

ReSAKSS ^{ECA}
East & Central Africa
Regional Strategic Analysis and Knowledge Support System

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ReSAKSS Working Paper No. 33

August, 2011

**STATUS, DISTRIBUTION AND DETERMINANTS OF POVERTY IN THE
COMESA REGION: A REVIEW OF
EXISTING KNOWLEDGE**

Jane Kabubo-Mariara

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For more information, contact:

Joseph Karugia, Coordinator

ReSAKSS-ECA

P.O. Box 30709

Nairobi, Kenya

Telephone: +254 (20) 422 3000

Email: j.karugia@cgiar.org

Website: www.resakss.org

The authors

Jane Kabubo-Mariara is currently Director and Senior Lecturer at the School of Economics, University of Nairobi; Stella Massawe is a monitoring and evaluation analyst in ReSAKSS-ECA; Joseph Karugia is the Coordinator of ReSAKSS-ECA Node; Juliet Wanjiku is a research associate in ReSAKSS-ECA; and Oliver Kirui is a research associate at CIMMYT and was formerly a research assistant in ReSAKSS-ECA.

Acknowledgements

Funding for this work was provided by the United States Agency for International Development (USAID) Eastern Africa regional office, through support to the Regional Strategic Analysis and Knowledge Support System (ReSAKSS). The team is grateful to Jonathan Wambua for his support in collating data and information.

Citation:

Kabubo-Mariara, J., Massawe S. Karugia J., Kirui, O., and Wanjiku J. 2011. Status, distribution and determinants of poverty in the COMESA region: a review of existing knowledge, ReSAKSS Working Paper No.33. International Food Policy Research Institute (IFPRI).

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ACRONYMS

COMESA	Common Market for Eastern and Southern Africa
DRC	Democratic Republic of Congo
ESA	Eastern and Southern Africa
GDP	Gross domestic product
GIS	Geographic information system
GNI	Gross national income
HDI	Human development indicators
LGP	Length of growing period
MDG	Millennium Development Goal
NEPAD	New Partnership for Africa's Development
PPP	Purchasing power parity
ReSAKSS-ECA	Regional Strategic Analysis and Knowledge Support System, East and Central Africa

ABSTRACT

Poverty and vulnerability are among the major problems in Eastern and Southern Africa (ESA). To design appropriate poverty reduction initiatives for the region, it is not only important to understand the distribution of poverty but also the determinants. Various reports have documented information on the status, distribution and determinants of poverty in each of the countries. Nonetheless, not much information has been documented in a form that is easily accessible to decision makers and planners involved in designing and implementing programmes for addressing poverty reduction and food insecurity at the regional level. This paper reviews the existing knowledge on the status, distribution and determinants of poverty in the ESA region to fill that knowledge gap. It emerges from the literature that poverty in the region differs across socio-economic groups and across space. The existing poverty maps suggests that most districts and provinces whose poverty rates are lower than the national averages are located in rain fed mixed crop–livestock systems and that the highest proportion of them are in the humid and sub humid systems. High poverty rates also occur in the livestock only systems. About half of the poor provinces and districts fall in areas with short growing periods; this affects their agricultural potential. The areas are also constrained by market access. Investment in irrigation, improved water management and improved market access would play a vital role in these regions.

The review suggests that household level determinants of poverty in the region include, but are not limited to: household characteristics—family composition, size and structure, age and marital status of head, gender of the head, education and other human capital capabilities; access to basic services such as social amenities, water and sanitation, credit and infrastructure; employment, occupation and incomes; asset ownership; access to remittances; burden of disease; variations in agricultural production; and declining food stocks and high food prices. Community/regional/country level determinants include: geography and related factors such as market access, agro-ecological zones, climate and ethnicity; the environment; population density; area of residence (rural vs. urban); income, growth and inequality; conflict, insecurity and political instability; and governance and corruption. However, it is difficult to separate the determinants of community level poverty from the determinants at the household level. The review further suggests that the determinants of poverty are fairly robust across many COMESA countries. This suggests the need for a consultative approach to poverty reduction in the region.

1. INTRODUCTION

1.1 The ESA region

This report covers Eastern and Southern Africa (ESA). We define the ESA region as the countries that are members of the Common Market for Eastern and Southern Africa (COMESA): Burundi, Comoros, Democratic Republic of Congo (DRC), Djibouti, Egypt, Eritrea, Ethiopia, Kenya, Libya, Madagascar, Malawi, Mauritius, Rwanda, Seychelles, Sudan, Swaziland, Uganda, Zambia and Zimbabwe. The report also covers Tanzania. The Regional Strategic Analysis and Knowledge Support System, East and Central Africa (ReSAKSS-ECA) is mandated to provide analytical and knowledge support to these countries. Below is a brief profile of the region.

1.2 Status of poverty in the ESA region

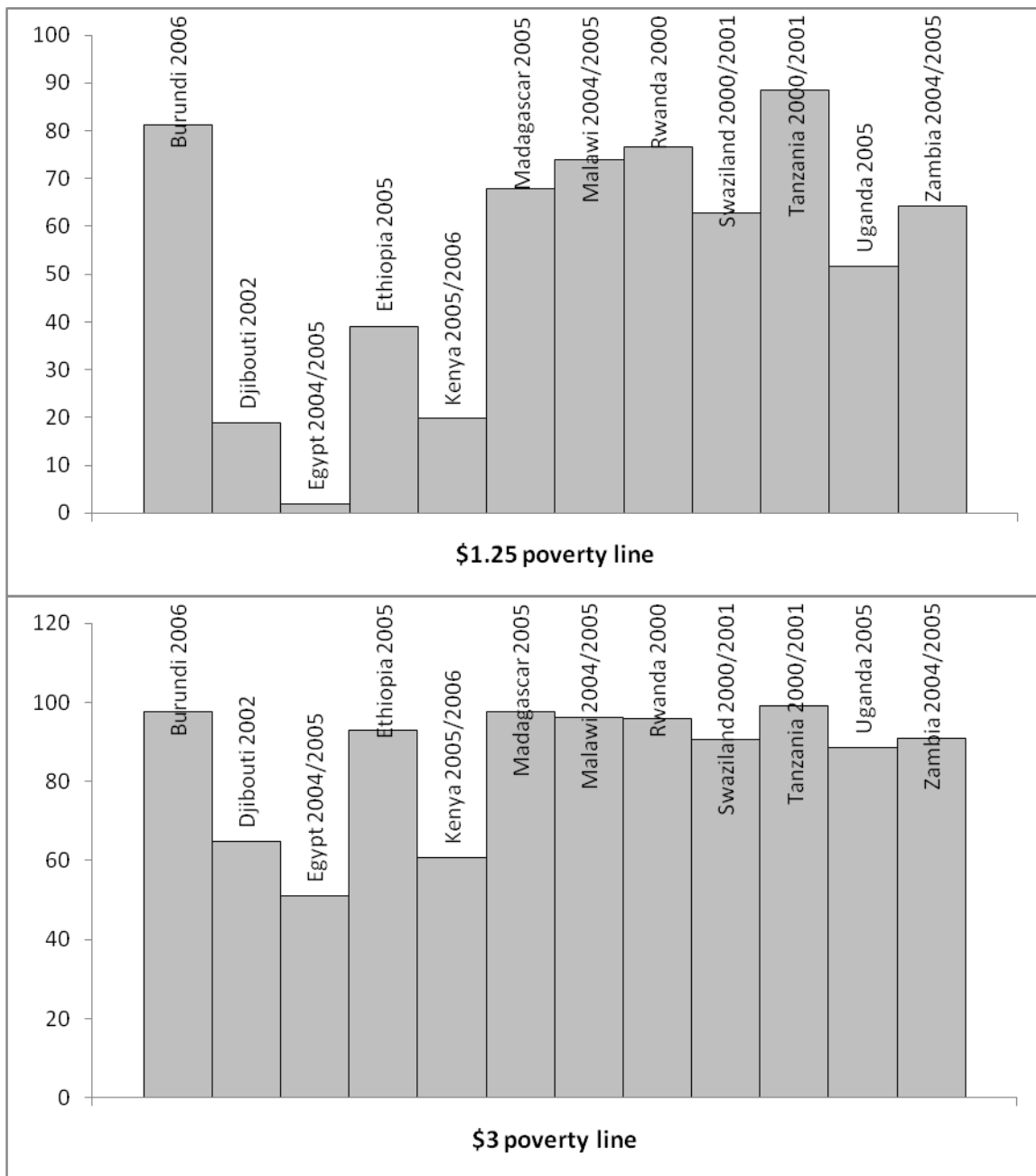
It is globally accepted that poverty is a serious development challenge. This is the reason why during the 1995 World Summit on Social Development in Copenhagen, 117 countries adopted a declaration and programme of action which included commitments to eradicate “absolute” and reduce “overall” poverty. This summit defined absolute poverty as a condition characterized by severe deprivation of basic human needs, including food, safe drinking water, sanitation facilities, health, shelter, education and information. This depends not only on income but also on access to social services (UN, 1995). Overall poverty was defined as lack of income and productive resources sufficient to ensure sustainable livelihoods as well as other characteristics such as hunger and malnutrition; ill health; limited or lack of access to education and other basic services; increased morbidity and mortality from illness; homelessness and inadequate housing; unsafe environments; and social discrimination and exclusion. Poverty is also characterized by a lack of participation in decision making and in civil, social and cultural life (UN, 1995). ESA is among the regions with the highest number of poor and food insecure people in the world. The region contributes significantly to the high poverty rates and numbers of poor people observed in sub-Saharan Africa. In most of the countries in ESA, more than a third of the national population lives below the national poverty line (Table 1). Estimates based on international poverty lines also indicate that poverty is persistent in the region (Figure 1). More than half the population lives below the international poverty line of 1.25 dollars a day in Burundi, DRC, Madagascar, Malawi, Rwanda, Swaziland, Tanzania and Zambia. There are various manifestations of poverty in the ESA region including: child malnutrition, high infant and under-five mortality rates, poor school attendance, higher prevalence of human diseases among others (Table 2). Estimates in Table 2 show that under-five mortality rates are

highest in Comoros, Burundi, Zambia and Uganda, while the rate of stunting is highest in Burundi, Madagascar, Ethiopia and Malawi.

Table 1. Population and poverty incidence in ESA countries

	Population (millions) mid-2008 ^a	Rural population 2008 (%) ^a	Population density 2007	Poverty survey year	Rural poverty rate (%)	Urban poverty rate (%)	National poverty rate (%)
Burundi	8.1	90	304	2002	68.7	66.0	68.0
DRC	64.3	66	27	2004–2005	75.7	61.5	71.3
Egypt	81.5	57	75	2004–2005	...	...	20.0
Eritrea	4.9	79	41	1993–1994	...	...	53.0
Ethiopia	80.7	83	75	2004–2005	39.3	35.1	38.7
Kenya	38.8	78	63	2005–2006	49.1	33.7	45.9
Madagascar	19.1	70	34	2001	70.1	48.1	76.5
Malawi	14.8	81	118	2009	43.0	14.0	39.0
Mauritius	1.3	58	631	1992	...	...	10.6
Rwanda	9.7	82	374	2005–2006	...	...	56.9
Swaziland	1.2	75	67	2000–2001	75.0	49.0	69.2
Tanzania	42.5	74	43	2007	38.0	24.0	33.6
Uganda	31.7	87	128	2005–2006	34.2	13.7	31.7
Zambia	12.6	65	16	2006			64.0
Zimbabwe	12.5	63	34	1995–1996	48.0	7.9	34.9

Sources: ^a = CSA (2003); IMF (2004); NSO (2009); UNCTAD (2005); URP (2007); UBOS (2006); NSO (2007); NISR (2007a); World Bank (2008); AfDB (2009); Population Reference Bureau (2009); World Development indicators <http://data.worldbank.org/indicator>.



Source: Poverty and inequality data, International comparable data sheet available at <http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTPOVERTY>

Figure 1. Percentage of the population below the international poverty line in selected COMESA countries

NOTES: data refers to the rates calculated based on the mostly recently available poverty statistics

Table 2. Prevalence of under-nutrition in children under the age of five years (percentage)

	Year	Malnutrition ^b - proportion of children (%)			Under five mortality rate per 1000 in 2008 ^a	Primary school attendance ^c
		under weight	stunted	wasted		
Burundi	2005	39	53	7	168	71
Comoros	2004	25	44	8	105	31
DRC	2007	31	40	9	199	61
Djibouti	2007	33	22	17	95	66
Egypt	2008	8	25	7	23	95
Eritrea	2002	40	38	13	58	67
Ethiopia	2005	38	47	11	109	45
Kenya	2005-06	21	35	6	128	79
Madagascar	2003-04	41.9	48	13	106	76
Malawi	2006	21	46	4	100	86
Rwanda	2005	23	45	4	17	86
Sudan	2006	31	33	15	109	
Swaziland	2006-07	7	24	2	83	84
Uganda	2006	20	32	5	135	82
Tanzania	2004-05	22	38	3	104	73
Zambia	2007	19	16	1	148	80
Zimbabwe	2005-06	17	29	6	96	92

Sources: a and b: The State of the World's Children Special Edition: Celebrating 20 Years of the Convention on the Rights of the Child, UNICEF, Tables 1 and 5 available at UNICEF child info statistics <http://www.childinfo.org> and UNICEF 2010 c Data refer to the most recent year available during the period specified in the column heading, : http://www.childinfo.org/education_primary.php?q=printme

Human dimension of poverty in ECA

It is widely accepted that poverty is multidimensional and encompasses all the problems that prevent people from developing their full potential and achieving a minimal level of well-being. This is what constitutes the human dimension of poverty (IMF, 2004). Human development indicator (HDI) is commonly used in the assessment of human welfare. This is a composite index measuring average achievement in three basic dimensions of human development—a long and healthy life, knowledge and a decent standard of living (UNDP, 2007).

Based on the human development report for year 2010 (see UNDP, 2010), Libya and Mauritius are the only countries in the ESA region classified within the category of high human development. Egypt and Swaziland are in the category of medium human development. The majority of countries in the region, thirteen, fall in the category of low human development, clearly indicating that poor household welfare remain a major development challenge in the region. These countries include Kenya, Madagascar, Comoros, Uganda, Djibouti, Tanzania, Zambia, Rwanda, Malawi, Sudan, Ethiopia, Burundi, DRC and Zimbabwe. Figure 2 illustrates geographical distribution of HDI values in the ESA region.

