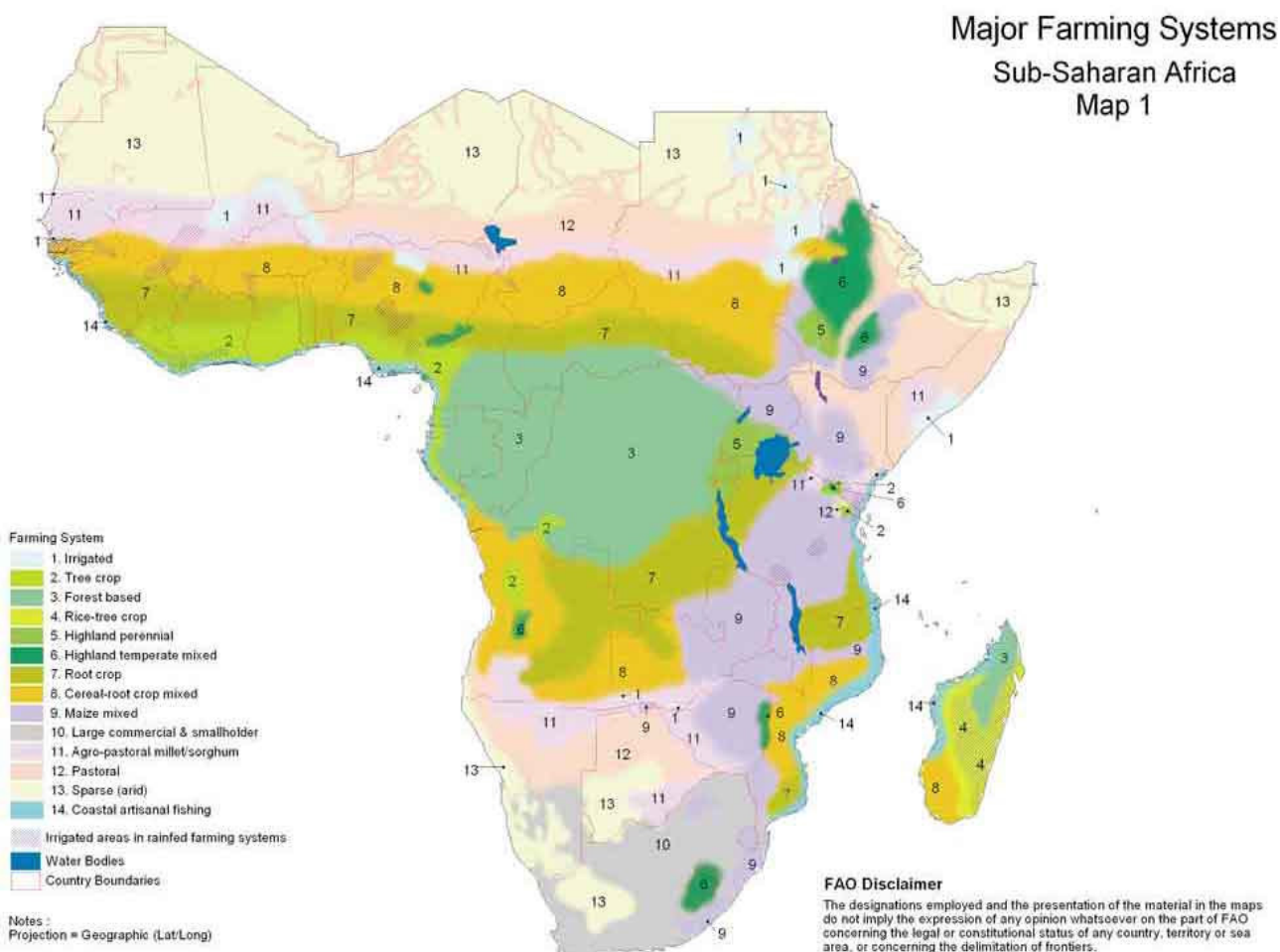
The Poverty Reduction Strategy Initiative, initiated in 1999 by the World Bank and the IMF, resulted in new national strategies and processes to increase the effectiveness of aid in reducing poverty in many African countries. While most poor people live in rural areas and depend on agriculture, which could be a powerful engine for economic growth, employment and poverty reduction in rural areas, the rural sector has received insufficient attention and has been denied much-needed investment. To address this deficiency, FAO, IFAD,

WFP and others are working together to engage the World Bank and IMF in strengthening the national poverty reduction strategies to sharpen their focus on agriculture and rural development.

