Where are the Poor?

Mapping Patterns of Well-Being in Uganda

1992 &1999

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UBOS

The Uganda Bureau of Statistics is the central statistical office of Uganda. It conducts censuses and surveys that yield a wide range of economic, social and demographic statistics.

www.ubos.org

Rockefeller

The Rockefeller Foundation is a knowledge-based global foundation with a commitment to enrich and sustain the lives and livelihoods of poor and excluded people throughout the world.

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World Bank

The World Bank group is one of the world's largest sources of development assistance and leads the provision of external funding for education, health and the fight against HIV/AIDS. Its primary focus is on helping the poorest people and the poorest countries. The World Bank is committed to working with the Government of Uganda, its development partners, academia and civil society to improve and update knowledge regarding the economic and social status of the poor in Uganda. Its aim is to assist in designing, financing and implementing a pro-poor economic development agenda for Uganda that responds to their needs in a sustainable manner.

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The International Livestock Research Institute (ILRI), based in Nairobi (Kenya), works worldwide to help reduce poverty, hunger and environmental degradation through global livestock research. ILRI is one of 16 Future Harvest Centres supported by the Consultative Group on International Agricultural Research (CGIAR). ILRI is funded by more than 50 private, public and Government organizations, including the World Bank and the United Nations, and collaborates with more than 500 national, regional and international institutions, in addition to non-Governmental organizations and private companies.

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DFID

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AERC

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All these institutions have strong interests in developing a greater understanding of the factors affecting poverty in order that they can focus their investments on activities that have significant impact on poverty reduction. An important step in this process is a better provision of information on spatial and temporal trends in poverty in Uganda.

The Rockefeller Foundation

World Bank

UBOS

ILRI INTERNATIONAL LIVESTOCK RESEARCH INSTITUTE

WRI

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A CD-ROM with portable document format (PDF) of this report and maps (1992 and 1999) is included on the last page of this publication. However, the 1999 data tables are not included on the CD, but are available upon request from UBOS.

Foreword

Finding ways to improve living standards in Uganda is a pressing challenge facing both local and national policy makers and development partners. Poverty is a complex multi-dimensional condition, and as is borne out by this report, relative levels of well-being vary considerably over space. Poor people are often clustered in specific places. Information on the spatial distribution of well-being will greatly assist in designing a comprehensive and all inclusive pro-poor agenda for development and, in particular, for poverty reduction. However, availability of such information has long been a formidable challenge facing both policy makers and development partners alike. It is one of the obstacles facing those trying to improve the standard of living in Uganda. This report is, therefore, not only a response to this challenge in part, but also a precursor to a series of reports (and studies) geared towards building sustained time series benchmarks for poverty measurement in Uganda. These reports are necessary for institutionalising an effective monitoring and evaluation system for poverty programmes. The report, for the first time, presents lower area (sub-Region and sub-District) estimates and maps of poverty aimed at spearheading improved targeting of resources to pro-poor programmes. To arrive at these estimates a recently developed methodology is applied.

In brief, the basic principle underlying this recent methodological development involves combining information from the 1992/93 Integrated Household Survey (IHS) and the 1991 Population and Housing Census (PHC) to produce baseline 1992 poverty estimates with a spatial profile ranging from the national level down to the County-level for rural areas and the Subcounty level for urban areas. These estimates were then updated, using information from the 1999/2000 UNHS (a relatively small sample of the same households that were interviewed in the 1992 IHS), to show estimated poverty levels for 1999 and the relative changes in poverty levels over this time period. These latter estimates will be refined and replaced when the 2002 PHC becomes available, but in the meantime, they provide a useful indication of the direction and magnitude of poverty changes during the 1990's.

The availability of spatially disaggregated poverty information is a welcome innovation, particularly in the context of designing, monitoring and evaluating the pro-poor economic recovery and development agenda, as well as for informing the Poverty Reduction Strategy Paper (PRSP) implementation process. It is envisioned that the new information will be of considerable use to line Ministries, development partners and the entire research community who endeavour to understand the determinants of poverty in order to design policies and/or programmes geared to improving the well-being of Ugandans. Recently, reviews of poverty maps in other parts of the world have concluded that such modes of conveying the geographic dimensions of well-being have become important policy tools for implementing poverty reduction programmes. This, therefore, makes them indispensable in helping to improve effective targeting of public expenditures and investments, making decisions regarding emergency response and food aid programmes, and contributing to the National and sub-National policy formulation process in particular and the development planning process in general.