A large number of the countries in the region are close to the bottom of the global welfare ranking. Most countries in the region have a rank of more than 100 out of the 169 countries. UNDP, 2010 indicates that HDI ranks for the low human development countries in the COMESA region are as follows: Kenya (128), Comoros (140), Uganda (143), Djibouti (147), Tanzania (148), Zambia (150), Rwanda (152), Malawi (153), Sudan (154), Ethiopia (157), Burundi (166) and Zimbabwe (169).

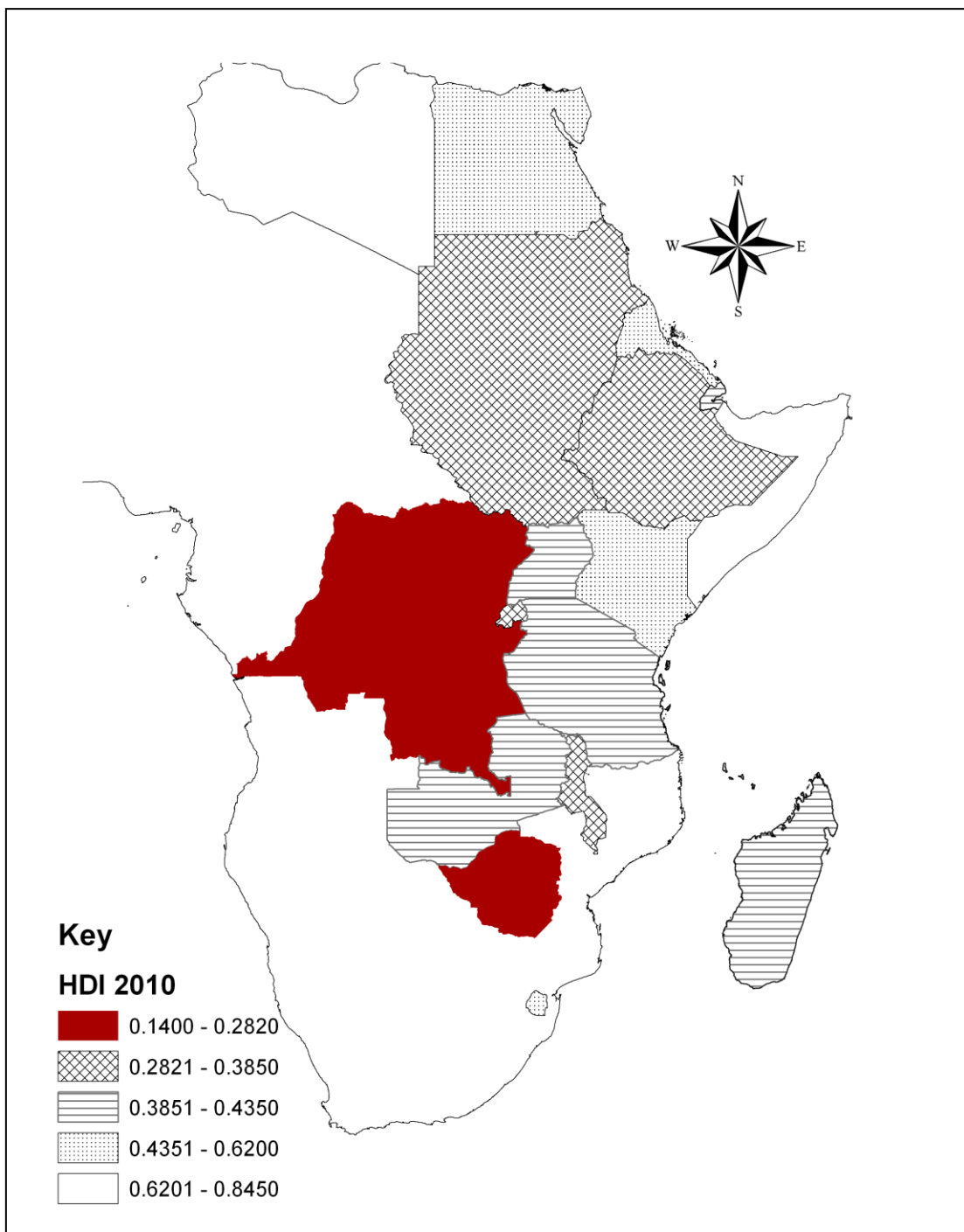


Figure 2. Human development index (HDI) for ESA countries, 2010.

Source: Maps generated by the authors based on data from the human development indicators for year 2010 (UNDP, 2010)

Notes: High numbers are good, while small numbers are bad in terms of welfare

Income inequality, gender and poverty in the ESA region

Poverty in the ESA region is not uniform within countries or across the population. Differences exist across socio-economic groups and across space. Understanding these differences is crucial to informing proper design of targeted solutions to reach the needy. Due to such socio-economic and biophysical factors, certain members of the population are more vulnerable to poverty than others. For example, within the ESA countries, the most vulnerable segments of the population include: i) poor women (and specifically households headed by poor females); ii) rural population and especially the rural landless and smallholders with a limited size of land; iii) people living in arid and semi-arid lands, e.g. the pastoralists and other victims of climatic calamities; iv) the urban poor such as casual labourers, unemployed, and street families; and v) people with ill-health due to chronic diseases (such as those affected/infected with HIV AIDS and other long-term diseases and disability, among others). To illustrate variations in poverty and vulnerability status across different members of the population, we discuss poverty in relation to factors such as national income distribution and gender. More information on sub-national variations in poverty level due to various factors is presented in subsequent sections of the report.

Income inequality and poverty

Poverty is related to income inequality. Those with low income within the population tend to be poor and they cannot afford expenditures enjoyed by the affluent members of the population. Inequality in the distribution of income is reflected in the percentage shares of income or consumption accruing to portions of the population ranked by income or consumption levels (UNDP, 2007). Like for most poor countries globally, ESA countries exhibit a high level of inequality. For example, more than 40% of the total national income in Burundi, Egypt, Kenya, Madagascar, Malawi, Rwanda, Swaziland, Tanzania, Uganda and Zimbabwe is held by the richest 20% of the population while the poorest 20% hold less than 10% of total income (UNDP, 2007). Such high levels of inequality in income distribution suggest that poverty distribution will also be skewed towards those with low incomes. This illustrates the need for measures to address inequality in income distribution in the region to ensure that economic growth gains are also enjoyed by the poor and vulnerable population in the region.

Gender and poverty

Gender is a critical concept in the analysis and eradication of poverty (UNDP, 1998; World Bank, 2001; UNDP, 2007). This is crucial because constraints, opportunities, incentives and needs differ by gender. It is also clear that poor women are worse off than their male counterparts in all dimensions of poverty. Available evidence shows that women have lower levels of education and literacy (UNDP, 2007), limited access to formal employment and they generally tend to have lower incomes than men. This is also the case in the ESA region. The ratio of estimated female to male earned income is less than 1 in the region indicating that females' income are lower than that of male (Figure 3).

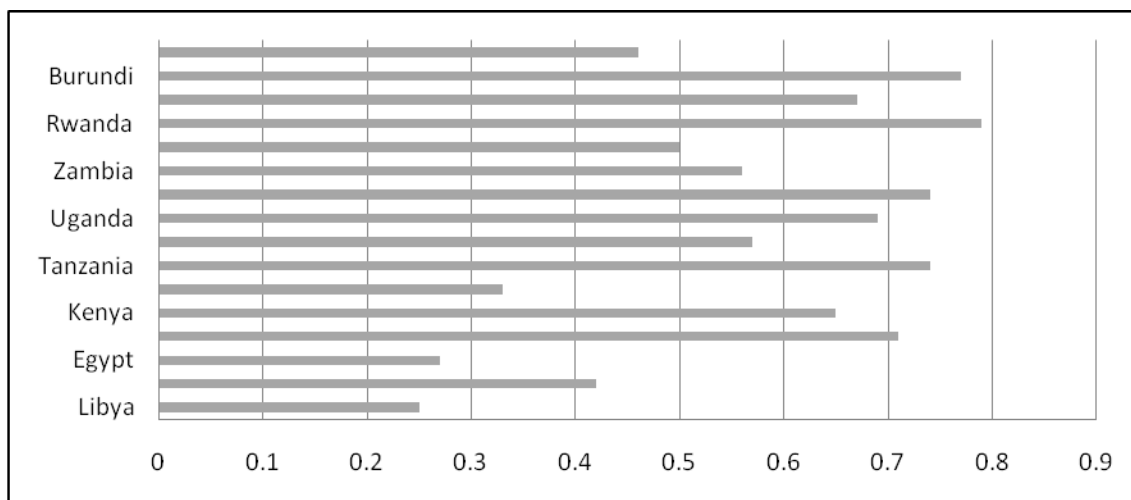


Figure 3. Ratio of estimated female to male earned income (2007) in the selected countries in the ESA region

Source: UNDP (2007).

Notes:

This indicator measures the degree of comparability between the incomes of females and males. It is derived by dividing the estimated earned income (PPP US\$) for females over that of males (UNDP, 2007; World Bank, 2007). Generally, there is increased recognition of the relevance of gender for development work in Africa (Gelb, 2001; World Bank, 2001).

2. TRENDS AND GEOGRAPHY OF POVERTY IN THE ESA REGION

2.1 Poverty trends in the ESA region

Since 2000, some countries in ESA have experienced impressive gains in poverty reduction and economic growth (Table 3). The estimates suggest that Malawi, Uganda and Zambia have witnessed the largest reductions in poverty over the last decade. At the same time, remarkable increases in per capita income have occurred. Trends in gross national income (GNI) per capita (measured at purchasing power parity—PPP) show that per capita income has grown by more than 50% in Egypt, Ethiopia, Rwanda, Sudan, Tanzania, Mauritius and Uganda. The rest of the countries have also had impressive improvements, with increases in GNI per capita PPP ranging between 20% and 46%. Eritrea is the only country that had an increase of less than 10% (Table 4).

Table 3. Trends in poverty reduction in the selected countries in the ESA region

Country	Years**	Poverty incidence (%)	Source(s)
Kenya	1992	44.8	KNBS (2007); Omiti and Nyoro (2008)
	1994	40.3	
	1997	52.3	
	2005–2006	45.9	
Malawi	1997–98	66.5	NSO-Malawi and IFPRI (2002); Benson et al., (2004); NSO (2005); NSO (2006)
	2004	52.4	
	2005	50.0	
	2006	45.0	
	2007	40.0	
Madagascar	1993	70.0	Nicita (2004)
	1997	73.3	
	1999	71.3	
	2001	70.1	
Rwanda	2000–2001	60.4	Republic of Rwanda (2001); NISR, (2007a,b)
	2005–2006	56.9	
Tanzania	1991–1992	38.6	URP (2007)
	2000–2001	35.7	
	2007	33.6	

Country	Years**	Poverty incidence (%)	Source(s)
Uganda	1992	56.4	UBOS (2006)
	1998	45.0	
	2000	33.8	
	2002–2003	38.8	
	2004	37.7	
	2005–2006	31.3	
Zambia	1991	70.0	Zambia Statistics Office, Living Conditions http://www.zamstats.gov.zm/lcm.php
	1993	74.0	
	1996	69.0	
	1998	73.0	
	2004	68.0	
	2006	64.0	

** Based on available national data sets from National Statistical Offices. Poverty rates based on official national basic need poverty lines.

Source: Compiled by ReSAKSS-ECA.

Table 4. Per capita income, PPP (current international US\$) in COMESA countries

	2000	2008	% change, 2000–2008
Burundi	310	380	22.6
Comoros	970	1,170	20.6
DRC	210	290	38.1
Djibouti	1,600	2,330	45.6
Egypt	3,570	5,460	52.9
Eritrea	600	630	5.0
Ethiopia	460	870	89.1
Kenya	1,130	1,580	39.8
Libya		15,630	
Madagascar	790	1,040	31.6
Malawi	610	830	36.1
Mauritius	7,490	12,480	66.6
Rwanda	580	1,010	74.1
Seychelles	15,310	19,770	29.1
Sudan	1,070	1,930	80.4
Swaziland	3,650	5,010	37.3
Tanzania	750	1,230	64.0
Uganda	680	1,140	67.6
Zambia	840	1,230	46.4

Source: <http://datafinder.worldbank.org/>. Accessed 20 March 2010

2.2 Where are the poor in ESA? Geography of poverty in the ESA region

Introduction

While poverty is widespread in ESA, it is not uniformly distributed geographically. There is spatial variation in poverty distribution and whether one is located in rural or in urban areas, in certain administrative provinces or even particular natural regions is important in determining the poverty rate they face. Poverty rates in rural areas tend to be higher than in urban areas within the region. However, this situation is changing, with urban poverty increasing fast. This growth in urban poverty has been associated with rapid rates of urbanization in ESA, with the urban population growing faster than the rate of growth of the total population (Figure 4). Rural–urban migration is one of the key factors for increased urbanization. A number of push

factors are making people move from the rural areas including wars and insecurity; drought and famine; land pressure (due to rising population) leading to declining farm size; landlessness; poor performance of agriculture (due to various factors such as declining agricultural productivity, low prices of agricultural products etc.); low standards of living in the rural areas among others. Several factors pull people to the urban areas, e.g. amenities available in the urban centres (such as good schools, hospitals, better employment opportunities, recreational facilities, transportation facilities etc.), and perceptions that many jobs are available in the urban areas.

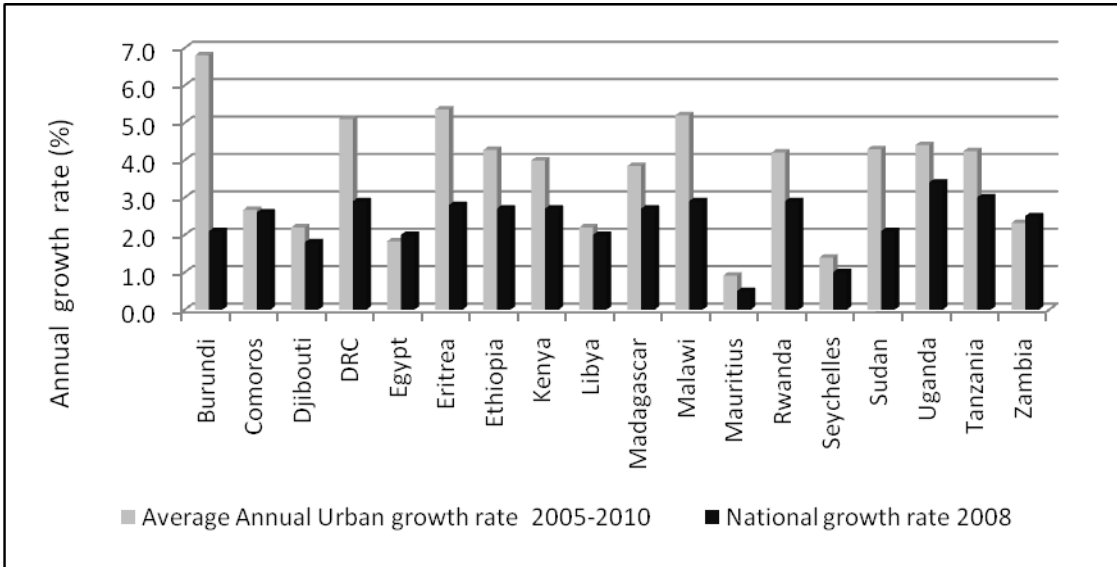


Figure 4. Average annual rate of change of urban population compared to national population growth rates in ESA countries

Sources: Population Reference Bureau (2008); United Nations, 2008.

