/// Reasonable Goals for Reducing Poverty in Africa

TARGETS FOR THE POST-2015 MDGS AND AGENDA 2063

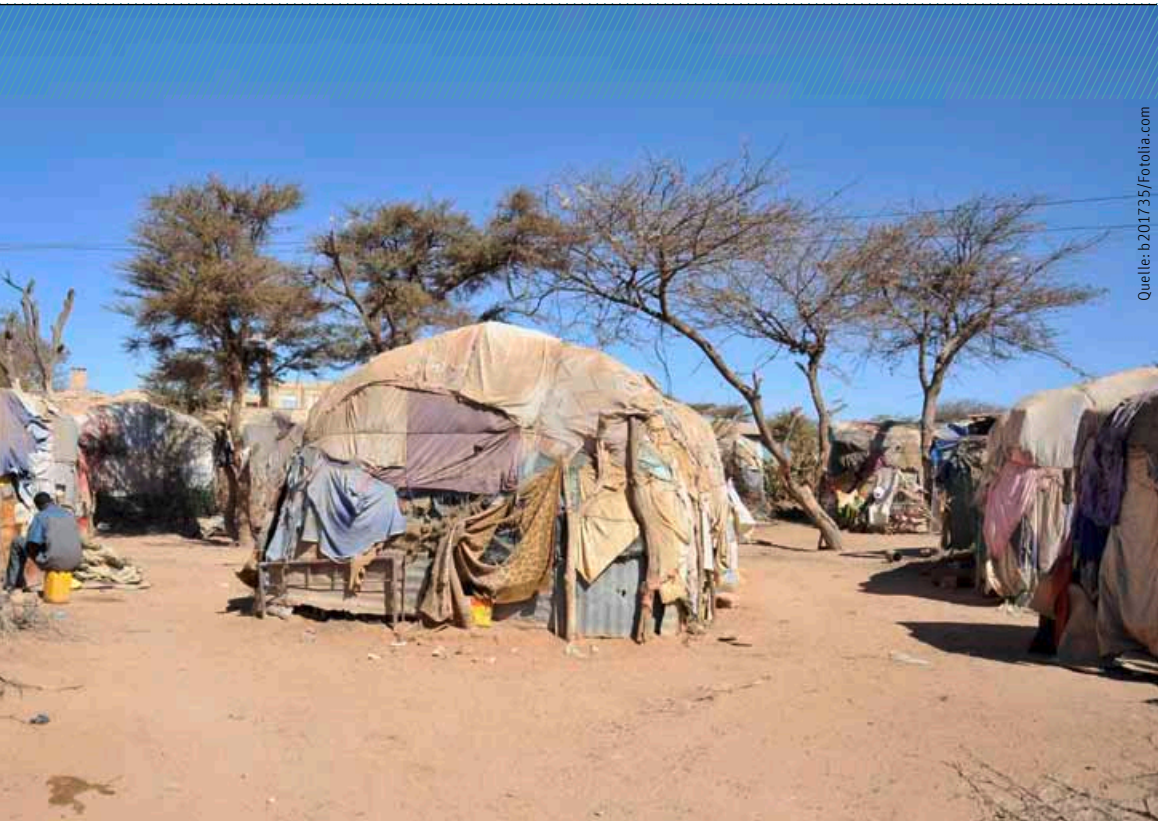
JAKKIE CILLIERS / BARRY HUGHES / SARA TURNER /// **The eradication of extreme poverty is a key component in the post-2015 Millennium Development Goals (MDGs) process and the African Union's Agenda 2063. We use the International Futures forecasting system to explore this goal and find that many African states are unlikely to make this target by 2030, even when modelling a package of aggressive poverty reduction interventions. In addition to country level targets, we argue in favour of a goal that would see Africa as a whole reducing extreme poverty to below 15 % by 2030 and to below 4 % by 2045.**

Introduction

In 1990 the international community agreed to halve the rate of extreme poverty by 2015. Although 700 million fewer people now live in conditions of extreme poverty, the UN estimated that 1.2 billion people still lived below $1.25 a day in 2013 (2005 purchasing power parity or PPP).[1] As part of the process leading up to the finalization of the post-2015 MDGs, attention has now turned to defining suitable targets to be achieved by 2030, including a proposed goal of 'leaving no-one behind' and the eradication of (extreme) poverty by then.

The UN, World Bank and African Union are **REVISING** poverty reduction targets.

Parallel to the post-2015 MDG process, in 2013 the African Union launched Agenda 2063 as a 'call for action to all segments of African society to work together to build a prosperous and united Africa'.[2] It reflects an ambitious effort by Africans to accept greater ownership and to chart a new direction for the future that would have inclusive growth and the elimination of extreme poverty as key components. This paper is an abridged version of an African Futures Paper published in August 2014[3] that set out realistic targets for eliminating ex-



Even though extreme poverty worldwide has been cut in half in the last 25 years, Africa still needs a concerted plan of action if it is ever to eliminate poverty.

treme poverty by 2063. Whereas the earlier paper used the standard definition of extreme poverty as people living on daily income or consumption below $1.25 in 2005 PPP, we have updated our forecast to use 2011 as the new currency reference year in line with the International Comparison Program (ICP) World Bank Final Report of the ICP 2011 Purchasing Power Parities and the Real Size of World Economies released in October 2014.[4] As explained below, we use an updated line of $1.75 per day in 2011 PPP. Our estimates include recent GDP rebases, such as the one released for Nigeria in 2014.[5]

The impact of the change from $1.25 in 2005 PPP to $1.75 in 2011 PPP is substantial. We estimate that on the global scale approximately 892 million people (around 12 % of the world's population) were living below $1.75 in 2013, as compared to the figure of 1.2 billion mentioned earlier. The impact in Africa is smaller but still significant. Using our proposed new extreme poverty line, we estimate that 388 million Africans lived under $1.75 in 2011 PPP (33 % of the African population) in 2013.