4. The agricultural systems and potentials

The benefits of agricultural growth for rural development are well studied, and they include the provision of food, income, jobs in the agro-food chain, incomes for education and health services, etc. For the national economy, it provides food for urban dwellers, investment and public revenue, skilled labour for other sectors, higher real wages due to cheap food, foreign exchange, jobs and income for all those involved in the general, technical and professional services in agriculture and rural development.

A recent study of FAO and the World Bank identified 14 major farming systems in Sub-Saharan Africa. From *figure 2*, one can observe the geographical location and coverage of each system. *Table 6* characterizes these systems using criteria such as countries, areas, population, constraints and potentials for development, and particularly potential for poverty reduction. According to this analysis, all major farming systems deserve special and greater attention for their development, however one can appreciate the great importance and high potential impact for poverty reduction of focusing effectively on the Maize Mixed (9), Cereal-Root Crop (8), Root Crop (7), Forest Based (3) and Pastoral (12) farming systems.



Developing the potentials of these farming systems for improving the livelihoods of rural people involves diversifying these systems and improving the interactions with forestry and fisheries components. In many parts of Africa trees outside the forests are becoming more important in supplying wood and non-wood products as forests decline. In countries like Kenya, Ghana, Rwanda and Burundi, home gardens and private

woodlands become important sources of wood. Agroforestry systems or trees on-farm also provide high quality foods and fruits for the family, services (shade, windbreak, protection), low-cost soil nutrient recycling, soil fertility and fodder from leafy biomass, and diverse materials for construction, handicrafts, wooden ploughs and other farm implements. It is important to note that Africa's wood production (including fuel wood and industrial round wood) increased from 340 million m³ in 1980 to 699 million m³ in 2000. However, the share of value added-products was very low. In 2000, 91% of all wood was used as fuel. To encourage domestic processing some countries have imposed restriction on log exports, with varying effects. Timber industry is mostly dominated by outside interests and much of trade is with countries outside Africa.

Past research on smallholders, who represent the vast majority in SSA, have demonstrated many of their inherent strengths such as making efficient decisions, using family labour efficiently, optimizing land productivity even marginal lands, and being ready to adopt technology if appropriate. Research also indicated that availability to adopt new technology is directly correlated to education levels. All of this is positive and should be built upon, however can smallholders compete in local and international markets in an increasingly globalized world and in markets with stringent consumer demands, food safety and health requirements?. Will small farmers survive with increasing population density, inadequate services, competition from countries that subsidize their producers, and without investment to enable them to adopt new technologies that are capital and skill intensive?

Recent publications have dealt extensively with the potentials and challenges of African agriculture (Dixon et al 2001, IAC 2004 and Sanchez et al 2004). Essentially their salient recommendations for improving agriculture in Africa include the following:

1. Having macro-economic stability to enable investment and fiscal, monetary and regulatory reforms to take shape and show results.
2. Refocusing stakeholder contributions through unlocking the potential of farmers and their communities and engaging civil society, agribusiness and commerce, local and national government actions, and the international community.
3. Applying science and technology options that make a difference in improving market-led production, priority farming systems, integrated sustainable intensification, adoption of improved germplasm, efficient water use, watershed NRM, and increased mechanical power.
4. Increasing productivity of food-insecure farmers through better soil health, small-scale water management, access to better seeds and other planting materials, diversification of on-farm enterprises with high-value products, and effective agricultural extension services.
5. Increasing income and making markets work for the poor, by investing in market-related infrastructure, ensuring access to market information, developing networks of small rural traders, improving access to financing, strengthening bargaining power in labour markets, and strengthening community and farmer associations and employment options.
6. Restoring and conserving the natural resources by helping communities and households enhance natural resources, securing land ownership, access and management rights to forests, fisheries and rangelands, developing natural resource-based "green enterprises", and paying poor communities for environmental services.