Regional dimension of poverty in ESA

Clearly disparities exist in the distribution of poverty within the ESA countries. Certain districts/provinces are poorer than others due to various factors. Annex 1 Table A1 presents a list of provinces and districts whose poverty rates are higher than national averages in ESA. To provide visual presentation of the distribution of poverty in ESA, information in Table A1 is summarized in form of a poverty map (Figure 5). Poverty maps are useful tools to provide

decision makers with information to support targeting of poverty alleviation efforts. Poverty maps provide easy visual comparisons between regions or districts within a country. Information on maps provides a non-specialist audience with data on the level and distribution of poverty within a country. They are especially useful when disaggregated at sub-national levels because national level aggregate data mask differences within a country and may give the impression of uniformity (Woldemariam and Mohamed, 2003). Presentation of information through means such as graphs and maps has been proven to be very effective in supporting decision making by various actors in agriculture and rural development. This is because decision makers are more likely to visualize figures and their distribution across space when presented graphically rather than numerically. As a policy tool poverty mapping can assist in pinpointing various factors that determine that particular spatial distribution (UNECA, 2005b). Figure 5 illustrates the gravity of the poverty problem in ESA. The map, however, masks large differentials in poverty across regions. To see these disparities, detailed poverty maps for specific ESA countries are presented in Annex 2.

Addressing poverty in the poor districts and provinces requires a good understanding of the development constraints in these areas and of the available opportunities. Through the use of geographical information systems (GIS) analysis tools, prominent farming systems of the poor districts and provinces were established to provide a basis for discussions on constraints and opportunities. Annex 1 Table A1 illustrates that most of the districts and provinces whose poverty rates are lower than the national averages are located in the rain fed mixed crop–livestock systems. From the table, it is apparent that most poor districts are located either in arid, sub-arid or sub-humid farming systems. A summary of the estimates in the table shows that 36.1% of these districts are located in arid and sub-arid farming systems (in MRA and LGA), while 30.1% are in the humid and sub-humid systems (MRH and LGH) (Table 5). Several poor districts are also found in the highlands/temperate farming systems (MRT and LGH) and in other systems that mostly represent forest, mangroves areas (Annex 1 Table A1; Table 5). Table 6 summarizes the constraints and opportunities by farming systems.

To further identify the kind of development constraints and opportunities facing the poor in ESA, the poor districts were overlaid on the continental development domain map to provide an overview of the most prominent domains in the district or province (Annex 1 Table A1; Table

5). A development domain is defined as a geographical region that has similar comparative advantages, based upon similar agro-climatic conditions, access to markets and population density. Recent empirical studies in Burundi, DRC, Eritrea, Ethiopia, Kenya, Madagascar, Rwanda, Sudan, Tanzania and Uganda (see Pender et al., 1999; Ehui and Pender, 2005; Omamo et al., 2006; Pender et al., 2006) suggest that these three factors can be used to predict the type of agricultural enterprises and development pathways encountered in different rural communities and across the region. The different geographic areas delineated through mapping the combination of these three factors are termed 'development domains'.

In our analysis we found that about a quarter (24%) of the poor provinces and districts fall in areas with short growing periods which affects their agricultural potential (Table 5). Investment in irrigation and improved water management would be beneficial to these regions. Table 5 also illustrates that close to a third of the poor districts and provinces (29%) were located in the areas with high agricultural potential, poor market access and low population density (HLL). Approximately 13% were located in high agricultural potential areas with poor market access and high population density. Access to market is a serious development constraint in both high and low potential areas (Table 5). Substantial scope exists for poverty reduction by addressing development constraints in high potential areas with poor market access. Such areas represent the greatest potential for agricultural development and high scope for broad-based benefits from regionally conceived initiatives in agricultural development (Pender et al., 1999; Omamo et al., 2006). More specifically, Omamo et al. (2006) pointed out that the HLL domain emerges as the clear priority for efficient, equitable, and sustainable growth in the ESA region. This is the domain where most poor areas in ESA are located suggesting that roads and transport infrastructure must be improved alongside addressing other constraints (such as poor access to extension, education, rural energy among others) so as to harness the potential benefits of high potential areas in poverty reduction. Similarly, addressing the market access constraint in the low potential areas will promote livestock trade and alternative income generating opportunities that could play a part in poverty reduction.

Table 7 summarizes potential development strategies or pathways and recommended priority interventions in various development domains in ESA. Box 1 provides an overview of recommended development interventions to address development challenges in the region.

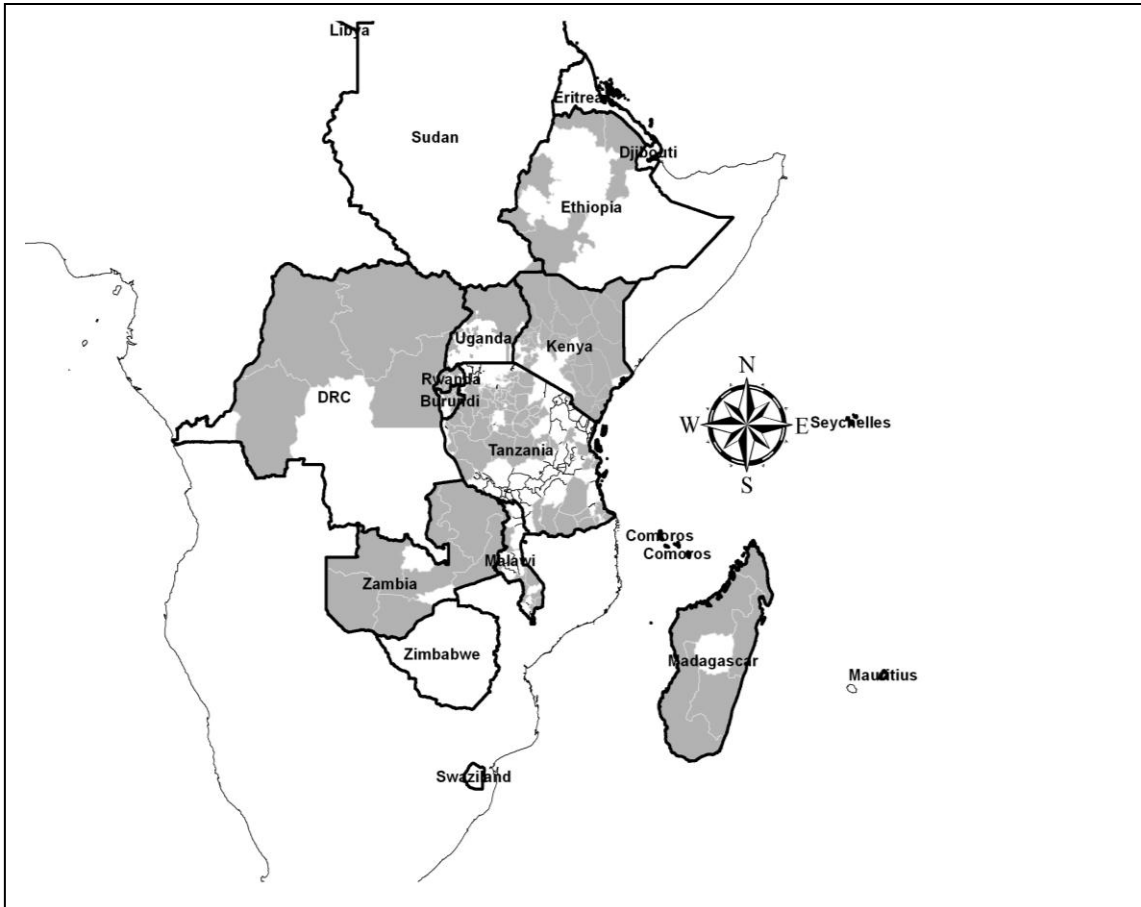


Figure 5. Areas with poverty rates higher than national average poverty rates (%) in selected countries in the ESA region.

Source: Graphics by ReSAKSS-ECA based on data sources indicated on Annex 1 Table 1.

Table 5. Summary of the proportion of poor districts by farming system and development domains

Farming system	% of poor districts	Cumulative %
LGA: Livestock only arid/sub-arid systems	16.4	16.4
LGH: Livestock only humid/sub-humid systems	3.3	19.7
LGT: Livestock only highland/temperate systems	0.6	20.2
MRA: Rainfed mixed crop/livestock arid/sub-arid systems	19.7	39.9
MRH: Rainfed mixed crop/livestock humid/sub-humid systems	26.8	66.7
MRT: Rainfed mixed crop/livestock highland/temperate systems	16.9	83.6
OTHER: all other systems (mostly forest, mangroves)	15.9	99.5
URBAN built-up areas as defined by GLC2000	0.5	100.0
Total	100.0	
Development domain (LGP, MK, PD)		
111:LLL -Low (short) LGP, Poor market access, Low population density	12.6	12.6
112:LLH - Low (short) LGP, Poor market access, High population density	2.2	14.8
121:LHL -Low (short) LGP, Good market access, Low population density	4.4	19.1
122:LHH -Low (short) LGP, Good market access, High population density	4.4	23.5
211:HLL -High(long) LGP, Poor market access, Low population density	28.9	52.5
212:HLH - High (long) LGP, Poor market access, High population density	12.6	65.0
221:HHL- High (long) LGP, Good market access, Low population density	11.5	76.5
222:HHH- High (long) LGP, Good market access, High population density	23.5	100.0
Total	100.0	

Notes: This table is based on Annex 1 Table A1.

- LGP = length of growing period; 1 and 2 means short and long number of days respectively; long days (>180 days per year) imply high agricultural potential and vice versa.
- MK = market access; 1 and 2 represent bad (more than 4 hours travel time) and good market access respectively.
- PD = population density measured as people per square km; 1 and 2 represents low and high density respectively. Areas with high population density are those that have more than 50 people per square kilometre

Table 6. Constraints and opportunities in the farming systems where the poor are found in ESA

Farming systems based on	Constraints/challenges	Opportunities to reduce poverty and vulnerability
<p>Livestock only systems:</p> <p>Including those located in various systems where livestock producers are found, e.g. hyper arid, arid/sub-arid, humid/sub-humid, highland/temperate (the marginal producers in the Horn of Africa are predominantly located in the arid and sub-arid lands, the constraints here are mostly for those areas)</p>	<ul style="list-style-type: none"> • Low erratic rainfall of up to 700 mm per annum, length of growing period (LGP) < 180 days, fragile ecosystems • Poor soils: desert soil, erosion by wind • Degradation of natural resources (limited land, lack of water, seasonality of feeds) • Poor infrastructure: affecting trade and service delivery/access to markets • Standards: high investments to achieve export standards, creation and maintaining disease free zones, strict assessment criteria by importing countries • Limited capacity (expertise, facilities) • Policies and other institutions promoting livestock development have been weak or absent • Lack of political will to support the sector and low public investment to the sector, poor access to agriculture/livestock extension • Livestock diseases: a threat to trade and public health, eradication of diseases is very expensive to most countries • Cross-border movements could compromise countries disease surveillance efforts against trans-border diseases • Limited success of interventions to increase primary productivity 	<ul style="list-style-type: none"> • Livestock production, value addition and marketing • Diversification of economic activities to include farming under irrigation where possible, trade and other activities • Improved rangeland management • Participatory natural resources management can yield positive results • Water harvesting and other water conservation techniques to ensure availability of water for irrigated cropping, and other uses including domestic use and for livestock is of obvious importance • Harness benefits of rich indigenous ecological knowledge
<p>Rainfed mixed crop/livestock systems*</p> <p>Especially the arid and sub-arid systems within the mixed systems</p>	<ul style="list-style-type: none"> • Low erratic rainfall, periodic and frequent droughts • Environmental degradation • Population pressure and small and declining farm sizes • Scarcity of land for extensive farming and grazing 	<ul style="list-style-type: none"> • Suitable for integrated crop/livestock production • Enhancing livestock production through production of dual purpose crops, e.g. maize, wheat, sorghum and millet • Intensive agricultural production • Diversification of farming activities to include various food crops and local animals • Improved land management

		practices e.g. agro forestry, conservation agriculture
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* Most of the constraints under livestock only systems are also applicable here.

Sources: Seré and Steinfeld (1996); Thornton et al. (2006); Seré (2008); Thornton et al. (2008); Karugia and Massawe (2010).