Revision of the current international poverty line of $1.25 a day in 2005 prices is unlikely to conclude until shortly before the UN General Assembly commits to new global targets in 2015 and some months after the expected adoption of detail targets for Agenda 2063 at the AU summit in February 2015. Whether the World Bank will continue to use a poverty line that corresponds to an average of the national poverty lines of

the 15 poorest developing countries (the basis on which it calculated the $1.25 line) also remains uncertain. In the absence of consensus on a new standard, the authors undertook a sensitivity analysis using the updated figure of $1.75 for extreme poverty framed by $1.50 and $2.00, all in 2011 PPP. Our figure of $1.75 in 2011 PPP is roughly comparable with the previous figure of $1.25 in 2005 PPP, but the final line will depend upon the methodology adopted, and here there are a number of considerations to be taken into account as set out in a recent publication by the World Bank.[6] We also undertake a sensitivity analysis for chronic/severe poverty using an updated figure of $1.00 framed by $0.90 and $1.10 in 2011 PPP. Our figure of $1.00 in 2011 PPP is roughly comparable with the previous figure of $0.70 in 2005 PPP.

SUB-SAHARAN Africa is the world's poorest region where millions live on less than a dollar a day.

We utilise the International Futures (IFs) forecasting system, version 7.09, to analyse the prospects for poverty reduction in Africa up to 2063. All results are presented using a fifteen-year moving average. After explaining our approach and discussing modelling results, we conclude that the 3 % extreme poverty target by 2030 (now redefined as $1.75 in 2011 PPP) remains an unrealistic goal for many African states, and is insensitive to the varying initial conditions in which African countries find themselves. Although 3 % may be suitable as an aggressive goal at global level, many African states would be unable to achieve this and will by then bear the greatest burden of poverty worldwide. Should the global community adopt a 3 % global target, it will have to accept that sub-Saharan Africa will indeed be left behind.

We argue in favour of setting a goal that would see African states on average achieving a target of reducing extreme poverty to below 15 % by 2045, and eliminating extreme poverty shortly after 2045 (using $1.75 at 2011 PPP). By 2030, African countries are likely to remain at very different levels with regards to extreme poverty rate. Because of these significant country level differences, and the different policy measures which may be needed to effectively reduce poverty in different country contexts, we further recommend that the AU consider setting additional country level targets as warranted to meet the specific needs of member countries. In addition, we advocate attention to the issue of chronic poverty (now defined in our analysis as income below $1.00 in 2011 PPP compared to $0.70 in 2005 PPP used previously) since the majority of extremely poor Africans in sub-Saharan Africa find themselves significantly below even the $1.75 level.

Background and measurement

Estimates of poverty are fundamentally based on two pieces of information: the average level of income or – better – consumption per person per day (ppd) in a country, and the distribution of the population around that mean. Survey estimates of income and consumption tend to yield lower estimates than do national accounts data. As a result, initial estimates of poverty may vary widely. IFs bases its estimates of poverty on survey data drawn from the PovcalNet

data hosted by the World Bank, adjusting the model's own national accounts-based estimates to match estimates produced by the survey methodologies. These estimates form the initialization point for our forecasts of poverty, which are driven by the model's forecasts of change in national accounts and distribution of income. Although the model currently initializes from 2010 data, we use the Agenda 2063 start date of 2013 for the forecasts in this analysis. As a result, all our values for 2013 are estimates drawn from the model (rooted in PovcalNet survey data) rather than taken directly from data.

Estimates of poverty are commonly expressed as the percentage of a population below a certain standard of living, previously $1.25 per day at 2005 PPP, a figure we have now updated to $1.75 per day in $2011 PPP, and discuss in conjunction with two other possible measures for extreme poverty: $1.50 and $2.00 a day. This range was chosen to reflect the wide range of plausible poverty lines under discussion internationally. The $1.75 value is close to the value we obtained by estimating the share of GDP per day in 2011 dollars belonging to the lowest earning quintile of the population, and then dividing by the size of the population. We then averaged the value of the bottom 15 countries. By the same method we arrive at possible values of $0.90, $1.00, and $1.10 for estimates that allow a framing of a possible revised severe poverty line. The table below illustrates the variety of these estimates for global levels in 2010, the year most comparable to estimates produced by others.

These measures are attractive because they allow for cross-country comparisons of poverty. Using other general or nation-specific poverty lines may be more relevant for discussing poverty within countries because they can take into account local levels of income. Just as there are a large number of uncertainties and definitional issues surrounding poverty, similar challenges exist for discussions of inequality measures. One of the most frequently used is the Gini Index, which expresses the inequality of income distribution from 0 to 1, with 0 corresponding to complete equality and 1 corresponding to complete inequality. One advantage of the Gini Index is that it can be used in lognormal representations of income as the standard deviation of the distribution, as it is used within IFs.