There is ongoing discussion over the appropriate role and potential impact of biotechnology in Africa's economic development. It is important to strengthen capacity in this area, including policy makers, to be informed on developments and issues involved (e.g. food safety and consumer concern, bio safety, intellectual property rights, genetically modified foods), build capacity to assess its potentials and implications for SSA, and develop effective policy and institutional strategies to take advantage of biotech breakthroughs for local agro-food systems.

Criteria	Irrigated	Tree Crop	Forest Based	Rice-Tree Crop	Highland Perennial	Highland-Temp. Mixed	Root Crop	Cereal-Root Crops
Countries & regions	Arid regions, esp. Sudan, Mali, Somalia	Ivory Coast, Liberia, Ghana, Togo, Benin, South Cameroon	Congo, Gabon, South Cameroon, north & east Madagascar	east & central Madagascar	Highlands of Ethiopia, Uganda, Burundi, Rwanda	Highlands of Ethiopia, Lesotho, Angola, Cameroon, Nigeria	Guinea, Sierra Leone, North Ghana & Ivory Coast, Nigeria, Central African Republic, South Congo	Senegal, Mali, Burkina Faso, South Chad, Sudan, Mozambique, Angola, Zambia
Area covered	35 m. ha (1.4%)	73 m. ha (3%)	263 m. ha (11%)	31 m. ha (1%)	32 m. ha (1%)	44 m. ha (2%)	282 m. ha (11%)	312 m. ha. (13%)
Population. Supported	7 m. (2%)	25 m. (7%)	28 m. (7%)	7 m. (2%)	30 m. (8%)	28 m. (7%)	44 m. (11%)	<u>59 m. (15%)</u>
Key outputs	Rice, cotton, vegetables, livestock	Cocoa, coffee, oil palm, rubber	Cassava, maize, beans, cocoyam	Banana, coffee, rice, maize, cassava	Banana, coffee, sweet potatoes, coffee, cereals, livestock, off-farm work	Livestock, wheat, barley, beans, lentils, potatoes, off-farm work	Yams, cassava, legumes, off-farm work	Maize, sorghum, millet, yams, cassava, livestock
Constraints to development	Complicated institutional arrangements; vulnerability to water shortages & input/output price ratios	Price fluctuations & worsening input supplies; population pressure on nat. resources	Population growth limits fallow periods; physical isolation & lack of infrastructure; high incidences of poverty; wildlife habitat loss	Small farm size; low levels of technology; poor market development & off-farm activities	Very small farm sizes; declining soil fertility, high incidence on poverty & hunger; shortage of appropriate technology; poor infrastructure; HIV	Single cropping season (with some exceptions); declining soil fertility due to erosion; vulnerability on climate (frosts)		Vulnerability to drought; poor infrastructure & transport; tsetse density prevents drought power from animals; input supply constraints
Potentials for development	Lower than average poverty incidence; hence <u>excellent growth prospects</u> if institutional issues are solved (emphasis on farmer-managed systems); high potential for intensification & diversification	Only moderate poverty incidence; <u>good growth potential</u> , but private sector response critical; intensification & diversification potentials high	Moderate growth potential	Climatic & resource conditions can allow for high growth;	Low growth potential	Diversification potential based on higher-value temperate crops high	Attractive marketing & urban demand potentials, for oil palms & root crops; also linkages between agriculture & off-farm activities	<u>Excellent growth prospects</u> due to low population density & abundant land supply, esp. for size expansion & diversification
Potential for poverty reduction	<u>Good</u>	<u>Moderately high</u>	Modest	Low (see constraints)	Low	Moderate	Moderate	<u>Moderate</u>

Source: Dixon et al 2001

Table 6. Key characteristics of the fourteen major farming systems in Sub-Saharan Africa

Table 6. Key characteristics of the fourteen major farming systems in Sub-Saharan Africa (cont'd)