Additionally, disaggregated poverty estimates and maps can be complemented with spatial data on social amenities like schools and health centres, or biophysical, environmental and agro-climatic information to give rise to more comprehensive and integrated databases that could be immensely valuable towards evidence-based development planning and policy formulation. Further reports in this series will focus on these dimensions, in addition to examining the socio-economic dimensions of well-being and analyses of its spatial determinants. This report aims to fill the information gap that has hitherto been a hindrance to pro-poor development planning and policy formulation. It also aims to raise awareness on spatial dimensions of poverty by encouraging broader participation of all stakeholders, thereby inculcating the culture of evidence based decision making in general.

Mr. John Male-Mukasa

Executive Director, Uganda Bureau of Statistics

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We are grateful to UBOS for their support throughout the process. In particular, we would like to thank the Executive Director, Mr. John Male-Mukasa for his commitment to the success of the project, and Lyn Macdonald, former DFID statistical advisor to UBOS. The financial support and encouragement received by DFID to develop an untested approach to arrive at updated poverty estimates for 1999 is greatly appreciated.

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Summary

To successfully pursue the challenge of designing, implementing, monitoring and evaluating poverty reducing development policies, the Government of Uganda requires detailed information on well-being across time, administrative units, and by socio-economic characteristics. This report presents and analyses important poverty indicators by Region, District, County and Subcounty to highlight the geographic dimensions of well-being across Uganda. The question is – where exactly are the poor? Future reports will link this information with other data in order to address issues such as the factors behind spatial variation in poverty incidence (why do we see this spatial variation in poverty levels?) and describe the demographic and socio-economic characteristics of the poor in different locations (who are the poor?). These reports will examine the implications of the spatial dimensions of well-being with the aim of contributing to the formulation of an information-based policy agenda for pro-poor development and economic growth.

The need for this information emerges from a rapidly changing policy environment, which is progressively decentralised and which deals with increased autonomy and accountability at the sub-National level. The information required is also valuable to Uganda in context of the detailed spatial scales at which some development initiatives are currently being targeted. As this report conveys, more information on the spatial characteristics of poverty is critical given the considerable differences in the geographic dimensions of well-being, even among and within relatively small administrative areas such as Counties and Subcounties.

Knowledge of the geographic dimensions of well-being matters to the extent these differ within and among small geographical localities and administrative areas. To date, comprehensive representative data on the spatial distribution of the poor in Uganda was available only for a few major urban centres and for rural areas at the Regional level. This information was collected via specially designed sample surveys, the principal source of data on household expenditures necessary for determining levels of well-being. More detailed spatial dimensions of well-being based on such surveys is not feasible because of sample size limitations. In this report, the problem was circumvented by implementing a recently developed methodological approach that enables combining detailed information on well-being from the 1992/3 Integrated Household Survey (IHS) with the complete geographic coverage provided by the 1991 Population and Housing Census (PHC).

Briefly, this newly developed approach involves the following steps. First, the IHS data estimates regressions relating to household expenditures to a number of socio-economic variables such as household size, education levels, housing characteristics, and access to basic services. While the Census does not contain household expenditure data, it does contain these socio-economic variables. Therefore, it is possible to statistically infer Census household expenditures by applying the survey-based estimated relationship together with the Census socio-economic variables. This in turn allows for estimation of measures of well-being for very small geographical areas using statistical simulation techniques.

The principal advantage of applying this new technique is that we can now provide poverty estimates for the rural and urban areas not only for all Regions and Districts, but also for Counties and Subcounties. However, one principal stipulation applies. It is critical to recognise and underscore that the results generated are not exact measures, but statistical estimates of poverty subject to precision bounds that widen the further one spatially disaggregates. In other words, estimates of well-being for larger and more populous areas such as Regions and Districts are more precise compared to those for smaller and less populated areas such as Counties and Subcounties. It is critical for potential users to show consideration for the precision bounds associated with the poverty estimates presented in this report.