Table 7. Potential development strategies and recommended priority interventions in various development domains in ESA

Development domains	Development domains parameters **			Potential development strategies	Priority interventions
	LGP	MK	PD		
111: Low, Low, Low	Short	Bad/poor	Low	Low input cereals, limited livestock intensification, emigration	Improve roads and transport infrastructure, improved land management and grazing, invest in irrigation and water management, promote livestock marketing and competitiveness
112: Low, Low, High	Short	Bad/poor	High	Low input cereals under irrigation, small ruminants to utilize the available fodder through limited intensification, tree planting on degraded lands, continued investment in soil and water conservation structures, emigration (seasonal or permanent)	Improve roads and transport infrastructure, improved land management, invest in irrigation and water management
121: Low, High, Low	Short	Good	Low	Low input cereals under irrigation, livestock (e.g. small ruminants, beef cattle and camels) to utilize the available fodder, grazing improvement, beekeeping, livestock marketing, emigration (seasonal or permanent)	Improved land management and grazing, invest in irrigation and water management, promote livestock marketing and competitiveness
122: Low, High, High	Short	Good	High	High input cereals, perishable cash crops, dairy intensive livestock, rural non-farm development	Invest in irrigation and water management including water harvesting
211: High, Low, Low	Medium-high	Bad	Low	Non-perishable high value (relative to volume) crops, high input cereals, livestock (particularly small ruminants), beekeeping, reduce the perishability and increase the value to volume ratio of some commodities through local processing, such as by drying fruits or meats, improved grazing	Improvements in road and transport infrastructure, extension, marketing, improved land management, invest in irrigation and water management
212: High, Low, High	Medium	Bad/poor	High	As in the row above but enhance intensification and crop livestock interaction	As above, with more focus on intensification

211:High, High, Low	Medium- long	Good	Low	Most agricultural strategies are feasible in this domain, but the more commercial strategies linked to high value products, such as production of perishable cash crops and dairy production, are likely offer the greatest economic potential in the long run, also high input cereals, rural non-farm improved grazing	Agricultural marketing, agricultural extension, improved land management
212:High, High, High	Medium	Good	High	As above but focus more on intensification and enhancing crop livestock interaction	As above, with more focus on intensification

Source: Adapted from Pender et al. (1999). Notes: LGP = length of growing period; MK = market access; PD = population density. ** Description of the domains in the previous column

Box 1: Hypotheses about where public policy and investment priorities should be placed to address development constraints in various development domains

Investment / Interventions	Areas	Key consideration points
Road development	<p>Areas relatively close to urban markets where there is high agricultural potential or high irrigation potential</p> <p>High potential areas further from markets, especially where population density is high.</p>	<ul style="list-style-type: none"> • Need for measures to insure food security to allow farmers exploit the opportunities available. • Substantial off-farm income may make farmers willing and able to specialize in cash crop production. • Need for increases in food productivity to enable greater cash crop production. Increased cash crop production may also help promote increased food crop production (by enabling purchase of inputs), so that both food and cash crop production may increase for some time before greater specialization occurs. Research and extension programmes should recognize and exploit such complementarities • Facilitate land registration and avoiding restrictions on long-term land leasing to reduce problems of tenure insecurity and land fragmentation.
Irrigation development	Drier areas, supplemental irrigation in higher rainfall areas can also be very valuable.	<ul style="list-style-type: none"> • Adequate attention must be given to institutional issues, such as how water will be allocated and how losers will be compensated, before physical construction
Adequate provision of inputs and credit, and development of the marketing systems	All areas	<ul style="list-style-type: none"> • Need for Development of processing facilities and marketing institutions (such as cooperatives and contract farming), facilitated by a supportive policy environment. • Research and extension programmes to emphasize market opportunities for new commodities, management of animal health, integrated pest management and integrated soil nutrient management.
Promoting increased productivity of all land, including grazing lands and wastelands	low potential areas without good potential for irrigation (especially with lower population density),	<ul style="list-style-type: none"> • Cautious efforts by governments and NGOs to catalyse development of local institutions to better manage grazing lands are needed. • Contingent upon improved grazing land management, some intensification of livestock production is possible. Increased production of small ruminants may be a particularly profitable strategy. • Private allocation of wastelands and sloping lands for tree planting has potential to substantially reduce the biomass shortage in some areas, as well as increasing household wealth and incomes, though the potential for income generation is greater closer to markets. In the near term, food aid may be needed in such areas, though priority should be given to developing alternative sources of income as well as increasing land productivity
Rural non-farm development activities	low potential areas with good market access	Priority should be given to investment in infrastructure (especially electricity), availability of credit to finance start-up enterprises, and education and training of the labour force.

Source: Adapted from Pender et al. (1999).

3. DETERMINANTS OF POVERTY IN THE ESA REGION

3.1 Introduction

This chapter presents a review of the determinants of poverty in the COMESA region. The review focuses on factors that influence poverty at the household level, community level and by area of residence (rural and urban). Most determinants of poverty are cross-cutting and it is difficult to disentangle determinants at each level.

3.2 Determinants at the household level

Household characteristics

The literature concurs that household characteristics, namely education, family composition and structure, household size, marital status of the head among other factors, are key determinants of poverty. Households headed by illiterate persons are more vulnerable to poverty than those headed by more educated persons (Mukherjee and Benson, 1998; Mwabu et al., 2000; Kimalu et al., 2002; Kasirye, 2007). Education opens up opportunities for wage employment and other economic activities outside farming, therefore providing extra income which is used to purchase food to fill the production shortfall for subsistence farmers. Quality of education further enhances labour productivity (Okurut et al., 2002; Bashaasha, 2006; Abuka et al., 2007; Adahl, 2007). Education also affects reproductive behaviour, use of contraceptives and the health of the children, which are important factors in addressing the problem of poverty (Oluoko-Odingo, 2006). Across the ESA countries, the role of education in poverty reduction has been well documented (Government of Kenya, 2001; Okurut et al., 2002; CSA, 2003; Gebre-Medhin, 2006; Adahl, 2007).

Household size has significant negative effects on the welfare status of a household (Andeberg and Pederson, 2001; Government of Kenya, 2001; Paternostro, 2001; Okurut et al., 2002; Gebre-Medhin, 2006; Rena, 2007; Kasirye, 2007). However, the magnitude of the effect of

household size on poverty is not the same across the ESA countries. While smaller economies like Eritrea and Burundi are adversely affected, the effect is most pronounced among the vulnerable groups (slum dwellers and the marginalized) across the region (Rena, 2006). Large household size has consistently been shown to keep per capita income growth rates below population growth rates, thus creating difficulties for government poverty reduction efforts (Government of Kenya, 2001; Bashaasha, 2004; Gebre-Medhin, 2006).

Gender and poverty

Gender disparities in sharing economic power have been documented as a major determinant of poverty in the region. There is high inequality in income and asset ownership among men and women in ESA (Blackden, 2003). Evidence from Burundi, Eritrea, Kenya, Madagascar and Uganda concurs that women are more vulnerable to poverty than men. Female headed households in Malawi are poorer than the male headed households (Mukherjee and Benson, 1998). Other studies have also shown the risk of poverty to be on average lower in households with male and young heads of households in Madagascar, Eritrea and Ethiopia (IMF, 2004; Rena, 2007; Paternostro, 2001). Evidence from Eritrea also shows that the incidence of poverty is slightly higher among women than men (Fissuh and Harris, 2007). Evidence from Rwanda shows that female headed households are more likely to be poor than male headed households; and when poor, they are less likely to move out of poverty (Justino and Verwimp, 2008). Poverty in women is linked to unequal access to and distribution of resources, a lack of control over productive resources and limited participation in political and economic institutions (Gelb, 2001; Kimalu et al., 2002). The relatively low entitlements of poor women, such as their restricted access to land ownership, credit and other productive resources, and their limited capabilities resulting from illiteracy and low education levels, are well-documented determinants of feminization of poverty (Mwabu et al., 2000). Most women also lack access to regional markets. Social and cultural expectations and norms confine women to unpaid household work and restrict their participation in paid production (Kimalu et al., 2002). Evidence from Uganda further shows that welfare inequality among female headed households has continued to widen over time, and that it is inequality within each gender sub-group that contributes most significantly to total inequality (Ssewanyana et al., 2004). Migration and

consequent changes in family structures have placed additional burdens on women, especially those with many dependants.

It is difficult if not impossible to reduce poverty without addressing the gender imbalances reflected in the different dimensions of poverty (World Bank, 2007). An effective gender approach in designing and implementing poverty reduction interventions should take these differences into consideration, focusing on equality and equity of the outcomes.

Access to basic services

Poverty can also be determined by access to basic service by households (Government of Kenya, 2001). Degree of access to services like formal credit, food transfers, off-farm employment and a host of village infrastructure such as distance to market, distance to the health centre by rural households is one of the indications of poverty levels. Paternostro (2001), for example, documents that the longer the distance to the nearest basic services (schools and health clinics), the poorer the household in Madagascar. Similar sentiments are documented by Grosh and Munoz (1996) in Malawi and by Bashaasha (2006) and UBOS (2006) in Uganda. The most noted factors associated with socio-economic inequality between households and groups in the ESA countries relates to access to public infrastructure and access to productive resources (Rena, 2006).

Employment and earnings

In the literature, both unemployment and informal sector employment have been identified as important links between poverty and labour markets. Some analysts define poverty as the ratio of the combined number of unemployed and those working in the informal sector to the total labour force (Agenor, 1998). Available evidence from the region shows that earnings in the informal sector are typically low and not enough to push people out of poverty. In addition, poverty and vulnerability are high among persons unable to find jobs due to lack of skills, physical disabilities and age (Kimalu et al., 2002).

It is evident from the literature that the probability of being poor decreases with an increase in number of employed persons within the household (Mwabu et al., 2000; Government of Kenya,

2001; Kimalu et al., 2002; CSA, 2003; Gebre-Medhin, 2006). An inverse relationship has been depicted between the probability of a household being non-poor and number of employed persons per household in Eritrea (Fissuh and Harris, 2007). Access to off-farm employment at the household level has been found to significantly reduce poverty levels in the region. The incidence, depth and severity of poverty are lower in households with an adult in formal employment either in the public or the private sector (CSA, 2003; UNDP/UNEP, 2006). The literature establishes that households whose heads are casual workers are very likely to be poor (GOM, 2002). Households headed by women engaged in household business activities also suffer from severe poverty (Hamdok, 1999).

Asset ownership

Poverty has been documented to be closely related to low asset holding (Enquobahrie, 2004; IMF, 2004). Land and livestock holdings are considered important economic assets by a majority of rural households (Freeman et al., 2008). Several studies have also established that household asset holdings coupled with at least primary education leads to significantly lower poverty levels (Paternostro, 2001; UNDP/UNEP, 2006; Rena, 2007; AfDB, 2009).

Land size determines the type(s) of enterprises that can be established as well as the amounts that can be produced by households. The poor tend to have small pieces of land and in many cases large household sizes, as a result they are normally not able to produce enough to feed their families or sell (Okurut, 2002; Nicita, 2004; UNDP/UNEP, 2006).

Remittances

Remittances (from within and abroad) are an important determinant of poverty in the ESA region. However, their impact has received little mention in the poverty literature. Available literature suggests that remittances significantly reduce poverty rates in Eritrea and Sudan (Mkenda et al., 2004; Gebre-Medhin, 2006). Households receiving remittances from relatives working or living abroad have significantly higher welfare than their counterparts without remittances (Mkenda et al., 2004).

Burden of disease

The risk of poverty is on average higher in households with members suffering from ill health (Paternostro, 2001; Rena, 2007). Poverty also perpetuates ill health because the poor, compared with the non-poor, are less likely to report health problems and are less likely to seek treatment in the event of illness (Kimalu et al., 2002). The burden of diseases such as HIV/AIDS, malaria and water-borne illnesses weighs heavily on both the country and households, affecting income, food security and development potential. Women are particularly vulnerable because they do not have equal access to social and economic assets (Mkenda et al., 2004; Adahl, 2007). HIV/AIDS is most prevalent among the youth and the middle-aged in the ESA region, the most productive segment of the population (Mkenda et al., 2004; Christiaensen, 2005; Tladi, 2006; Adahl 2007). Empirical studies have indicated a dual relationship between poverty and high rates of HIV in the region. Several studies have found that there is an increased risk of HIV infection among the poor, due to poverty-related characteristics such as low education and lack of income, among others (Ganyaza-Twalo and Seager, 2005; Tobey et al., 2005; EAC, 2006; Tladi, 2006). Thus, there is evidence to suggest that poverty makes the poor engage in high-risk behaviour making them more vulnerable to HIV/AIDS. These causal relationships could be exemplified by the high rates of HIV/AIDS among slum dwellers and some fishing communities of ESA (Tobey et al., 2005; EAC, 2006; Mbirimtengerenji, 2007; Kambewa et al., 2009). However, studies have also documented evidence of AIDS being a contributing factor for making people and families fall into poverty. HIV/AIDS exacerbates poverty through morbidity and mortality of productive adults and the associated consequences such as poor health and related health expenses, funeral expenses, costs of raising orphans among others (Government of Uganda, 2002; Booysen, 2003; Wiegers et al., 2006).

Declining agricultural production

Agriculture is the major source of income and employment for the majority (70 to 80 percent) of rural people in the ESA region. It plays an important role in the economies of ESA countries in terms of its contribution to the gross domestic product (GDP) (UNDP/UNEP, 2006). Poor agricultural productivity as well as declining production of staple foods in the ESA region has

contributed to food poverty in the region. For example, maize productivity in most countries in the region is much lower than the world average or what is achieved in other parts of the world such as North America and Asia (Figure 6). While agricultural productivity in the region is among the lowest in the world, yields of most crops in the COMESA region are below African and global levels (Omamo et al., 2006). Several studies have documented dependence on agriculture as one of poverty determinants of poverty in some of the ESA countries (Okurut et al., 2002; UNDP/UNEP, 2006). The poor performance of this sector in the Horn of Africa (Eritrea, Ethiopia, Djibouti, Kenya, Somalia and Sudan) has left many rural people dependent on agriculture poorer than ever (Hamdok, 1999; Enquobahrie, 2004; Gebre-Medhin, 2006).

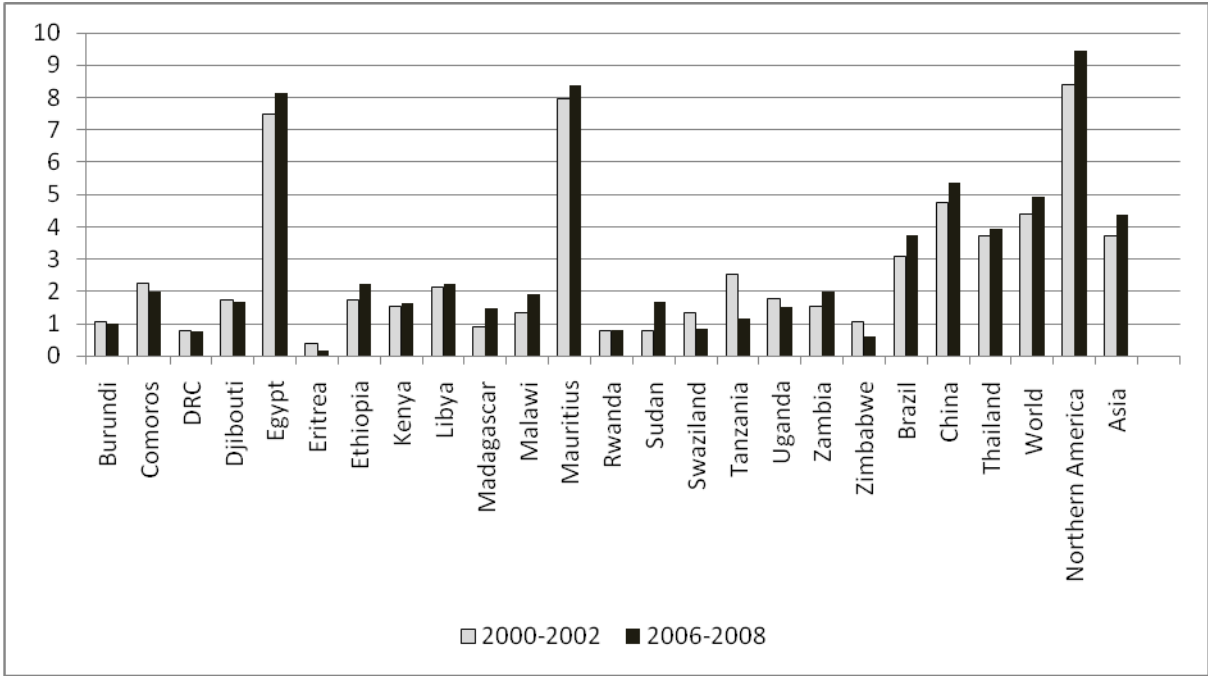


Figure 6 Maize yields (tonnes/ha) in ESA and other parts of the world, averages for 2000-02 and 2006-08

Source: Computed based on data from FAOSTAT accessed in June 2010.