Table 1: Estimates of global severe and extreme poverty in 2010 under four possible poverty lines (15-year moving average)

	Severe Poverty Lines			Extreme Poverty Lines		
	$0.9ppd	**$1.00ppd**	**$1.10ppd**	**$1.50ppd**	**$1.75ppd**	**$2.00ppd**
Millions	276	342	415	749	978	1 212
Per cent	4	5	6	10	14	17

Drivers of change in poverty

The drivers of poverty can be framed in a number of ways. At a macroeconomic level there are two proximate drivers of poverty rate reduction: economic growth and reductions in inequality. Economic growth, if relatively evenly distributed across a society, will tend to raise individual income, drawing people out of poverty.[7] That is, distribution-neutral economic growth will reduce the percentage of people living in poverty, although the absolute numbers may remain constant or even grow with population growth. Similarly, reductions in inequality over time can reduce poverty rates.[8]

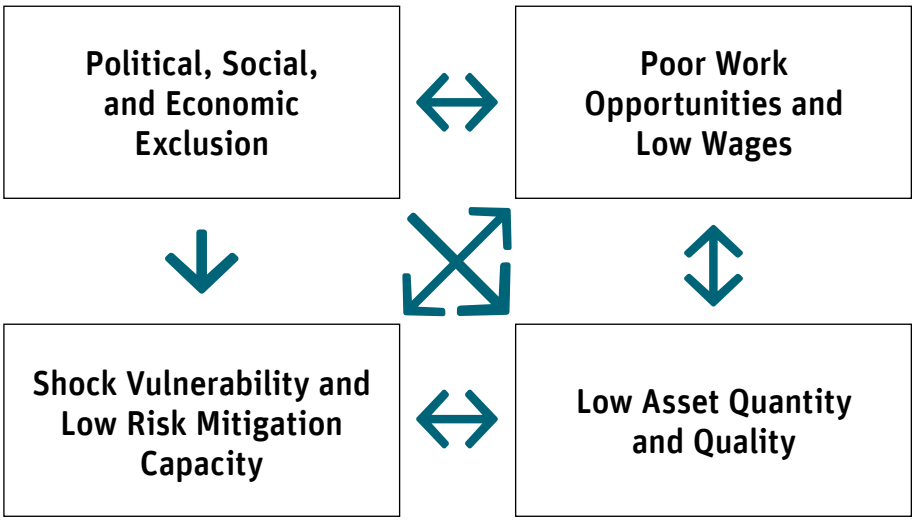
> Africa is **NOW** where China and India were 20 to 30 years ago.

Much of what has driven the remarkable reductions in poverty rates in recent decades has been economic growth in Asia, China in particular. Since 1990, China has reduced its extreme poverty rate from over 60 % in 1990 to less than 10 % in 2010 (even with substantial deterioration in income distribution). This translates to 566 million fewer people living in extreme poverty in 2010 than in 1990.[9] Few other countries have come close to achieving a similar rate of progress on poverty, raising questions about the chances for Africa's 55 countries to achieve similar gains over sustained periods of time.

Empirically, while growth is shown to help in poverty reduction, the strength of this relationship varies widely across countries.[10] Some of the significant differences in poverty reduction in countries like Botswana, which has had very high growth rates but relatively modest levels of poverty reduction, and Ghana, which experienced much more modest growth but relatively more poverty reduction, are partly attributable to differences in initial income distribution.[11] An initial substantial poverty gap, when most of the poor are far below the poverty line rather than near it, will prevent economic growth from causing major reductions. Globally, sub-Saharan Africa has a poverty gap that is more than twice as large as South Asia, the region with the second highest gap.

In addition to macro-level analysis with average income and its distribution, microeconomic work provides another framework to consider the dynamics of poverty and the ways in which national policy choices can support the poor.[12] In this framework, poverty is a condition that people may move into and out of multiple times during their life, and national or sub-national policies may have significant impacts on these processes. Those who remain poor over long periods of time and who frequently transmit poverty between generations are termed 'chronically poor'.[13] Particularly relevant to discussions of poverty trends in Africa is the fact that as many African states begin to accelerate growth, which can support permanent escapes from poverty for many people, increasingly those who are left behind will suffer from the kinds of dynamic, integrated challenges that the chronic poverty literature emphasizes. The Chronic Poverty Research Centre (CPRC) has produced significant work on the dynamics of poverty, focusing on

Figure 1: Simplified model of the interactions which drive and sustain chronic poverty [18]



Source: Authors' synthesis based on Shepherd, Andrew et al.: The Geography of Poverty, Disasters and Climate Extremes in 2030; Shepherd, Andrew: Tackling chronic poverty: The policy implications of research on chronic poverty and poverty dynamics.

those factors that condemn people to poverty and interventions that might allow them to escape such a condition. Chronic poverty is an issue that may exist across consumption levels, so even though CPRC work uses severe poverty (a consumption level of $0.70 per day in 2005 or $1.00 in 2011 prices) as a proxy for chronic poverty, it is really the conceptual attraction of a framework that emphasizes national policy efforts to reduce poverty which drives our additional attention to chronic poverty in this contribution.

Governments must improve education, healthcare and work prospects to overcome **CHRONIC** poverty.