The results of the analysis show that there is considerable geographic variation in the distribution of the poor among and within Regions, Districts, Counties and Subcounties. The 1992 information, while dated, provides important baseline data allowing monitoring of progress towards poverty alleviation goals. It shows that there was widespread, high (>50 percent) poverty incidence all across rural Uganda in 1992. The poverty rate was greatest in the least secure areas of the Northeast and Northwest, parts of Eastern Region and several Districts in Central and Western Region. Findings in 1992 show the lowest poverty rates were in the main cities, and the Eastern Region District of Jinja, the Central Region District of Mukono, and the Western Region Districts of Mbarara and Bushenyi.

The maps clearly show Districts in 1992 that had Counties with similar rural poverty levels, as well as Districts with poor and less poor Counties (e.g. Mbarara District in southwestern Uganda). Results showed Counties with poverty levels of less than 30 percent next to Counties with poverty incidences of over 60 percent. Exploring the reasons why this should be the case, and identifying appropriate interventions that fit the local conditions, is now possible. These maps target areas for further research and development efforts.

In 1992, poverty gaps were greatest throughout Northern Uganda. The lowest poverty gaps (<20 percent of the rural poverty line) were found near the urban areas of Kampala, Jinja, and Mbarara. Generally, the poverty gap was smaller in the richer Districts. In Districts and Counties where poverty incidence was below 20 percent, the poverty gap averaged around five percent (i.e. on average, a poor individual in that area required five percent of the poverty line, or UShs 822 per month, to reach the poverty line). Districts and Counties with poverty incidence levels of higher than 60 percent had poverty gaps greater that 20 percent. In other words, people in poorer areas also tend to have further distance to go in order to climb out of poverty.

Inequality was highest in urban areas and showed a wider range of variability than the estimated levels in rural areas.

Mapping the density of rural poverty for 1992 reveals that, although the highest poverty rates were found in the remoter northern areas, these areas are relatively sparsely populated, so most of the poor are found in Central, Eastern and Western Regions and closer to major urban centres.