The declining production can be attributed to several factors. Climatic conditions (drought and other vagaries of the weather) constitute one of the factors. Drought episodes interfere with food availability and incomes of households in both poor and non-poor households. Excessive

dry and wet weather leads to crop and livestock losses, human deaths and loss of property. The impact is most severe in arid and semi-arid areas where many households are forced to migrate in search of pasture and water (Oluoko-Odingo, 2006). Other factors include lack of farming incentives including access to credit that could facilitate adoption of improved technologies, high and rising costs of inputs, such as fertilizers and pesticides and fragmentation of land. In addition, input and output markets are important drivers of poverty. Poor market access is evident in poorly connected regional markets with poor market information flows. With poor markets access, farmers lack means and incentives not only to deliver agricultural services and inputs to the farm, but also to sell farm produce.

Declining food stocks

Related to declining agricultural production is the decline in food stocks. Stocks of wheat, coarse grains and vegetable oil have fallen to low levels relative to use, reducing the buffer against shocks in supply and demand (Karugia et al., 2009; Nzuma et al., 2010). Declining food supply coupled with rising prices has adverse effects on availability of food for the poor and is likely to push them further into poverty.

Increased food prices due to global financial crisis and other shocks

An increase in food prices resulting from the global financial crisis has had adverse effect on poverty reduction efforts in the COMESA region. Minde et al. (2008) show that price increases of staple foods in Southern Africa resulted in 2% and 4.4% increases in poverty in Malawi and Zambia respectively. The crisis has had an impact on poverty through other channels as well: impacts on women and children who are more vulnerable to food shortages; impact on trade particularly as a consequence policy responses that focused on trade restrictions e.g. export bans these resulted to increase price volatility in the region; and making local products uncompetitive in the global market (Karugia et al., 2009). The food crisis has also increased competition for land and water resources for agriculture, and resulted in declining capital for long-term investment due to the credit crunch, which has resulted in a revaluation of natural resources (von Braun, 2008). Evidence from Kenya also suggests that increased food prices are likely to hurt the poor, more so the urban poor (Levin, 2010). Levin shows that a 100% increase

in maize prices would increase the headcount ratio in urban areas by 3–4%, depending on the size of windfall gains to the producers. This would, however, reduce food poverty in rural areas by close to 14%, assuming that the price shock passes through completely to farmers; otherwise rural food poverty would increase significantly in some provinces. Levin (2010) further found that in both urban and rural areas, the poorest of the poor are most negatively affected by increasing food prices.

The discussion above indicates that there are several household drivers of poverty in the ESA regions. The drivers span from household socio-economic characteristics to factors that are external to the household. Though different COMESA countries have different experiences with poverty and inequality, the review above suggests that the drivers of poverty in the region are closely related. Table 8 presents a summary of the key determinants of poverty at the household level in ESA. The summary delineates the factors per country.

Table 8 Determinants of poverty at household level in selected ESA countries

Country and source/reference	Factors documented
1. Burundi (CSA, 2003; IMF, 2004; UNDP/UNEP, 2006)	Employment status of the household head; HIV/AIDS; gender, age and education level of the household head; reliance on agriculture; export dependence of outputs; household size/dependency ratio; disabilities; refugee status; assets ownership; employment and income structure; average health and education of household members
2. Ethiopia (Enquobahrie, 2004; Gebre-Medhin, 2006; Rena, 2007; Bigsten and Shimeles, 2008)	Size of agricultural production (lower production more poverty); amount of non-farm income; education level of the household head; household health status; household size and dependency ratio; education attainment of the household head; employment (type of employment)
3. Malawi (Grosh and Munoz, 1996; Mukherjee and Benson, 1998; NSO-Malawi and IFPRI, 2001; Benson et al., 2004; Benson et al., 2005; NSO, 2005)	Age and education level of the household head; average education level of adults in the household; type of employment; size of land holding/area cultivated; diversity of agricultural production; access to services at household level (health centre, bank, bus station or post-office); poverty
4. Madagascar (Paternostro, 2001; Nicita, 2004)	Age, gender of the household head; distances to basic services (schools and health clinics); access to land; income of the household

Country and source/reference	Factors documented
5. Kenya (Christiaensen, 2005; Okwi et al., 2007; Christiaensen and Kalandhi, 2004)	Education level of the household head; employment status of the household head; gender of household head; reliance on agriculture and agricultural productivity (access to productive inputs); HIV/AIDS; household size (large household, high poverty); wages/earnings; income source/type of enterprise; health status of the household; access to household amenities (e.g. water and sanitation, and type of cooking fuel)
6. Uganda (Okurut et al., 2002; Abuka et al., 2007)	Household income; household size; age, literacy level of household head; asset (land and livestock) ownership; access to non-agricultural income; migration status and gender of the household head; occupation (participation in agriculture)
7. Tanzania (Mkenda et al., 2004; Ehrhart and Twena, 2006; Adahl 2007)	Employment status of the household head; reliance of agriculture (more poverty if on agric); HIV/AIDS; household size; gender, education level of household head
8. Zambia (UNECA, 2005a)	Gender of the household head; income status of a household; employment (formal and informal); education level of adults within the household; health status of the household; access to necessities (water and sanitation, housing, health, transport, bank, credit and market); low-scale/small-scale production; access to information and communication technology; geographic location
9. Rwanda (Government of Rwanda and United Nations, 2003; UNDP/UNEP, 2006; Justino and Verwimp, 2008)	Household income levels; landlessness; miniaturization of farming plots; security of land tenure; soil deterioration/erosion; gender of the household head; civil conflict
10. Eritrea (Fissuh and Harris, 2007; Rena, 2007)	Unemployment at household level; remittances (from within and abroad); access to infrastructure and other key facilities; household size; gender of the household head; health condition of the household members
11. Zimbabwe (Masika et al., 1997; Hamdok, 1999; Rena, 2007)	Gender of household head; scale of agricultural production; employment status of the household head; asset ownership (land); Housing conditions; Access to basic services (health, transport);
12. Djibouti (PRSP-Djibouti, 2002; Rena, 2007)	Access to education at household level; access to water, sanitation, infrastructure; access to land; income level of the household head; household size/dependency ratio
13. Sudan (Hassan and Suresh, 1991; Rena, 2007; AfDB, 2009)	Access to education; unemployment; access to basic services; remittances; household size; average education level of the household

3.3 Determinants at the community/regional/country level

The literature identifies a few community/regional/national level determinants of poverty, which in most cases overlap with household and regional determinants. However, it is difficult to separate the determinants of community level poverty from the determinants at the household level. A household located in any community, region or area of residence will suffer as an independent unit when there are issues that confront the society as a whole. For example, the determinants of poverty in Kenya presented in Box 2 are cross-cutting and will cause poverty at the household, community and regional levels, and nationwide. In this section, we discuss some of the key determinants of poverty at the community level. A summary of the factors is presented in Table 9.

Geography

Distance from the basic services (remoteness) together with poor infrastructure limits access by rural folk to these services. Kasirye (2007) found poverty and vulnerability in Uganda to be strongly influenced by infrastructure and spatial factors. The incidence, depth and severity of poverty have been found to be significantly higher in villages farther from major market (Masika et al., 1997; IMF, 2006; Rena, 2006). Market access has also been shown to be an important determinant of poverty in Ethiopia (Rena, 2007; Bigsten and Shimeles, 2008) and Kenya (Kabubo-Mariara et al., 2009). Another factor related to geography is ethnicity, especially in rural areas. Ethnicity has been shown to play a significant role in Eritrea and Ethiopia (Mkenda et al., 2004; Gebre-Medhin, 2006). Other studies concur that agro-ecological zones and climatic factors, especially rainfall, which are also correlated with geography affect poverty at the community level (Enquobahrie, 2004).

Box 2: Determinants of poverty in Kenya

National income: Falling per capita income growth has led to a rise in poverty. Decline in agricultural productivity has resulted to reduction in personal and national income.

Income distribution: A high level of inequality—income inequality and regional inequality—has a negative relationship on growth and poverty reduction.

Unemployment: Few jobs were created in the recession period. In 1999 only 8700 new jobs were created in the formal sector. Unemployment is a major determinant and characteristic of poverty.

Wages and earnings: Employment in the informal sector expanded by 11.5% creating 385,000 additional jobs in 1999. However, the wage levels in the informal sector were drastically lower than in the formal sector.

Other factors: Poverty has many facets and therefore causes: participatory assessments draw attention to the exclusion, isolation and lack of trust in public agencies as causes of poverty.

HIV/AIDS: A recent contributory factor to poverty in Kenya has been HIV/AIDS. The overriding poverty related HIV/AIDS concerns are AIDS orphans, population size and growth, cost of health care and child mortality.

Environment and poverty: Poor people depend on natural resources for their livelihoods, especially common property resources and they are more likely to live in marginal areas. This is the case in the arid and semi-arid regions where a high proportion of the poor are found.

Insecurity and poverty: Poverty means more than inadequate consumption, education and health. Voices of the poor require to be heard. These voices manifest themselves in forms of illness, crime and domestic violence, failure of harvests, fluctuations in food prices, insufficient demand for labour and lack of social security in old age.

Corruption and poverty: Corruption increases poverty both directly and indirectly. It diverts resources to the rich and weakens government ability to fight poverty.

Women and poverty: Gender is an essential concept for eradication of poverty since women are more vulnerable.

Governance and poverty: Developing the capacity for good governance is a prerequisite for the sustainability of poverty eradication efforts.

Source: Government of Kenya (2001)

Area of residence

Chapter 2 of this report showed that the incidence of poverty is higher among rural households across the ESA region. The literature concurs that poverty is more predominant in the rural areas than in the urban areas (Hamdok, 1999; Mwabu et al., 2000; Okurut et al. 2002; Enquobahrie, 2004; Mkenda et al., 2004; Christiaensen, 2005; Fissuh and Harris, 2007; KNBS,

2007). The proximate determinants of rural poverty relate to access to productive resources and opportunities for gainful employment (Government of Kenya, 2001; Gebre-Medhin, 2006; Okwi, 2007). Low and declining incomes, especially from the agricultural sector, have been shown to have a negative impact on food production and thus on poverty. In rural Kenya, the non-poor derive a large share of their income from cash crops. In contrast, subsistence farmers are among the poorest and most vulnerable groups (Kimalu et al., 2002). In Tanzania, people whose main source of income is farm produce are five times more likely to be poor than are wage earners (World Bank, 1997). Other determinants of rural poverty include: sector of employment; sources of income; low agricultural productivity, exacerbated by land degradation and insecure land tenure; land fragmentation; vagaries of the weather and adverse climate conditions; difficulty in accessing financing for self-employment; bad infrastructure; high costs of health and education; and HIV/AIDS (Government of Kenya, 2001; KNBS, 2007). Justino and Verwimp (2008) use evidence from Rwanda to show that for a rural economy struck by extreme land scarcity, absence of technological innovation in agriculture and lack of capital, civil conflict is likely to have severe consequences on the welfare of households. Improving agricultural productivity and providing additional employment opportunities in rural areas have been found to reduce vulnerability to poverty (UNDP/UNEP, 2006; Abuka et al., 2007). However, on its own this evidence is not sufficient to conclude that living in a rural area has an independent influence on the probability of being poor (Rena, 2006). Some studies have shown that some of the factors strongly associated with poverty such as the level of education, household size, access to basic services, poor governance, unemployment and low wages are at play in both rural and urban areas (Mukherjee and Benson, 1998; IMF, 2004; UNDP/UNEP, 2006; AfDB, 2009).

Though poverty is predominantly a rural problem in many countries, the rapid rate of urbanization is increasing leading to high rates of urban poverty. Urbanization attracts migrants from the rural areas with little or no formal education or skills. These people are not able to secure good positions in the formal employment sector and are compelled to work as casual labourers in industries, factories or in the residences of the well-to-do members of the population. Others work in the informal sector where incomes are low. Most low income earners and unemployed people in the urban areas reside in informal settlements in urban slums which have poor living standards. The slums are characterized by poor housing

conditions, overcrowding, lack of good access roads, and lack of basic services such as clean water and sanitation (drainage and waste disposal).

Population density

Some researchers in the ESA region have identified population density to be positively correlated to poverty. Population pressure may operate through social relationships to cause poverty, particularly when it leads to land fragmentation or landlessness (AfDB, 2009). A popular view exists that large households have greater risks of suffering from food insecurity than smaller households, especially in densely populated areas where expansion of cultivated land is no longer feasible (Ehrhart and Twena, 2003; Bigsten and Shimeles, 2008). This was witnessed in the increased incidence, depth and severity of poverty in northern Rwanda where land has been highly fragmented and soils depleted (Government of Rwanda and United Nations, 2003).

Income, growth and inequality

Evidence from the region suggests that a narrow growth base creates deepening inequality which eventually offsets the positive impacts of growth on poverty. The level of inequality at the beginning of any growth episode contributes significantly to the degree of responsiveness of poverty to growth (Okidi et al., 2005). In addition, rising inequality and income distribution disparities, especially at the regional level undermines national growth and poverty reduction efforts (Kimalu et al., 2002; Ssewanyana et al., 2004; Rena, 2006). Most of the COMESA countries have high levels of inequality in income distribution and these inequalities perpetuate poverty. Higher income groups, possessing more income generating assets were found to be in a better position to benefit from increased national income in Uganda, while the crop-farm sector was found to lag behind national average welfare levels (Ssewanyana, et al., 2004). In the COMESA countries economic growth rates are far below the desired threshold for pro-poor growth.