In its studies, the CPRC identifies five primary, frequently overlapping, chronic poverty traps: insecurity and poor health, limited citizenship, spatial disadvantage, social discrimination, and poor work opportunities.[14] The experience of the chronically poor is distinguished by three primary features that differentiate them from other groups of people in poverty: they typically have a small number of assets, low returns on these assets, and high vulnerability to external shocks.[15]

This high vulnerability, low resource state is in turn driven by the exclusion of the chronically poor from political, social, and economic systems that might allow them to begin to acquire assets and which makes them more vulnerable to shocks; the low starting asset / capability position of the extremely poor leaves

them few resources with which to respond to shocks. The occurrence of shocks can erode assets, wage income, and worsen exclusion from systems of social protection. Figure 1 provides a schematic representation of the approach to understanding chronic poverty developed by the CPRC that we also adopt for the purposes of this paper. A similar framework developed by the Overseas Development Institute (ODI) argues for ensuring quality basic education, social assistance, and working to include the marginalized in the economy on equitable terms.[16] Preventing impoverishment requires policymakers and practitioners to develop and stick to appropriate policy frameworks. A sustained escape from extreme poverty means that governments (and others) need to provide quality and market-relevant education, offer basic healthcare, promote insurance programs to bolster resilience, and work to reduce conflict and mitigate environmental disaster risks.[17]

In order to tackle these overlapping challenges, the CPRC recommends four key groups of interventions to provide social protection, drive inclusive economic growth, improve levels of human development and support progressive social change.[19] These interventions aim to address the dynamics that keep the chronically poor from escaping poverty. Social protection schemes serve to provide protection to the most vulnerable and to bolster resilience in the face of external shocks. Inclusive economic growth helps the chronically poor derive income from their asset base, human development serves to improve the quality of human capital that forms the bulk of the poor's asset base. Progressive social change seeks to eliminate the political, social and spatial barriers that prevent the poor from leveraging their assets for income. In studying the interventions which work to reduce poverty, Ravallion discusses the success of Brazil in driving poverty reduction on relatively low rates of economic growth by targeting the poorest with social transfer programs that served not only to bolster incomes but incentivize investments in social development that helped the poor to increase their asset base.[20] This is also an approach successfully adopted in South Africa in recent years and now advocated by the African Development Bank for adoption in fragile states in Africa.

Social assistance programs allow people to improve their **MATERIAL** base.

As countries begin to get wealthier, concern will naturally shift to those places that are not making progress. While this may mean focusing on countries that face greater challenges to poverty reduction (such as fragile states and countries that are more vulnerable to poverty shocks induced by climate change), it should also increasingly focus on the poorest of the poor within countries. These people suffer from the most pervasive and extensive types of exclusion, adverse inclusion, and exploitation. They remain poor because social compacts between governments and these sectors of society are not functioning. State action is the only way to reach these people, and reaching them is crucial to not only meeting income goals for severe and extreme poverty elimination, but also for meeting broader health and development goals that were missed in the last round of the MDGs, as these

people disproportionately represent the world's under-nourished, under-educated, and excluded.[21]

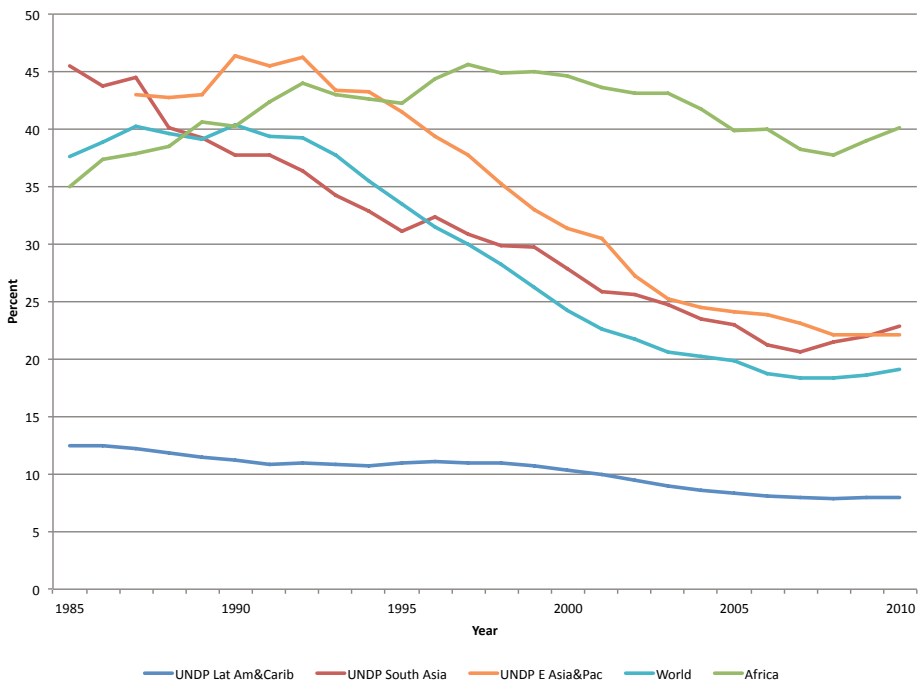
Current levels of poverty in Africa

The world has achieved tremendous declines in poverty globally over the last decade. This progress has occurred unevenly, with China and the rest of East Asia experiencing declines in excess of 2 percentage points a year.[22] India and the rest of South Asia have also made progress, with poverty rates declining at a rate of approximately 1 percentage point a year. Latin America and Africa have done least well in the last twenty years, with rates of absolute poverty declining quite slowly, if at all (Figure 2). Latin America and Africa have, on average, experienced slower rates of economic growth.