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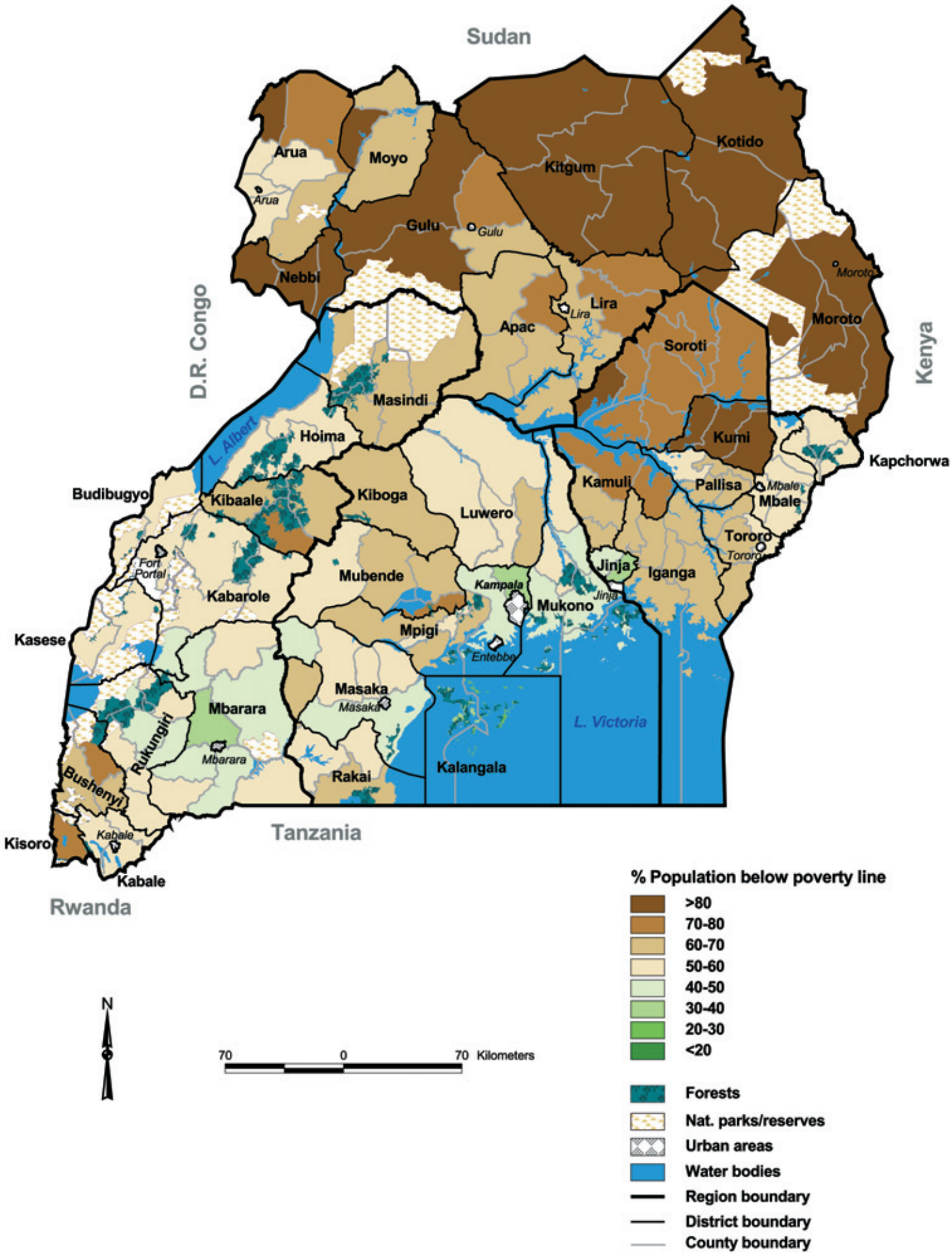
1992 County-Level Rural Poverty Incidence



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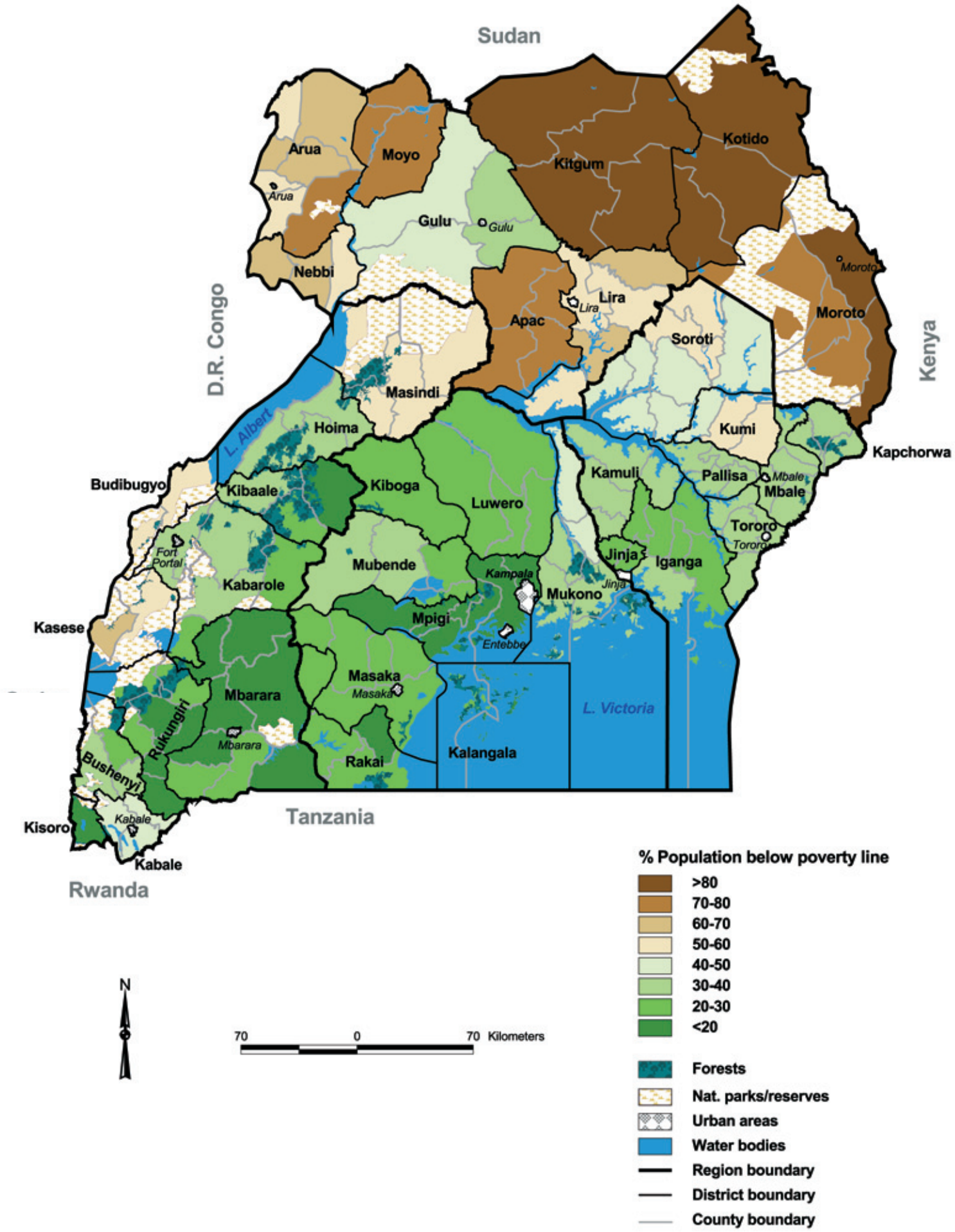
1999 County-Level Rural Poverty Incidence