Conflict, insecurity and political instability

Wars, violence and genocide kill and injure people; destroy infrastructure, services, assets and livelihoods; displace populations; break social cohesion, institutions and norms; and create fear

and distrust. Violence often leads to the simultaneous destruction of assets and serious reductions in individual and household nutritional status. This may push households into poverty and destitution, and possibly create poverty traps since under those circumstances the household would have little chance of recovering its economic status by resorting to productive means (Justino and Verwimp, 2008). Insecurity of both life and property is an important disincentive for any productive investment (Bozzoli and Bruck, 2008; AfDB, 2009). Countries that have a long history of conflicts, wars, political and social instability in the ESA region (such as Burundi, DRC, Eritrea, Rwanda, Somali and Southern Sudan) have been characterized by severe underdevelopment. Conflicts and political instability scare away investments. In the long run conflicts prevent economic growth and improvement of people's welfare (Okurut et al., 2002; Ssewanyana and Muwonge, 2004; Rena, 2006; Rena, 2007).

Justino and Verwimp (2008), show the long-term impact on household welfare of civil war and genocide in Rwanda. They argue that the conflict affected households differently depending on the death toll, the location of battles, the waves of migration and the local resurgence of war. As a result, the labour/land and labour/capital ratios at the provincial level changed considerably during that period. Households whose houses were destroyed or who lost land ran a higher risk of falling into poverty, especially for households that were land-rich before the genocide. Genocide affected the economic well-being of the surviving household members in various ways. For example, the destruction of a house and the loss of land had a negative impact on their welfare, measured by income per adult equivalent. Female headed households were also trapped in poverty. Other literature shows the importance of community level factors such as social and political instability. Abuka et al. (2007) further find that regions that have experienced much insecurity in Uganda have a high incidence of poverty. They argue that guaranteeing security in all regions of the country would provide incentives for productive investment. Kimalu et al. (2002) argues that poor people are often the most insecure in the society because they are the most exposed to a wide array of risks that makes them vulnerable to income shocks and losses of social welfare benefits. Insecurity among the poor manifests itself in forms such as illness and injury, crime and domestic violence, the problems associated with old age, harvest failure, fluctuations in food prices and low demand for labour.

Governance and corruption

Good governance is one of the critical building blocks necessary for fighting poverty in the COMESA region. Strengthening the capacity of countries for effective governance is a prerequisite for reducing poverty. Good governance eradicates poverty through promoting, supporting and sustaining human development. Good governance also ensures that political, social and economic priorities are based on broad consensus in society and that the voices of the poorest and the most vulnerable are heard in making decisions over the allocation of national resources (UNDP, 2000).

Like bad governance, corruption has widened the already yawning gap between the rich and the poor in many COMESA countries. Corruption in government increases poverty both directly and indirectly. It diverts resources to rich people who can afford to pay bribes and away from the poor people who cannot afford to do so. It weakens the government and reduces its ability to fight poverty. It reduces tax revenues and thus resources available for public services. Corruption eats away at the fabric of public life, leading to increased lawlessness and undermining social and political stability (UNDP, 1997; Kimalu et al., 2002).

The environment

The environment and natural resources have a significant role to play in the lives of the poor in developing countries. When resources are degraded, contested or inaccessible, the poor tend to be negatively affected, often being driven even deeper into poverty. This is supported by evidence from Kenya, Rwanda, Zimbabwe and other COMESA countries (Cavendish, 2000; UNDP/UNEP, 2006; Kabubo-Mariara, 2010; Kabubo-Mariara et al., 2010a).

Using evidence from the literature and from Rwanda, UNDP/UNEP (2006) demonstrates that the environment is important for poverty reduction and human development. The Millennium Development Goal (MDG) target number 10 shows clearly that environment is important to health. Environmental protection and conservation have important implications for poverty reduction not only restricted to rural areas but also in towns, more so in slums. UNDP/UNEP (2006) also show that environmental concerns are related to most of the other MDGs and that

for the war against poverty to be won, environmental issues must be mainstreamed in each of the goals (Box 3).

The literature also suggests that the most pressing environmental health problems worldwide today in terms of their role in causing death and illness, are those associated with poor households and communities. In rural areas and in the peri-urban slums of the developing world, inadequate shelter, overcrowding, inadequate safe water and sanitation, contaminated food, type of cooking fuel and indoor pollution are by far the greatest environmental threats to human health. Poor people suffer most from deterioration in the environment, because of the threat to their livelihoods and the aggravation of health risks by pollution (Mwabu et al., 2000; Kimalu et al., 2002). Related to the environment, vulnerability of poor households is also increased by weather calamities (floods or droughts), which occasionally end up in total crop failures and eventually incidents of famine, disease and increased depth and severity of poverty (Okwi et al., 2007).

Box 3: The key links between the environment and the MDGs

Development goals	Examples of links to the environment
1. Eradicate extreme poverty and hunger	Livelihood strategies and food security of the poor often depend directly on healthy ecosystems and the diversity of goods and ecological services they provide.
2. Achieve universal primary education	Time spent collecting water and fuel-wood by children, especially girls, can reduce time at school.
3. Promote gender equality and empower women	Poor women are especially exposed to indoor air pollution and the burden of collecting water and fuel-wood, and have unequal access to land and other natural resources.
4. Reduce child mortality	Water-related diseases such as diarrhoea and cholera kill an estimated 3 million people a year in developing countries, the majority of whom are children under the age of five.
5. Improve maternal health	Indoor air pollution and carrying heavy loads of water and fuel-wood adversely affect women's health and can make women less fit for childbirth and at greater risk of complications during pregnancy.
6. Combat major diseases	Up to one-fifth of the total burden of diseases in developing may be associated with environmental risk factors—and preventive environmental health measures are as important and at times more cost-effective than health treatments.
7. Ensure environmental sustainability	Current trends in environmental degradation must be reversed in order to sustain the health and productivity of the world's ecosystem.

Source: UNDP/UNEP (2006:20).

Table 9. Poverty determinants at community/regional/national level

Country and sources/references	Factors documented
Burundi: (CSA, 2003; Government of Burundi and IMF, 2006; IMF, 2004; UNDP/UNEP, 2006; Rena, 2007)	Conflicts, instability and civil wars; export dependence of outputs; geographic location; access to infrastructure (water, markets, schools, transport and health care); employment and income structure; average health and education of household members
Ethiopia: (Grosh and Munoz, 1996; Mukherjee and Benson, 1998; Paternostro, 2001; Enquobahrie, 2004; Nicita, 2004; Gebre-Medhin, 2006; Rena, 2007; Bigsten and Shimeles, 2008)	Environmental degradation; droughts, inadequate and untimely rainfall and other environmental factors; crop and market failures; high population growth; weak institutional structures; ethnicity; geographical location; droughts, inadequate and untimely rainfall and other environmental factors; low agricultural production
Malawi: (Grosh and Munoz, 1996; Mukherjee and Benson, 1998; NSO-Malawi and IFPRI, 2001; NSO, 2005; Chirwa, 2005)	Agro-ecological zones; access to services at community/regional level (health centre, bank and post office); type of employment (primary, secondary or tertiary); size of land holding/area cultivated
Madagascar : (Paternostro, 2001; Nicita, 2004)	Remoteness and distance to basic services (schools and health clinics); income distribution and inequality; geographic/residence locations; access to land
Kenya (Christiaensen and Kalanidhi, 2004, Christiaensen, 2005; Okwi et al., 2007)	Climatic factors, e.g. droughts; declining per capita income(national income); unemployment rates; agro-ecological conditions; insecurity; access to water and sanitation; agricultural productivity (access to productive inputs); access to infrastructure
Uganda (Okurut et al., 2002; Bashaasha et al., 2006; Abuka et al., 2007; Adahl, 2007)	Agro-ecological zone; region of residence; climatic shocks (droughts, floods); insecurity; rising inequality; asset (land, livestock) ownership; access to non-agricultural income
Zambia (UNECA, 2005b; ZLCMS, 2006)	Employment (formal and informal) levels; economic growth rate; access to education (regionally/national)
Rwanda (UNDP/UNEP, 2006); Government of Rwanda, 2008)	Soil deterioration/erosion; the environment (pollution)
Tanzania : (Mkenda et al., 2004; URP, 2006; URP, 2007; Adahl, 2007)	Region of residence and agro-ecological zone; climatic factors, e.g. droughts, floods; reliance on agriculture; type of employment
Eritrea: (Fissuh and Harris, 2007; Government of Eritrea, 2002; Rena, 2007)	Unemployment at regional level; access to infrastructure; droughts; insecurity
Zimbabwe: (Masika et al., 1997; Hamdok, 1999; Rena, 2007)	Residence (rural or urban); income distribution disparity; insecurity; access to basic services (health, transport); scale of agricultural production; employment status; asset ownership (land)
Djibouti : (IMF, 2009b; Rena, 2007; AfDB, 2009)	Political and social instability; droughts; access to education at national level; access to water, sanitation, infrastructure; income levels/economic crisis; access to land
Sudan: (Source: Rena, 2007; AfDB, 2009)	Conflicts and insecurity; access to education; unemployment rates; region of residence; access to services; area of residence; conflicts and insecurity; access to education; unemployment; access to services

4 SUMMARY AND CONCLUSION

This report has presented the status of poverty based on various data sources within the COMESA region. In addition to poverty statistics, the report has gone further to present poverty maps to illustrate the spatial distribution of poverty in the region. The ESA region is among the regions with the highest number of poor and food insecure people in the world. The ESA countries also make a significant contribution to the high proportion of the poor and food deprived in sub-Saharan Africa. Though there has been some achievement in poverty reduction, poverty rates are still high in the majority of countries in the region. Trends in estimated poverty rates show that there has been good progress in poverty reduction in Malawi and Uganda, and to a lesser extent and in Rwanda, Zambia and Tanzania. Other countries have shown very little consistent progress in poverty reduction. This situation calls for the design of targeting programmes that are likely to not only have the highest impact on poverty reduction but also that are sustainable. This requires an understanding of the location of the poor in each country and also the determinants of poverty. There is no comprehensive documentation of such information for the region. This report has attempted to fill this knowledge gap through a review of literature and a synthesis of available evidence.

The report has shown that the incidence of poverty in the ESA region differs across socio-economic groups and across space. The poorest socio-economic groups include: women and children; rural landless and smallholder farmers; urban slum dwellers; and people with ill-health due to chronic diseases such as those affected/infected with HIV/AIDS and other long-term diseases and disability. In terms of geographical distribution, poverty rates are highest in the rainfed mixed crop–livestock systems, mostly located in the humid and sub-humid systems and also in livestock only systems in the more arid and semi-arid zones. Most of the poor districts are located in development domains characterized by short growing seasons, bad market access and low population density; and short growing seasons, good market access and low population density.

Opportunities for poverty reduction in unfavourable development domains and livestock only systems are identified as: value addition and marketing in livestock production; diversification

of economic activities; improved rangeland management; participatory natural resources management; and water harvesting and other water conservation techniques to ensure availability of water for irrigation. For more favourable development domains such as rainfed mixed crop/ livestock systems, opportunities for poverty reduction include: integrated crop/livestock production; production of dual purpose crops such as maize, wheat, sorghum and millet, which serve as food and the residues are useful for livestock production; intensive agricultural production; diversification of farming; adaptation to local crops and animal breeds; and improved land management practices.

The report has categorized the determinants of poverty into two groups: household and community (including regional and country) level factors. The household level determinants of poverty in the region are identified as: household characteristics (family composition, size and structure, age and marital status of head, gender of the head, education and other human capital capabilities); access to basic services (water and sanitation, credit and infrastructure); employment, occupation and incomes; asset ownership; access to remittances; burden of disease; variations in agricultural production; declining food stocks and high food prices. Community level determinants include: geography and related factors (such as market access, agro-ecological zones, climate and ethnicity); the environment; population density; area of residence; income, growth and inequality; conflict, insecurity and political instability; and governance and corruption. This shows that multiple factors are responsible for poverty in the region. The impacts of various factors tend to reinforce one another leading to multidimensional poverty. Poor households located in poor communities/regions find it much more difficult to escape poverty than poor households in more favourable communities/regions. These factors have, however, had differential impacts on poverty across time, space and socio-economic groups. Evidence further suggests that these factors are at play in all countries, suggesting that interventions against poverty that work in one country are likely to work in another.

A companion paper (Kabubo-Mariara et al., 2011) shows that in cognizance of multiple determinants of poverty, countries have implemented multidimensional interventions against poverty. The paper, however, argues that poverty reduction targets have not always been achieved even though some initiatives have been in place for a long while. This has led to either

design of newer initiatives or the reorientation of previous initiatives. Since the COMESA countries seem to have had either similar or related experiences with poverty (including: geographical distribution; determinants; and interventions so far implemented), experiences of what has worked for some countries that have made good progress in poverty reduction should form important lessons for other countries in the region if poverty reduction efforts are to bear meaningful results.