Growth in Africa has been **SLOWER** than in other regions of the world.

The IFs Base Case estimate is that in 2013 approximately 12 % of the world's

Figure 2: Percentage of population in extreme poverty[18] (<$1.25 a day in 2005 PPP, 15-year moving average)



Source: International Futures, version 7.05

population, or 892 million people, still lived below the threshold for extreme poverty (using our updated level of $1.75 in 2011 PPP), of which 388 million people (33 % of Africa's population) lived in Africa. If we consider the line for severe poverty ($1.00 a day in 2011 PPP), approximately 197 million people live below this line in Africa, constituting just under half of those living in extreme poverty. This is significant because it implies that the extreme poverty gap in Africa is large (that is, many live far below $1.75), making it harder to achieve reductions in extreme poverty. Additionally, based on the Chronic Poverty Research Centre's use of severe poverty as a proxy for chronic poverty, it means that a large proportion of the poor in Africa are likely to be chronically poor.

Higher levels of **INCOME** do not always lead to poverty reduction.

Although the continental picture may appear bleak in comparison to the progress being made elsewhere, some countries have already met the World Bank poverty target for 2015. These include all North African countries plus Mauritius and the Seychelles.[23] In general however, countries in sub-Saharan Africa have not fared as well. This is not always because of a lack of growth. Some countries (such as the extreme case of Equatorial Guinea but also a country such as Botswana) have experienced very rapid rates of growth, but have been unable to efficiently translate growth into poverty reduction. Cameroon, Egypt, Ghana, Kenya, Mali, Mauritania, Senegal, Swaziland, Tunisia, and Uganda have all been relatively efficient in transmitting income growth into poverty reduction.[24]

The ten countries with the largest populations of extremely poor are Nigeria, Democratic Republic of the Congo, Tanzania, Ethiopia, Madagascar, Kenya, Uganda, Mozambique, Malawi and Burundi. All but Burundi have populations of greater than 10 million living in extreme poverty, a total of 272 million in these ten countries alone. African countries vary widely with regards to the extent and depth of extreme poverty. The percentage of the population living in extreme poverty ranges from zero to 80 % of the population. Poverty gaps across the continent are generally high, although they vary widely as well.[25] Some countries, such as the Democratic Republic of the Congo and Madagascar, have high levels of extreme poverty and large poverty gaps, in spite of relatively low levels of income inequality, simply because average levels of income are very low. In others, such as Zambia and the Central African Republic, persistently high levels of income inequality have contributed to large poverty gaps.

How much progress against poverty is likely?

In order to assess the likelihood of countries making the World Bank's target, we first consider the IFs Base Case forecast, which is best understood as a reasonable dynamic approximation of current patterns and trends – see Annex.[26] Using IFs, it is possible to estimate not only the extent of global poverty, but

also to forecast change in poverty going forward. The model generates a compound annual growth rate of GDP between 2013 and 2063 for African countries of 6.1 % and a growth rate for household consumption of 5.9 % (both fairly aggressive figures).

Eleven African nations in our Base Case forecast are likely to meet the World Bank target of less than 3 % people living below $1.75 a day by 2030 without additional support or policy interventions.[27] Of these, only one has not already done so. A number of other countries are likely to get close to meeting the target, with less than 10 % of their populations living below $1.75 a day by 2030.[28] Overall however, 22 % of the African population, or 349 million people, may still be living under the $1.75 a day line by 2030. These figures would be 285 million/18 % or 410 million/26 % using $1.50 or $2.00.

Even though many countries are making progress in reducing poverty in percentage terms and the rate for the continent could fall to 12 % by 2045, in many instances this still translates to increases in the absolute number of people living in poverty over the intermediate horizon of 2030 and 2045. These are countries that will still have high population growth rates due to high total fertility rates. In most cases population growth will decline substantially by 2063 and the remainder of African states begin to make progress in reducing the absolute numbers of people living in poverty as well as the percentage of the population in poverty.

Optimistic scenarios forecast considerable **IMPROVEMENT** in Africa by 2063.

If current trends continue, most countries in Africa should have made significant progress on poverty alleviation by 2063. At a continental level, the forecast poverty rate for extreme poverty is expected to have declined considerably, but still hovers around 6 % of the population. This means that over 140 million people may remain in extreme poverty on the continent. A smaller proportion, less than 2 % of the population, or 54 million people are likely to remain in severe poverty (see Figures 2 and 3 for numbers). Our forecast suggests that as most people in most countries make progress against severe and extreme poverty, the remaining sufferers will be increasingly concentrated in a handful of countries. By 2030, 67 % of the burden of extreme poverty on the continent is likely to be concentrated in just 10 countries. By 2063 this concentration will have increased to 81 %.

How might we eliminate poverty?

Building on the analysis presented earlier, we use a micro-dynamic, chronic poverty-centred approach to poverty reduction to frame our interventions. This approach is in line with literature on relationships between growth, inequality and redistributive policy by emphasizing investments in health, education, infrastructure, and agriculture for poverty reduction.[29]

The first pillar of chronic poverty reduction in the CPRC's framework is social assistance. Its most recent work calls for packages of social assistance, social insurance and social protection targeting a number of different sources of vulnerability. Social assistance in the form of conditional and unconditional

cash transfers, and income supplements in cash or in kind has been shown to be strongly supportive in helping create conditions that encourage people moving out of poverty.[30] Social insurance can be used to help those who are vulnerable to adapt to shocks without suffering the kinds of losses that drive or keep people in poverty. Many countries already have programs like these, but they are fragmented, and not typically part of a broader package of social protection schemes.