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While the 1999 maps have to be treated cautiously as the estimates are based on a relatively small sample, they show a tremendous amount of progress towards lowering rural poverty rates throughout Western, Central and Eastern Uganda throughout the 1990's. However, the 'greening of Uganda'[1] has only been achieved in a few areas of Nothern Uganda. Ninety-two percent of Uganda's 149 rural Counties have estimated poverty levels that were lower in 1999 than in 1992, and of these, 29 percent experienced poverty declines of between zero and 30 percent. For another 50 percent, this decline in poverty incidence was between 30 and 60 percent. Very large decreases in poverty (> 60 percent) can be seen for 14 percent of rural Counties. Seven percent of rural Counties have seen increases in poverty during the 1990's.

Despite a population increase from 1992 to 1999, according to this analysis, the total number of rural poor dropped by 16 percent, from 8.8 million to 7.4 million.

The new data show a downward trend in the poverty gap similar to the trend in poverty incidence, with 88 percent of Counties showing a lower poverty gap in 1999 than in 1992. The poverty gap did increase during this period, however, in Moyo, Arua, Apac, Bundibugyo, and Kasese Districts.

Inequality worsened for 39 percent of Uganda's Districts and Counties from 1992 to 1999. These areas of increasing inequality were found in Northern Region and in Kasese, Masindi and Bundibugyo Districts in Western Region.

Uganda has few geographically targeted anti-poverty programs and the results of this study indicate the possibility of using these new poverty maps, along with other spatial information (e.g. location of health or education facilities, markets, agricultural potential), to improve the targeting of these programs. Uganda has a rural poverty reduction strategy called: The Plan for the Modernization of Agriculture (PMA). This plan incorporates a part of the broader Poverty Eradication Action Plan (PEAP) (Uganda, 2000, 2001). The PMA's mission is to eradicate poverty by transforming subsistence agriculture into commercial agriculture, through less, rather than more, public sector involvement, decentralising and privatising agricultural services, and encouraging a rise in the cash component of household incomes from multiple sources (Ellis and Bahiigwa, 2003). Given such a move toward greater authority and responsibility at the local government level, being able to monitor poverty at the District, County and Subcounty levels will be critical for measuring the impact of this poverty reduction strategy.