Criteria	Maize Mixed	Large Commercial & Smallholder	Agro-Pastoral Millet/Sorghum	Pastoral	Arid	Coastal Artisanal Fishing Farming
Countries & regions	Uganda, Kenya, Tanzania, Zambia, Malawi, Zimbabwe, Ethiopia	South Africa, Namibia	Senegal, Mali, Burkina Faso, Niger, Central Chad & Sudan, Northern Namibia	Central Chad & Sudan, Somalia, east Ethiopia, Namibia, Botswana	Mauritania, Mali, Niger, Northern Chad & Sudan, North Somalia, Namibia Coastal Region	Coastal zones of Guinea, Liberia, Sierra Leone, Ghana, Ivory Coast, Togo, Benin, Cameroon, Mozambique, Tanzania, Madagascar
Area covered	246 m. ha. (10%)	123 m. ha (5%)	198 m. ha (8%)	346 m. ha (14%)	429 m. ha (17%)	38 m. ha (2%)
Population Supported	<u>60 million (15%)</u>	17 million (4%)	33 million (8%)	27 million (7%)	6 million (1.5%)	13 million (3%)
Key outputs	Maize, tobacco, cotton, livestock, off-farm work	Maize, millet, cattle, sorghum	Sorghum, millet, livestock	Livestock	Livestock	Fish, coconuts, yams, fruit, livestock
Constraints to development	Input constrain due to falling relative prices; declining soil fertility; vulnerability to drought & market volatility; HIV; worsening supply with inputs incl. credit & falling terms of trade; Well-developed market linkages; cash crop potential; <u>good growth potential</u> , but private sector response critical for this	Severe poverty incidence for smallholders; high vulnerability to drought; HIV	High pressure on limited amount of land; high vulnerability to drought; extensive poverty incidences; pests incidence relatively high	High vulnerability to drought; high incidence of poverty; global warming-affected	High vulnerability to drought; high incidences of poverty; global warming-affected	Risks of over fishing
Potentials for development		Moderate growth potential	Modest growth potential, mainly through increase in farm sizes, but also intensification & diversification (also necessary to cope with drought); soil- & water conservation important	Modest growth potential	Low growth potential	Good off-farm opportunities through tourism;
Potential for poverty reduction	<u>High</u>	Low to Medium	<u>Moderate</u>	Low	Low	Low

Source: Dixon et al 2001

Also very relevant in this regard is a set of recently redefined priority areas of the CGIAR that supports the 15 Future Harvest Centres with very proactive programmes in SSA. Their new priority areas are:

- Sustaining biodiversity for current and future generations.
- Producing more food at lower costs through genetic improvements.
- Creating wealth among the rural poor through high-value commodities and products.
- Combining poverty alleviation & sustainable development of water, land and forest resources.
- Improving policies and facilitating institutional innovation to support sustainable reduction of poverty and hunger.

With a vision of economic renewal, Africa is already involved in a pro-active and dynamic process of crafting its own home-grown development strategy, i.e. the New Economic Partnership for African Development (NEPAD 2004). NEPAD's programme of implementing the Comprehensive Agriculture Development and restoring food security in Africa sustainable land management and reliable water control systems, improvement of rural infrastructure and trade-related capacities, increase of food supply/ reduction of hunger and improved response to food emergencies, and improved agricultural research, technology dissemination and adoption. The key thrusts of this programme is to strengthen the key institutions of research and training (which were stronger in the past), harness human capital (also stopping the brain drain), strengthen incentives for and returns to investment in agriculture, and focus on global knowledge systems toward achieving food security and maximizing the contribution of Africa's largest economic sector to achieve self-reliant and productive national economies. In this context, regional mechanisms such as ASARECA, CORAF and SACAR can be considered as success stories in terms of their achievements on strengthening institutional and technological capacities in Africa. All these past experiences and priority recommendations offer valuable guidelines for developing an effective strategy for national agricultural development and farming system specific action plans that can capitalize on the untapped production potentials mentioned above.

Since rural people are the majority of the SSA population, since agriculture is a key sector for rural development and economic growth, and if governments are serious about meeting the MDGs in SSA, then there is need for significant public and private investment in smallholder agriculture. The challenge for all is how to apply improved technologies to make small-scale farmers viable and profitable, for example by building their capacity, organizing them for greater cooperation, strengthening their position in the market place, and also giving them a voice in policymaking and institutional reforms. These will increase their productivity and enhance their contribution to the MDGs. However, success in realizing the potentials of African agriculture will depend to large extent on that crucial factor of education.