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ANNEX 1

Annex Table 1: Provinces/regions with poverty rates higher than national averages in the selected ESA countries and their biophysical characteristics

Country	District/ province	Poverty headcount (%)	Farming system code (for codes description Table 5)
Burundi National average = 66.9 Based on CWIQ (2006) Source: IMF (2009a)	Cankuzo	67.7	MRT
	Gitega	68.2	MRT
	Karuzi	68.9	MRT
	Kayanza	75.5	MRT
	Kirundo	82.3	MRH
	Muramvya	70.0	MRT
	Muyinga	70.5	MRT
	Ngozi	75.4	MRT
	Rutana	72.9	MRT
	Ruyigi	76.0	MRT
DRC National average = 71.3	Bandundu	89.1	OTHER
	Equateur	93.6	OTHER
	Haut-Zaire	75.5	OTHER
	Kivu	72.8	OTHER
Ethiopia National average = 38.7 Source: Enquobahrie (2004)	Afar	56.0	LGA
	Benishangul	54.0	LGA
	Gambela	50.5	LGA
	Southern	50.9	MRT
	Tigray	61.4	MRA
Kenya National average = 45.6 Based on Kenya Integrated Household Budget Survey, 2005/06 Source: KNBS (2007)	Baringo	60.6	MRA
	Bomet	59.0	MRT
	Bungoma	50.2	MRT
	Busia	68.9	MRH
	Butere/Mumias	51.3	OTHER
	Garissa	49.7	LGA
	Isiolo	71.3	LGA
	Kakamega	53.5	MRT
	Kilifi	67.7	OTHER
	Kisii	51.2	MRT
	Kisumu	49.0	MRH
	Kitui	63.7	LGA
	Koibatek	51.4	MRT
	Kuria	60.5	MRH
	Kwale	74.7	OTHER
Laikipia	49.3	LGT	

	Machakos	58.8	MRA
	Makueni	64.3	MRA
	Malindi	75.7	OTHER
	Mandera	89.1	LGA
	Marakwet	66.8	MRT
	Marsabit	91.9	LGA
	Mbeere	49.7	MRA
	Moyale	66.8	LGA
	Mt. Elgon	57.6	MRT
	Mwingi	62.0	MRA
	Nandi	46.9	MRT
	Nyamira	47.2	MRT
	Nyandarua	46.1	MRT
	Samburu	73.5	LGA
	S.Kisii (Gucha)	51.2	MRT
	Suba	52.2	MRH
	Taita Taveta	57.2	LGA
	Tana River	76.9	LGA
	Teso	59.5	MRH
	Transmara	51.7	MRT
	Transzoia	49.5	MRT
	Turkana	94.9	LGA
	Uasin Gishu	49.7	MRT
	Wajir	84.3	LGA
	West Pokot	68.5	MRA
Madagascar (rural poverty) National average = 76.5 Mistiaen, et.al, 2002	Antananarivo	76.7	
	Antsiranana	61.3	OTHER
	Fianarantsoa	76.9	LGA
	Mahajanga	68.1	LGA
	Toamasina	81.1	OTHER
	Toliary	81.7	LGA
Malawi	Chiradzulu	74.0	MRH
	Chitipa	71.3	MRH
	Dedza	73.3	MRA
	Mangochi	69.8	MRA
	Mchingi	68.0	MRA
	Mulanje	67.2	MRH
	Mwanza	71.4	MRA
	Mzimba	67.5	MRA
	Ntcheu	84.0	MRA
	Ntchisi	76.3	MRA
	Thyolo	76.8	MRH
	Zomba	75.0	MRA
	Rwanda National average = 56.9 Based EICV2- Household Living Conditions Survey 2005/06 Source: Republic of Rwanda (2007); NISR (2007a)	Gikongoro	79.2	MRT
Butare		70.6	MRT
Ruhengeri		64.5	MRT
Cyangugu		61.4	OTHER
Gisenyi		61.8	MRT
Kibuye		64.5	MRT

Tanzania

Based on 2000/2001 Household Budget Survey
(HBS)-Tanzania National Bureau of Statistics
Source: URP (2005)

Byumba	67.2	MRT
Newala	43.0	MRA
Babati	50.0	MRA
Bagamoyo	40.0	LGH
Bariadi	46.0	MRH
Biharamulo	48.0	MRH
Bukombe	48.0	MRH
Bunda	68.0	MRH
Dodoma Rural	43.0	MRA
Geita	62.0	MRH
Hanang	49.0	MRA
Igunga	48.0	MRA
Iramba	43.0	MRA
Kahama	37.0	MRA
Karatu	39.0	MRA
Kasulu	40.0	MRH
Kibondo	39.0	MRH
Kigoma Rural	39.0	OTHER
Kilindi	38.0	LGH
Kisarawe	51.0	MRH
Kishapu	46.0	MRA
Kongwa	40.0	MRA
Kwimba	40.0	MRH
Lindi Rural	51.0	OTHER
Liwale	38.0	LGA
Mafia	43.0	OTHER
Magu	37.0	MRH
Manyoni	49.0	MRA
Masasi	37.0	MRA
Maswa	43.0	MRA
Mbulu	49.0	MRA
Meatu	53.0	MRA
Missungwi	40.0	MRH
Mkuranga	40.0	OTHER
Mpanda	38.0	LGA
Mtwara Rural	37.0	OTHER
Mtwara urban	38.0	OTHER
Musoma Rural	64.0	MRH
Musoma Urban	38.0	URBAN
Nachingwea	41.0	LGA
Namtumbo	55.0	LGA
Nkasi	44.0	MRA
Rombo	37.0	OTHER
Sengerema	46.0	MRH
Serengeti	61.0	LGH
Shinyanga Rural	43.0	MRH
Sikonge	42.0	MRA
Singida Rural	56.0	MRA
Singida Urban	46.0	MRA

	Songea Rural	41.0	LGA
	Tunduru	39.0	LGA
	Ukerewe	48.0	MRH
	Urambo	41.0	LGA
	Uyui	48.0	MRA
Uganda National Average=31.7, based on Household Survey Report, 2005-2006 Source: UBOS, 2006	Kiboga	34.7	MRH
	Mubende	31.6	OTHER
	Kayunga	35.9	MRH
	Bugiri	50.9	MRH
	Busia	50.4	MRH
	Iganga	46.2	MRH
	Kamuli	49.1	MRH
	Katakwi	58.9	MRH
	Kumi	57.1	MRH
	Mbale	33.2	MRH
	Pallisa	53.2	MRH
	Soroti	64.1	MRH
	Tororo	48.4	MRH
	Kaberamaido	58.9	MRH
	Mayuge	44.9	MRH
	Sironko	32.1	OTHER
	Adjumani	68.2	OTHER
	Apac	51.3	MRH
	Arua	54.7	MRH
	Gulu	67.1	OTHER
	Kitgum	77.8	LGH
	Kotido	91.3	LGH
	Lira	56.1	MRH
	Moroto	88.7	MRA
	Moyo	62.2	MRH
	Nebbi	65.1	MRH
	Nakapiripirit	86.1	LGH
	Pader	75.8	MRH
	Yumbe	62.9	MRH
	Bundibugyo	43.6	MRH
	Hoima	35.2	OTHER
	Kabale	35.0	MRT
	Kasese	48.4	OTHER
	Kibaale	35.8	OTHER
	Kisoro	44.3	OTHER
	Masindi	42.3	MRH
	Kamwenge	37.7	MRH
	Kanungu	33.2	OTHER
	Kyenjojo	35.4	OTHER
Zambia Zambia Living Condition Monitoring Survey, 2006 Zambia Statistics Office http://www.zamstats.gov.zm/lcm.php	Central	72.0	LGA
	Eastern	79.0	LGA
	Luapula	73.0	LGA
	North Western	72.0	OTHER

	Northern	78.0	LGA
	Southern	73.0	LGA
	Western	84.0	LGA

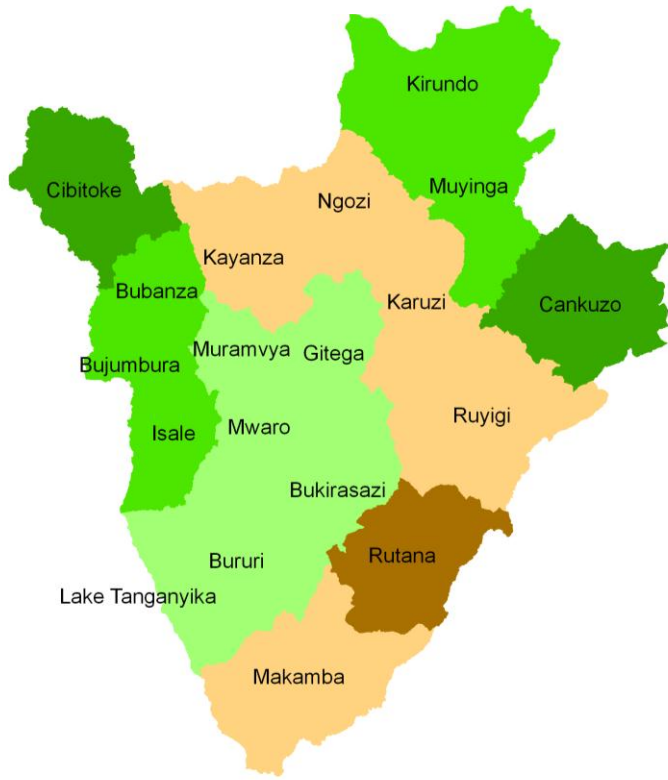
Note: The table only covers countries where poverty data are available at sub-national level

Annex 2: Poverty headcount maps for selected ESA countries

Annex Table 2. Sources of poverty data for the maps

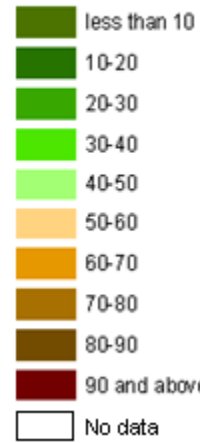
Country	Data description and source
Burundi	Provinces: 1997 Source: World Bank (1999)
Ethiopia	Provinces: 1999/2000 MOFED (2001 in Worldemariam and Mohamed (2003)
Kenya	Locations: 1999 KNBS (2007)
Malawi	Districts: 1997–1998 NSO-Malawi and IFPRI (2002)
Madagascar	Based on the rural poverty rates from the 2001 Household survey see Mistiaenet.al, 2002
Rwanda	NISR (2007a, b)
Tanzania	District level poverty based on the basic needs poverty line 2000/2001 available at URP (United Republic of Tanzania), 2005
Uganda (District and count level)	Districts (and lower): several years UBOS and ILRI (2007)
Zambia	Provinces: 1998 Central Statistical Authority (CSO) Zambia based on the living conditions in Zambia 1998 in the Zambian poverty reduction strategy papers by the International Monetary Fund (IMF) and the World Bank

Burundi

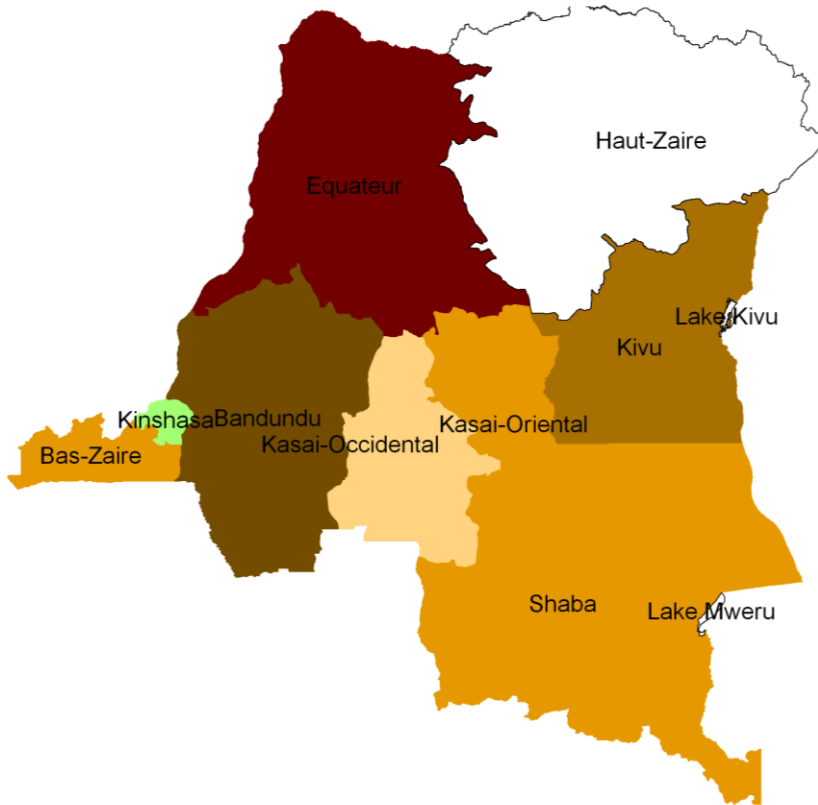


Key

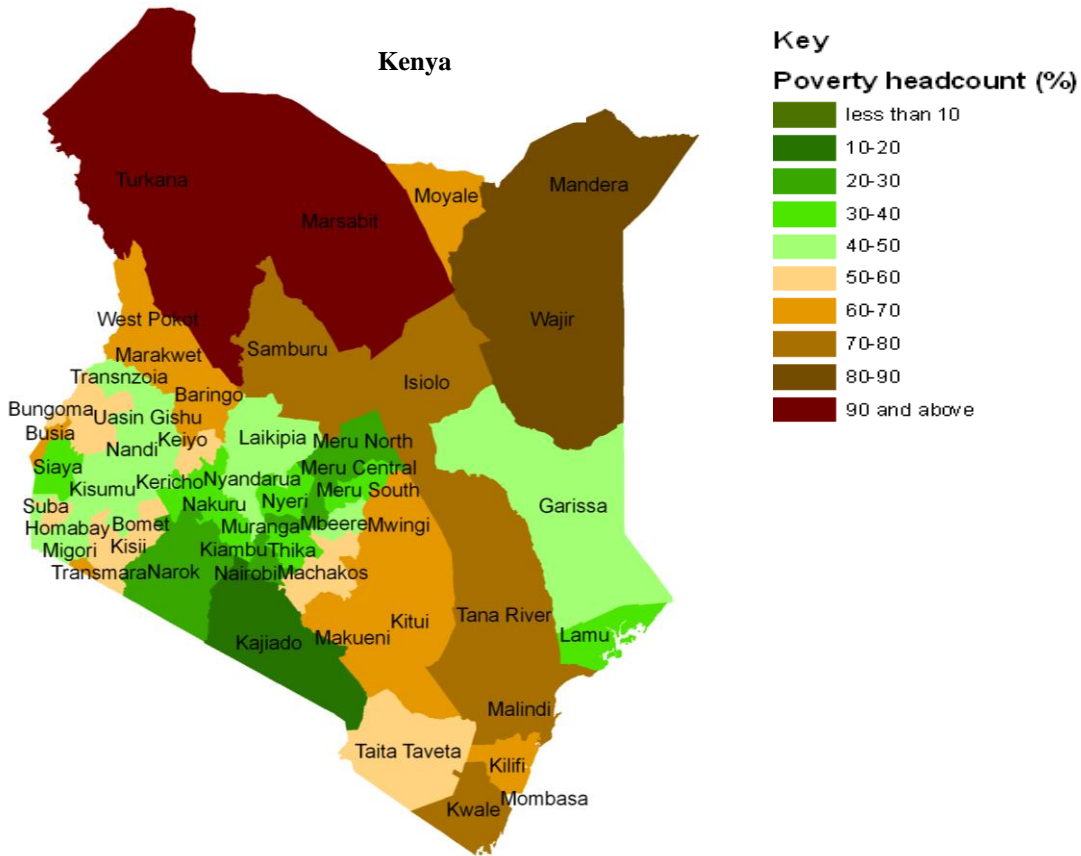
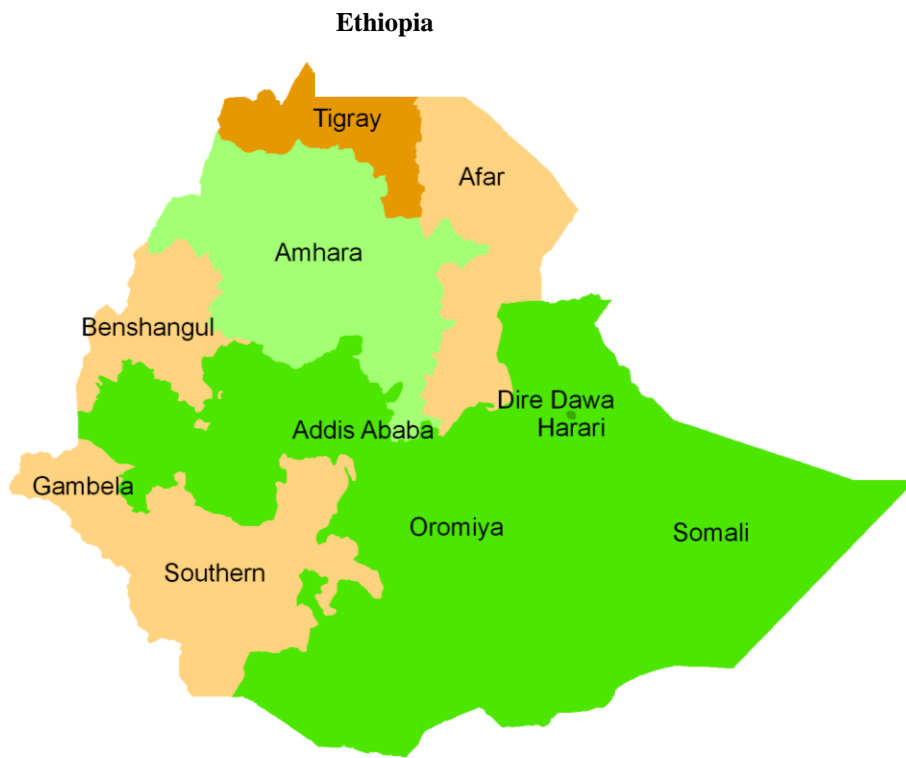
Poverty headcount (%)