Knowledge of the heterogeneous geographic distribution of well-being across Uganda is critical, but taken alone cannot provide answers to questions about why particular areas are much poorer than others, or what might be done to improve living standards. In other words, the production of these poverty maps is only a first step in a very important process. This process involves disseminating the new data as broadly as possible and complementing it with additional information and analysis. This will assist Ugandan policy makers and development partners face the critical issues.

The data presented in this report is not sufficient in itself for improved targeting of budget expenditures, facility or infrastructure investments aimed at poverty reduction. However, combining this data with information from other sources presents a unique opportunity for doing so. For example, the Ministry of Education or Health could benefit from combining the poverty data with maps of where education and health facilities are currently located throughout Uganda. This would facilitate estimating service access indicators such as the number of poor children or people that live within a certain radius of these facilities. This information might be helpful in complementing other data to target the location of new facilities or the rehabilitation of existing facilities. Additional data on the current condition of facilities, staffing, quality and outcomes of services would further complement the knowledge base and allow for improving information-based decision making.

This study also opens up opportunities for examining the determinants underlying observed patterns in the spatial distribution of well-being, by linking the County-level poverty estimates to additional detailed household and community-level data. This could assist policymakers in the design and implementation of more specific, targeted policies and possibly generate further insights into potential local-level solutions to these root causes of poverty. Providing communities and local governments with access to these types of information, through a systematic dissemination and feedback process, will empower communities and stimulate more efficient and transparent resource allocation.

[1] We use the term 'greening of Uganda' because low poverty shows up in green on our maps.

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Chapter 1 Introduction

Uganda has invested considerable time and effort in poverty research in recent years, much of it based on nationally representative household surveys undertaken by the Uganda Bureau of Statistics (UBOS) throughout the 1990's. These surveys have provided a wealth of information on living standards and changes in welfare levels, and have provided the basis for analysis on the driving factors behind these changes (e.g. Appleton, 2001, Deininger and Okidi, 2002, Appleton et al., 1999). One drawback of the household survey results is that they are statistically representative only at the aggregate level, i.e. for Uganda's four (large) Regions. Given that the area of these Regions is so big and heterogeneous with respect to biophysical and socio-economic endowments, these poverty estimates do not adequately show the high variability of poverty levels that exist within Regions, nor do they lend themselves to comprehensive analysis of the factors behind these highly variable poverty rates.

This report provides an extensive set of maps showing several measures of poverty at a relatively disaggregated, localized level for the first time for Uganda. These maps are referred to as poverty maps (for a summary of experiences and development of poverty maps in other countries, see Henninger and Snel, 2002). Poverty mapping, defined as the spatial representation and analysis of indicators of human well-being and poverty within a Region, is rapidly becoming an important instrument in many countries for investigating and solving social, economic and environmental problems. Such maps provide decision-makers with the tools they need to identify areas where development lags and where investment in infrastructure and services could have the greatest impact on people's lives.

Poverty maps are important tools in the implementation of poverty reduction initiatives, both at the international as well as national level. Poverty maps help improve the targeting of public expenditures by identifying where the poorest populations are located. Poverty maps provide a powerful, visually-oriented framework for integrating data from various sources, including surveys, Censuses, and satellite imagery, as well as social, economic and environmental data. This helps define and describe poverty. By integrating spatial measures of poverty with other data, spatial patterns of well-being can be compared with educational levels, access to services, market integration and other possible contributing factors, leading to a more complete understanding of different dimensions of human well-being. National and international emergency response and food aid programs have begun to make use of new poverty mapping technology. In several countries, high-resolution poverty maps contribute to state- and local-level policymakers and the decisions they make. In countries where poverty maps are available and widely distributed, transparency of public decision-making has raised public awareness of poverty and empowered local groups to participate more fully in antipoverty debates.