5. Sustainable Agriculture and Rural Development

Sustainable agriculture and rural development is a global action agenda. SARD is a key chapter of Agenda 21 that was adopted by the international community at the Earth Summit in Rio, and ten years later reaffirmed and revitalized in Johannesburg at the 2002 World Summit on Sustainable Development. SARD, as opposed to other production-driven approaches, is centred on people and focuses on improving livelihoods in terms of satisfying the cultural, social, economic and environmental needs and aspirations of present generations without endangering the ability of future generations to do the same. SARD requires a re-orientation of policy, institutional and technological change towards a sustainable and integrated management of agriculture, forestry, fisheries, natural resources, and other rural activities in the rural ecosystem.

SARD has a great advantage for the MDGs and PRSPs because of its exclusive focus on agriculture and rural development and its adoption of holistic, interdisciplinary and participatory approaches. FAO's programme on SARD is working with member states and field-based partners in identifying and improving processes and practices that empower rural communities, producer associations, grassroots organizations and other stakeholders to contribute effectively to improve policies, the responsiveness of rural institutions and more effective programmes to address their priorities for agriculture and rural

development. SARD pays special attention to the rural poor and marginalized groups in such process. This section highlights policy issues and recommendations for SARD that resulted from case studies aiming to strengthen the ability of government and non-government stakeholders to improve their policies and institutional strategies (FAO 2005). These results are summarized under six key topics which represent priority needs and thus require urgent action to work towards SARD.

The leadership of government: The leadership role of government is critical for agricultural and rural development in three key areas. Firstly, government is responsible for articulating a long-term vision and strategy for the sustainable development of sector that is coherent, integrated, and complementary and supported by the national development vision and strategy of the country. The strategy should provide a framework to guide and leverage participation of all stakeholders at national and decentralized levels as well as the international community. Secondly, governments must provide an enabling policy environment in terms of specific sectoral policies, legislation, and supply of public goods (e.g. budget priority, capacity building and education, empower women & girls, strengthen R&D, remove barrier to trade, increase effectiveness of donors, and improve the infrastructure of roads, electricity, telecommunication, irrigation and markets). Thirdly, government must be a key actor for leading in creating opportunities and protecting those who are poor, marginalized and vulnerable in society, by strengthening their access to land and other productive resources (e.g. land, water, technology), basic services (e.g. education, health and sanitation), productive opportunities (e.g. markets, jobs and income generation) and safety nets for those who cannot take care of themselves. At present, due to the weakness of governments, those with very limited resources depend mostly on NGOs.

Public policy priorities: To work towards an agriculture and rural sector that is productive, viable and capable of satisfying the cultural, social and economic aspirations of the rural people and their future needs, governments should work with other stakeholders (civil society and private sectors) to develop a long-term strategy for SARD and then choose from a range of policy options. These could include:

- Decentralization: Provincial and district authorities put more emphasis on agriculture and rural development than do national governments. Decentralizing authority to them can ensure that these issues receive greater attention.
- Trade and market access: Free-trade agreements, tariffs and safeguard clauses that open (or protect) sub-sectors such as staple foods and that stimulate or hamper exports can have a major impact on the rural sector. The nature of these policies, and how they are implemented, affects agricultural growth and the livelihoods of poor rural people.
- Budget allocation: The Maputo Declaration of 2004 committed African governments to dedicate 10% of their budget to the agriculture sector. These resources must be coupled effectively with decentralization, so they are invested also at provincial and local levels.
- Natural resources. Policies on land reform, forests and water affect whether people can use these resources and have an incentive to conserve them. Governments should ensure that the proper legal, regulatory and incentive frameworks are in place.
- Rural-urban linkages. Policies should be strengthening urban-rural linkages, managing demographic/migration shifts, incentives and transfer of resources, and integrating the rural economy into national development strategies.

Boosting the rural economy: The viability of the rural economy depends on developing productive activities both within agriculture and outside. But rural areas currently lack the capacity to attract new investment and to generate jobs and income. The major issues include constraints to productivity, poor access to resources, and inadequate institutional capacity. Within the trade environment framework set by central governments, the major policy challenges affecting production and income generation by small farmers and rural poor are:

- Promoting equitable access to assets (land, water and other natural resources, credit, education, information and technology), particularly enabling the rural poor and the landless to gain access to land which often is a prerequisite to access to credit and other resources.