To simulate the development of more comprehensive social support programs, we model this package of interventions by increasing government expenditure on welfare and pension transfers, while simultaneously increasing government revenue and external financial assistance to support the processes of scale-up and streamlining to simplify the structure and number of social assistance programs at work in many of these countries. Interventions involving foreign assistance are taken from the work with the World Bank and echo their commitments to funding. Increases in social assistance are targeted so that African nations achieve a similar rate of social welfare spending as the average in Latin America and Southeast Asia.

The second pillar of the CPRC framework is pro-poor economic growth. This pillar promotes pursuing economic diversification, a focus on those sectors that have the potential to support the poor, including development of small and medium-sized enterprises, efforts to develop underserved regions, and increasing access by the poor to improved agricultural inputs, including technology. We model this pillar using a combination of agricultural improvements first developed for an earlier publication on a green revolution in Africa and designed to not only increase agricultural yields, but also increase domestic demand for food through programs such as cash transfers.[31] We also include improvements to infrastructure, especially rural roads, water and sanitation, information and communications technology, and electricity. We also include increases in government regulatory quality to address inefficiencies that keep poor people from participating effectively in markets. Finally, this set of interventions models increases in security through decreases in the risk of conflict which could be generated by improving the effectiveness and scope of domestic or AU peacekeeping forces and investments in conflict prevention.[32]

Changes to **SOCIAL STRUCTURES** are needed to reduce discrimination.

The third pillar involves focusing human development on the hardest to reach. This pillar focuses on the provision of education through secondary schooling, with a focus on improving quality and access. It also emphasizes the need to provide universal primary healthcare. To model these, we include improvements in spending on education, intake, survival and transition to simulate a system that is more efficient at not just getting students into the educational system but also in keeping them enrolled and training secondary school graduates. To some extent, the improvements in survival serve as a proxy for improvements in educational quality. Our health interventions emphasize the reduction of diseases that can be easily

Table 2: Summary of intervention clusters

Intervention cluster	Description	Components used in IFs
Social assistance	Non-contributory (i.e. does not depend on ability to pay) social protection which is designed to prevent destitution or the intergenerational transmission of poverty	• Increase in government spending on welfare • Funding support from international agencies for scale-up • Increases in government revenue • Increases in government effectiveness to tax and redistribute and modest declines in corruption
Pro-poor economic growth	Economic growth designed to support incorporation of the poor on good terms and to provide benefits across sectors of society	• Investments in infrastructure • Investments in agriculture • Stimulation of agricultural demand • Improvements in government regulatory quality, • Decreases in conflict
Human development for the hard-to-reach	Provision of high quality education which is linked to labor market needs and universal healthcare which is free at the point of delivery	• Improvements in education and education expenditure • Provision of universal healthcare especially targeting communicable disease
Progressive social change	Changes to the social institutions which permit discrimination, and unequal power relationships	• Improvements in gender empowerment • Decreased time to achieve gender parity in education, • Improvement in female labor force participation

Source: Shepherd, Andrew et al.: The Chronic Poverty Report 2014-2015, pp 156-157.

treated by a functioning healthcare system, and which have a disproportionate impact on the poor, especially malaria, respiratory infections, diarrheal diseases, and other communicable diseases as well as declines in fertility that could be gained from the effective provision of universal healthcare. Because of the disproportionate impact of malaria on mortality and productivity in sub-Saharan Africa, we especially emphasize the role that malaria eradication could play in supporting human development in Africa.

The final pillar of the CPRC framework is progressive social change. This requires addressing the inequalities that keep people in poverty even when others

Table 3: Percentage of the population in Africa in poverty (15-year moving average) in the Base Case and intervention clusters

	$1.00 a day				$1.75 a day			
	2013	2030	2045	2063	2013	2030	2045	2063
Base Case	17	10	5	2	33	22	12	6
Social	17	9	4	2	33	20	9	4
Pro-poor	16	7	3	1	33	18	8	3
Human	17	9	3	1	33	20	9	4
Progressive	17	10	5	2	33	21	11	6
Combined	16	6	1	0	33	15	4	1

Source: International Futures, version 7.09

Table 4: Number of people in poverty in millions (15-year moving average) in the Base Case and intervention clusters

	$1.00 a day				$1.75 a day			
	2013	2030	2045	2063	2013	2030	2045	2063
Base Case	197	156	101	60	388	349	241	151
Social	196	138	73	37	388	316	176	91
Pro-poor	193	115	57	22	385	283	156	72
Human	196	140	70	31	387	318	174	86
Progressive	197	152	94	54	388	342	228	136
Combined	192	91	25	6	384	231	77	21

Source: International Futures, version 7.09

are making progress. These barriers can be spatial, gender-, caste-, religion- or ethnicity-related, among many others, but have a significant impact on trajectories of poverty reduction. This intervention focuses on creating an understanding among policymakers that the chronically poor are constrained by structural factors rather than individual characteristics, and taking steps to address those factors. We mainly focus on gender inequality within our modelling package, improving gender empowerment, and reducing time to gender parity in education.