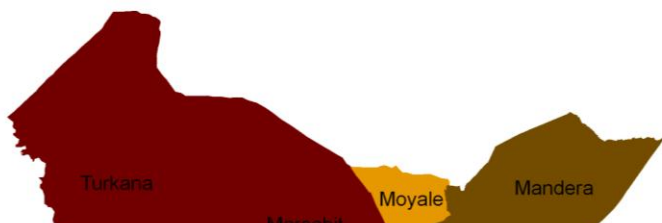
DRC

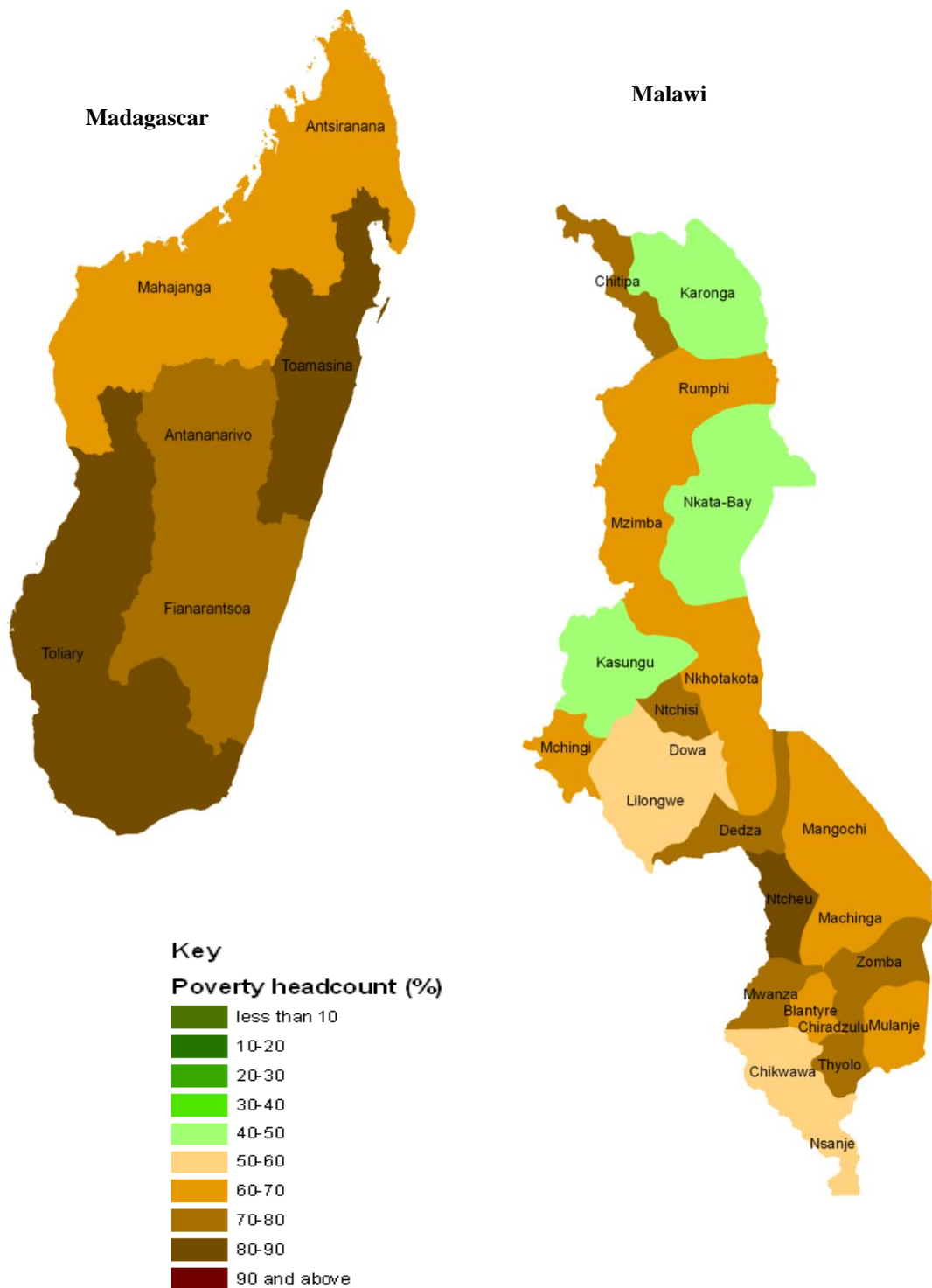


Source: Authors' illustration based on country-level geo-referenced data (see annex Table 2)

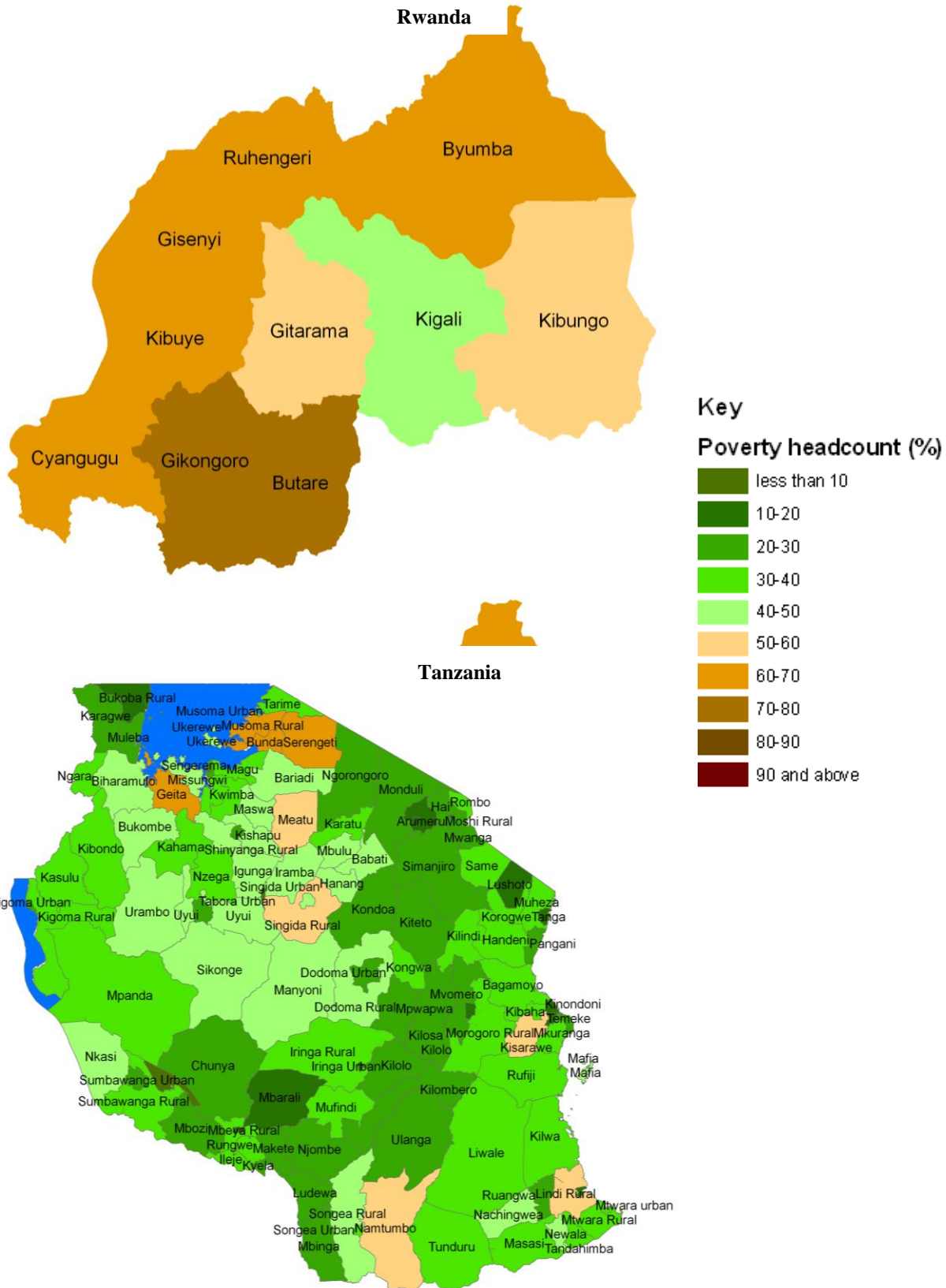


Source: Authors' illustration based on country-level geo-referenced data (see annex Table 2)

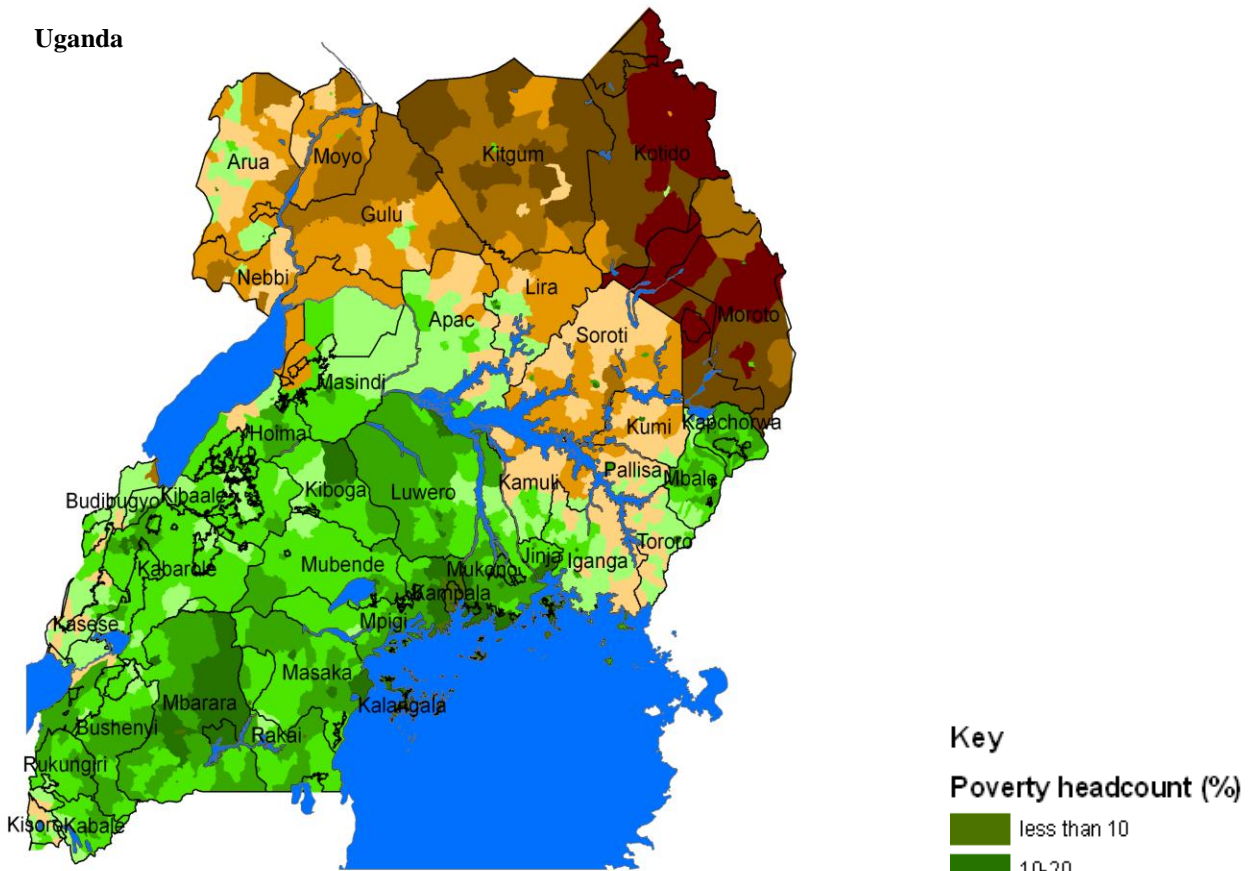




Source: Authors' illustration based on country-level geo-referenced data (see annex Table 2)



Source: Authors' illustration based on country-level geo-referenced data (see annex Table 2)



Source: Authors' illustration based on country-level geo-referenced data (see annex Table 2)

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For more information, contact:
Joseph Karugia, Coordinator
ReSAKSS-ECA
P.O. Box 30709
Nairobi, Kenya
Telephone: +254 (20) 422 3000
Email: j.karugia@cgiar.org

Website: www.resakss.org