- Understanding and promoting competitiveness – by using technological innovations to lower cost and increase efficient use of scarce resources - and realizing local potentials, within the context of a proper, home-grown strategy.
- Identifying opportunities to diversify agriculture, produce high-value commodities, develop new or niche markets, promote small enterprises, and protect the environment.
- Identifying ways to support local post-harvest and processing to add value to the commodity, and to promote of local quality products.
- Encouraging investment in non-agricultural activities such as rural industries, tourism and other services, through promotion and incentive schemes; these can strengthen agriculture too.

Even in the environmental protection side, creative ways and means need to be explored to make a difference on rural poverty, for example by identifying ways to promote rural ecotourism, food and non-food products for tourists and using such opportunities to support natural resource management and protection, mobilizing technological innovations such as renewable energy and sound agricultural practices to improve the management of local resources, and promoting payments for natural resource conservation, environment, water quality and wildlife management services (e.g. Kyoto protocol).

Delivering timely and cost-effective financial services: In Sub-Saharan Africa, formal financial services are usually lacking in rural areas and this is a major challenge for rural development.. Perceptions of high costs and high risk divert banks from operating in rural areas and particularly from lending to small producers and other entrepreneurs. Financial services help people with key functions, i.e. keeping small surpluses safely as savings, borrowing money to overcome liquidity problems for consumption or investment needs, accessing insurance and risk-sharing schemes, and assisting in money transfers or receiving remittances from relatives or business associates at a distance. Informal services provided by traders and agricultural processors offering input credit are limited and often costly. Many new microfinance institutions only reach small numbers of clients and their main products – normally short-term working capital loans with frequent repayments - are not well-suited to seasonal or longer-term agricultural activities. Government schemes, which in the past often provided subsidized and targeted credit through agricultural or development banks, have largely been withdrawn. Cooperatives and credit unions have frequently been plagued by governance and management problems.

There is need to encourage the evolution of diverse, self-reliant financial service providers in rural areas. This may involve:

- Reform of unprofitable development banks with rural branches into viable commercial entities, charging interest rates that cover their costs and introducing more efficient operational systems;
- Promotion of self-help groups developing independent savings and credit operations or acting as joint liability groups to facilitate borrowing from banks or microfinance institutions;
- Development of risk-sharing schemes that reduce costs for commercial banks or microfinance suppliers to operate in rural areas.

The most important contribution governments can make is to maintain macroeconomic stability through appropriate monetary and fiscal policies. If and when needed, governments should adjust regulatory frameworks to permit more types of financial institutions to offer a wider range of services to the rural poor, and there is much to do to improve registration of property, land-use rights and poorly functioning judicial systems. Donors could help by providing funds for new product development, adoption of cost reducing technologies or guarantees to encourage institutions to move into rural areas, for example. Whatever the process, education and capacity building of both clients and staff of financial institutions is vital. Education is fundamental to improved rural financial services.

Empowering local institutions and rural communities: Since the 1990s, countries are experimenting with local government units for planning development, delivering basic services and generating their own revenues. A stronger leadership and capacity are needed for developing a long-term vision, development strategy and plan of action. Such a plan should guide the involvement of outside donors and projects, secure the participation of all local stakeholders, and coordinate public support.

Decentralization is only possible if sub-regional administrative units are upgraded so they can plan development activities, manage finances and programmes, and conduct social and environmental assessments. The key areas for capacity building include, e.g. economic development, natural resource management and the environment, human capital development, physical infrastructure, research and development, safety net programmes and social transfers. They should be empowered to raise their own revenues or mobilize investment, e.g. from local taxes (land tax, “sin” taxes, environmental taxes, other taxes levied on local economic activities; transfers from national government; national and local safety net programmes; support from external donors; mechanisms to channel a share of remittances towards local socio-economic projects; payment for environmental services; and cultural fairs and entertainment.

Local government can work closely with NGOs and community organizations as key partners in development. Since rural development is a priority in the national government’s poverty alleviation strategy, local government can promote sustainable agriculture as an integral component of this strategy. The World Bank and other donors have supported local government units to implement many activities to develop infrastructure and build institutional capacity in key areas. Universities can play a vital role in support of local government by training professionals, providing extension, and adapting farming technologies to suit local conditions.