A summary of the intervention clusters within IFs is presented in Table 2. The technical detail on the interventions done within IFs is provided in a separate annex.

Overall findings are summarized in Table 3 and include the Base Case forecast, the impact of each of the four intervention clusters as well as the combined impact of all four clusters on the percentage of the population living in poverty. Table 4 summarizes the intervention impact on the number of people living in poverty up to 2063.

The combined effect of our interventions has a significant impact on both severe and extreme poverty in Africa at a continental level. In our combined interventions we see the percentage of the population in severe poverty declining by 4 percentage points over the Base Case in 2030, while extreme poverty declines by 7 percentage points. This translates to 65 million fewer people living in severe poverty and 118 million fewer living in extreme poverty on the continent by 2030 (Table 4). Despite the improvements in the poverty levels, these figures still represent 6 % and 15 % of the total population (Table 3). This suggests that even with a concerted effort to reduce poverty, Africa is unlikely to achieve the 2030 target for reductions in extreme poverty to below 3 %. In fact only three additional countries make the World Bank goal.[33] It is not until 2045 in our combined scenario that we see extreme poverty approaching the level suggested as a target.

In regards to inequality and economic growth, this intervention framework provides benefits to both, constraining the slight rise of inequality on the continent in our Base Case up to mid-century. While in our Base Case, domestic Gini falls from 0.44 to 0.43 by 2063, our combined intervention results in Gini falling to 0.40 by 2063. In terms of economic growth, this approach leads to early benefits over the Base Case, but following 2035, we see a decline in the growth rate until by 2063 this intervention package performs no better than the Base Case. The average annual growth rate for GDP in our combined scenario is 7.3 % up to 2063 and 7.0 % for household consumption. This suggests that our interventions do have significant impacts on the economic growth prospects for the continent, boosting growth by about 1.2 percentage points per year relative to the Base Case. They also suggest that even though our forecasts on poverty reduction appear extremely conservative, the impact of our assumptions leads to quite aggressive forecasts for economic growth to progress.

It could take **30 MORE YEARS** for Africa to meet the World Bank poverty reduction target.

The greatest poverty reduction by 2030 comes from pro-poor economic growth, reflecting the rapid impact of efforts to improve agricultural production and domestic demand. The benefits of human development do not really begin to advantage the severely poor until 2063, but begin accruing earlier for the extremely poor. Social assistance has a cumulative effect across our time frame.

Table 5: Reductions in millions of people in poverty due to different intervention clusters (15-year moving average) relative to the Base Case

	$1.00 a day			$1.75 a day		
	2030	2045	2063	2030	2045	2063
Base Case	--	--	--	--	--	--
Social	18	28	23	33	64	60
Pro-poor	41	43	38	65	85	79
Human	16	31	27	31	67	65
Progressive	3	6	6	6	13	15
Combined	65	75	54	118	164	130

Source: International Futures, version 7.09

This may be related to the upfront costs of setting up and administrating a functioning national social assistance system and a taxation system to fund it. Our scenario for progressive social change is relatively pessimistic about the possibilities that this has for bringing large numbers of people out of poverty using these interventions alone. This may be partly attributed to the fact that we were only really able to represent one aspect of discrimination – gender – in our scenario analysis.

Conclusions

In our work, we found that microeconomic interventions that draw deeply on the work of the Chronic Poverty Research Centre and echo many of the policy prescriptions offered in recent literature, including by the Africa Progress Panel, succeed in driving gains in many places on the continent. The modelling done in this chapter appears to present the prospect that many countries in Africa could converge on extreme poverty rates of 15 % or less by the middle of the century. They do not, however, allow for achieving a 3 % poverty rate by 2030, even continentally.[34] These interventions included modelling the effects of an economic growth plan that specifically targets inclusion of underserved groups and regions through investments in agriculture and infrastructure. Over the medium to long term, investments in human development and social assistance, including in quality primary and secondary education, universal healthcare, and an effectively managed social assistance program, can also help to reduce poverty in a number of additional countries. Although these efforts seem broadly applicable across different circumstances, not all countries respond equally well to these interventions.

We argue in favour of setting a goal that would see African states collectively achieving a target of reducing extreme poverty (income below $1.75 in 2011 PPP) to below 15 % by 2030, and reducing extreme poverty to below 4 % by 2045. Because of the significant differences in current poverty levels and other initial conditions, between drivers of poverty in different African states, and therefore in the wide variety of policy measures which will be needed to effectively reduce poverty in different contexts, we further recommend that the AU consider setting individual country level targets as appropriate. In particular, we advocate increased attention to the issue of chronic poverty, which requires national political will in order to address the overlapping structural challenges that keep the chronically poor trapped in poverty for long periods of time. We argue for a greater focus on inequality and structural transformation of African economies.

As national leaders and the policy community continue discussions on the appropriate targets for the next round of development goals up to 2030 (for the next round of MDGs) and 2063 (in the case of Agenda 2063), it is clear that a significant amount of the remaining burden of extreme poverty is now located in sub-Saharan Africa. Current measurements remain important here, as much as the introduction of new poverty lines of $1.75, $2 and even $5 (all in 2011 PPP) may be useful in measuring progress elsewhere.

The factors which drive poverty **VARY** considerably across the continent.

Poverty reduction goals must be **DIFFERENT** for each country if they are to succeed.