Establishment and management of partnerships: With good local leadership and management, partnerships offer a very high payoff. But partnerships are complex and need careful nurturing. The secrets for their success include policies and institutional frameworks, existence of impartial and credible brokers, capable and committed partners with realistic expectations, and operating procedures with clear rules, codes of conduct and social accountability, particularly when dealing with financial resources. To carefully address these issues, the management of partnerships requires meaningful capacity building, incentive systems that reward performance and impact, and learning processes involving all partners

Success in SARD thus requires that stakeholders groups be empowered to participate in development, to network for influencing decisions that affect their future, and to work together effectively to achieve their priority goals and targets. In all these functions, education for rural people has a crucial role. Each group needs strengthening, for example:

- Poor farmers, landless and marginalized groups in developing their capacity to promote viable businesses, conserve and manage natural resources, and develop new farming technologies.
- Producers and business people in developing enterprises, stimulating economic growth, creating market linkages, generating employment and seeking opportunities for export.
- NGOs, religious and charity organizations in addressing human resource constraints, supporting productive and income generating activities managing natural resources, etc.
- Research institutes, universities, etc. in focusing on policy and institutional strategies that can strengthen the impact of their technological work.
- Government in taking the lead in developing visions and strategic programmes and providing the enabling policy environment and “public goods” for sustainable development.
- Donors in harmonizing and coordinating their funding policies and programmes to support a long term, not only short term, agenda in which local constituents take the lead and ownership.

The role of international community is crucial for implementing a long-term national strategy, coherent with and enabling for the achievement of MDGs. Currently there is pressure on the international community too, e.g. to reach a collective average of 0.7% of GNI allocated to Official Development Assistance (ODA) by 2010, to invest at least 70% of ODA of the European Commission on low-income countries and should be focused on poverty eradication, and to make a big push in Africa by raising aid to \$ 20 billion now and to \$ 50 billion by 2015 (The Africa Commission”). External organizations have a great role in providing the so-called “international public goods” for rural people, e.g. education and health. Their role in institutional and capacity building is the key to reducing civil conflicts, managing natural disasters, adapting technology for production and natural resource management, accessing local and external markets, and mobilizing investment and capital for agriculture and rural development.

Monitoring and evaluation systems: M&E can be a powerful tool to produce many positive outcomes for sustainable agriculture and rural development, for learning what works and what does not; for

reflecting on lessons and successful practices; for sharing innovative ways to tackle problems; for engendering real participation, motivation and empowerment of local stakeholders to influence policymaking and the design and implementation of programmes. In sum, through M&E rural people can understand the direct linkage between established priorities, programme implementation and outcomes achieved on the ground. M&E is also essential for demonstrating impact on the livelihoods of rural people, which in turn is the measure of the quality, visibility and sustainability of good policies, programmes, etc. M&E can help focus on specific stakeholder groups of interest, such as women, youth, indigenous people, rural workers and others. Empirical evidence, through M&E, is almost indispensable for the effective mobilization and using resources for development through better coordination, less duplication and higher payoff of externally supported programmes.

These potential benefits can be realized by strengthening institutional and professional capacities for M&E. This should have priority at the community and local levels. M&E indicators, processes and reporting methods need to be built into policies and programmes from the start, and at important steps in their cycle. Externally funded projects often do incorporate such M&E systems, but these often fulfil donor requirements rather than government or local people's needs. Programmes and policies with no substantial donor involvement often have only rudimentary M&E systems – if they have one at all. Often, the organization responsible for the activity would prefer not to be “monitored” or held accountable – especially not by the activity's supposed beneficiaries.

6. Implications for Education for Rural People

Rural poverty reduction is an important development goal and it can be done. There is so much knowledge on rural development strategies, technologies, capital resources, natural resources, and the commitment of stakeholders, especially the rural poor, which can be marshalled to eliminate poverty and hunger from Sub-Saharan Africa. So what is the problem or how can we make it happen? Success stories of agriculture and rural development at national level in developing countries are few but telling. Countries like Costa Rica, Cuba, Taiwan and others, have made tremendous progress, and some of the factors that have really contributed to this goal include, e.g. they all had a clear long-term vision and strategy, they invested in human capital for rural areas (i.e. emphasis on relevant education in rural schools and colleges, literacy and training centres for rural youth and adults, etc) and invested in key institutions related to government service, land tenure, technology, marketing, savings and credit and farmer organizations. They have invested heavily in infrastructure development (roads, health, electricity; communication), have an effective strategy of working with international partners, and understood very well the essential role of government at all levels for agriculture and rural development.

From the evidence presented above, poverty, hunger and illiteracy are primarily concentrated in the rural areas of SSA. Access and quality of education is much lower in rural than in urban areas. In Mozambique, for example, adult illiteracy rate in rural areas is about double that in urban areas, and while three out of four children (3/4) enrol in the first cycle of primary schools in urban areas, only about half (2/4) do so in rural areas. One out every eight children (1/8) is enrolled in the second cycle of primary school in urban areas, versus one out of every fifty in rural areas. One child out of every twelve (1/12) enrolls in basic secondary and one out of every fifty (1/50) does so in vocational education in urban areas, and none does so in either case for rural areas. This would indicate that rural people do not have any chance of attending higher education (FAO & UNESCO 2005). About one girl (1/100) and two boys out of every hundredth (2/100) in rural Ethiopia completed the eight-year primary cycle in year 2000 (Education for All Monitoring Report 2003/4).

The education content/quality is another issue. Usually the curricula and textbooks in primary and secondary schools are often urban biased, with the content not being too relevant to the needs of rural people, seldom focusing on the skills needed for improving their livelihood. What is needed is an efficient, inclusive and widespread education system, which addresses the basic learning and problem-solving needs of rural people. It is important for basic education to focus on practical issues related to some of the main recommendations for sustainable rural development, e.g. improving quality and

productivity of the labour force, improving techniques to increase the yield and competitiveness of the productive sectors, promoting market-led and export-led enterprises, managing financial services, protecting the natural resources and environmental integrity, reducing poverty and develop rural areas. In sum, an illiterate person cannot fully benefit from their rights as citizens.

Please just consider the example of forestry in the Central African region where this sector has a strategic potential for rural development. The inclusion of forest/tree issues in primary education curricula is crucial to ensure relevance of education to the need of the rural communities. Moreover, due to social unrest in this region vocational forestry education has almost collapsed. A country like the Democratic Republic of Congo has not trained one forester over the last 15 years. There is an urgent need to re-establish secondary schools with a vocational character that used to deliver trained labour for the forestry/wood industry and to ensure collaboration of higher education in training of workers in the forestry sector in general and the private sector.

Because of its direct impact on all the MDGs the Education for Rural People will be the one of the main education challenges of the coming decade. The long-term and intergenerational effects of education are pivotal for cultural, social and economic improvement of rural people's quality of life.

At this stage, suffice it to state that other papers to be presented in this seminar and the working groups will elaborate on the mapping the disadvantaged of lack of education for rural people; on the lessons learned from countries addressing access, quality and relevance of basic education for rural children; and on strengthening rural communities through non-formal education and vocational skills for agriculture and rural development.

Education for Rural People is definitely an effective means of strengthening human and social capital for entrepreneurship, agro-food business management and for addressing the basic needs of small farmers, the rural workers and marginalized groups. However, it is imperative that the education at all levels be relevant to the livelihood options of the rural people, otherwise the education will not enable people to manage and improve their production options and secure social development and peace building in their rural communities. Otherwise education will be simply a passport for emigration from rural areas, which is quite often the case.

7. Concluding Comment

In the life cycle of nation building, one could say that most countries in SSA are relatively young, however their wealth is in the great cultural diversity and human values, huge natural potential, and in valuable lessons of development thus far. Currently SSA has a high priority in the eyes of the international community (e.g. NEPAD, Blair Commission & currently the Millennium Summit 2005). These are strengths and opportunities to be leveraged and managed for Africa's sustainable development. Please let us conclude this paper with a famous Chinese proverb, very relevant also to SSA: *"If you want one year of prosperity, grow grain. If you want 10 years of prosperity, grow trees. If you want 100 years of prosperity, grow people."* Investing in people development is precisely the major strategy China is following on its steady rise to becoming a global economic powerhouse. We need to do the same with rural people who up to now have the region's biggest, neglected and silent majority. This can be achieved through new multisectoral and interdisciplinary alliances and partnerships among those working on agriculture and rural development and those working in education. This is why an Education for Rural People Partnership programme was launched during the World Summit on Sustainable Development in 2002. And this is why we are here today.

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