That said, there is much room for African policymakers to develop policies which have potential to significantly increase the rate at which poverty declines. The details of what these policies should look like must be country-specific, but examining poverty reduction in an integrated, scenario-based way can potentially help policymakers better formulate their future strategic thinking.

Annex: About IFs and interventions

International Futures (IFs) is large-scale, long-term, highly integrated modelling software housed at the Frederick S. Pardee Center for International Futures at the Josef Korbel School of International Studies at the University of Denver. The model forecasts hundreds of variables for 186 countries to the year 2100 using more than 2700 historical series and sophisticated algorithms based on correlations found in academic literature. IFs software consists of 11 main modules: population, economics, energy, agriculture, infrastructure, health, education, socio-political, international political, technology and the environment. Each module is tightly connected with the other modules, creating dynamic relationships among variables across the entire system. The interventions included in each policy are as follows:

1. Social assistance

Parameter	Degree of Change	Timeframe
govhhtrnwelm	100 % increase in government transfers to unskilled households	20 years
xwbloanr	Growth rate in World Bank lending doubles	10 years
ximfcreditr	Growth rate in IMF lending doubles	10 years
govrevm	20 % increase in government revenues	5 years
goveffectsetar	+1 standard error above expected level of government revenues	---
govcorruptm	66 % increase in government transparency (declines in corruption perceptions)	15 years

2. Pro-poor economic growth

Parameter	Degree of Change	Timeframe
govriskm	20 % decline in risk of violent conflict	15 years
sfintlwaradd	-1 decline in risk of internal war	15 years
sanitnoconsetar	-1 standard error below expected level of sanitation connectivity	---
watsafenoconsetar	-1 standard error below expected level of water connectivity	---
ylm	76 % increase in yields	21 years
ylmax	Set at country level	---
tgrld	0.00902 target for growth in cultivated land	---
agdemm	40 % increase in crop demand, 20 % increase in meat demand	15 years
aginvm	20 % increase in investment in agriculture	15 years

Parameter	Degree of Change	Timeframe
ictbroadmobilsetar	+1 standard error above expected level of broadband connectivity	---
ictmobilsetar	+1 standard error above expected level of mobile connections	---
infraelecaccsetar	+1 standard error above expected level of electricity connections	---
infraroadraisetar	+1 standard error above expected level of rural road access	---
govregqualsetar	+1 standard error above expected level of government regulatory quality	---

3. Progressive social change

Parameter	Degree of Change	Timeframe
edprigndreqintn	Years to gender parity in primary education intake	10 years
edprigndreqsur	Years to gender parity in primary education survival	10 years
edseclowrgndreqtran	Years to gender parity in lower secondary transition	13 years
edseclowrgndreqsurv	Years to gender parity in lower secondary survival	13 years
edsecupprgndreqtran	Years to gender parity in upper secondary transition	20 years
edsecupprgndreqsurv	Years to gender parity in upper secondary survival	20 years
gemm	20 % increase in level of gender empowerment	5 years
labshrfemm	50 % increase in female participation in the labor force	45 years

4. Human development for the hard-to-reach

Parameter	Degree of Change	Timeframe
edpriintngr	2.2 growth rate in primary education intake	---
edprisurgr	1.2 growth rate in primary education survival	---
edseclowrtrangr	1.0 growth rate in lower secondary transition	---
edseclowrsurvgr	0.8 growth rate in lower secondary survival	---
edsecupprtrangr	0.5 growth rate in upper secondary transition	---
edsecupprsurvgr	0.3 growth rate in upper secondary survival	---
edexppconv	Years to expenditure per student on primary schooling convergence with function	20 years
edexpslconv	Years to expenditure per student on lower secondary schooling convergence with function	20 years
edexpsuconv	Years to expenditure per student on upper secondary schooling convergence with function	20 years
edbudgon	Off - no additional priority for education spending	---
hlmodelsw	On	---
hltechshift	1.5 increase in the rate of technological progress against disease (helps low income states converge faster)	---
tfrm	45 % decline in total fertility rate	45 years

Parameter	Degree of Change	Timeframe
hivtadvr	0.6 % rate of technical advance in control of HIV	---
aidsdrtadvr	1 % rate of technical advance in control of AIDs	---
hlmortm	malaria eradication (95 % eradicated by 2065)	60 years
hlmortm	40 % decline in diarrheal disease	55 years
hlmortm	40 % decline in respiratory infections	55 years
hlmortm	40 % decline in other infectious diseases	55 years
hlwatsansw	On	---
hlmlnsw	On	---
hlobsw	On	---
hlsmimpsw	On	---
hlvehsw	On	---
hlmortmodsw	On	---
malnm	50 % decline in malnutrition	40 years
hltrpvm	50 % decline in traffic deaths	25 years
hlsolfuelsw	On	---
ensolfuelsetar	50 % decline in use of solid fuels	---

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Anmerkungen

[1] See www.un.org/millenniumgoals/pdf/Goal_1_fs.pdf accessed 15 March 2014.

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[23] Estimates for Sudan are extremely aggressive; due to a large upward revision in Sudanese GDP per capita, purchasing power parity is 3.608 in 2011 dollars.

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[25] Hughes, Barry B. / Irfan, Mohammod T. / Khan, Haider et al.: Reducing Global Poverty, Potential Patterns of Human Progress, Paradigm Publishers, 2011. The index value is from 0.1 to 52.8, which indicates the average shortfall of the poor below the poverty line expressed as a fraction of the poverty line.

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