A spatial framework allows the use of new units of analysis. Instead of using administrative boundaries, analysts can designate ecological boundaries, and capture information such as community- or watershed-level characteristics, for example: identifying spatial patterns through the use of poverty maps can provide new insights into community versus individual household-level causes of poverty. Another example is whether physical isolation and poor agro-ecological endowments trap whole communities in poverty, or whether high initial levels of inequality or poverty in a certain locality reduce the options for growth in the future? The dominant view in the development community is that inequality is not only a final outcome of the growth process, but plays a central role in determining the pattern of growth and poverty reduction (Bourguignon 2004). Tentative empirical verifications through "growth regressions", with inequality variables amongst the explanatory variables, have yielded ambiguous, or even contradictory results. These verifications have been attempted using cross country regressions, and are only relevant on average. By generating County-level poverty, growth and inequality estimates, poverty mapping presents the opportunity to verify the existence of a relationship between poverty, growth and inequality for specific countries such as Uganda.

Improved targeting of anti-poverty programs and interventions is an important objective behind producing these poverty estimates. Geographic targeting of subsidies, for example, is successful elsewhere as it optimises the amount of resources reaching the poor while minimizing leakage to the rich. High-resolution poverty maps also support efforts to decentralise national resources and support localised decision-making. This is in part because a map is a powerful tool that allows people to easily visualise spatial relationships and which is effective in providing an additional return on investments in survey data. This data often remains unused and unanalysed after the initial report or study is completed. It is crucial to remember that poverty maps only provide information and not answers. Thus, widespread dissemination of this information is critical, so that it can be linked with more detailed contextual information on key socio-economic, environmental and policy relevant indicators (e.g. access to public services and education) and thus used to improve poverty-related decision-making.

Whereas the focus of this report is on the spatial representation of poverty, the methodology employed also allows us to disaggregate poverty by non-spatial characteristics as well. For example, the approach taken now permits us to derive accurate poverty estimates for small target populations such as people with disabilities or child-headed households. Sample surveys are unable to provide poverty estimates for such vulnerable groups because of their small numbers.

1.1 Uganda Poverty Mapping Effort

Examples above are just some of the motivating factors behind a multi-agency effort, aimed at producing high-resolution poverty maps in Uganda. Other motivating factors include the desire to see data already collected become more useful and better used, and to invest in capacity building within UBOS to improve their data collecting instruments and analysis based upon them in the future. ILRI initiated, with support from Rockefeller Foundation, an international workshop that included participants from UBOS and Makerere University. The workshop examined the possibilities for undertaking a poverty mapping

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initiative in Uganda. These would be similar to those undertaken with support from the World Bank and the International Food Policy Research Institute (IFPRI) in many other countries (throughout Latin America and in S. Africa, Malawi, Mozambique and Madagascar). This led to the establishment of a research team within UBOS. Technical support came from The World Bank, ILRI, from the Poverty-Monitoring and Analysis Unit (PMAU) of the Ministry of Finance and from the Economic Policy Research Centre (EPRC). With the team established and financial support and encouragement from the Rockefeller Foundation secured, the poverty mapping analysis began in 2001.

The intended audience for this report is a broad one. It is aimed at Ugandan policy makers - all those involved, from national to local levels - in addressing the large economic and social development challenges facing Uganda. In particular, potentially important users of these poverty maps include all persons involved in the Poverty Reduction Strategy Process (PRSP) and Poverty Eradication Action Plan. The 1992 poverty estimates provide important baseline information that allows the tracking of progress towards the goals of reducing poverty and inequality. The information in this report will contribute to a better-informed policy debate regarding Uganda's future development possibilities. Distribution of this report will include not only government officials, but also non-government and civil organizations, as well as economic and social researchers, educational institutions and donors.

This report is intended to be the first in a series of planned reports. The intention is to present the results of the analysis to a broad audience, with further analysis using the poverty estimates (e.g. to look at the relationship between poverty and community or household characteristics) to follow in subsequent volumes. Readers interested in more detail on the econometric method and data used should refer to Appendix 1.

The report is organised as follows: Chapter 2 provides an overview of the data, concepts and methods used. Each of the different poverty measures sits alongside a specific map example with suggestions as to how to use and interpret each of the different poverty measure maps (a 'reader's guide' to the maps). Considerably more interpretation is possible with each map, but the goal of this report is to lead readers to pose new questions and conduct further research on the factors behind these differential poverty rates.

There is very little interpretation of the information presented in this report. In Chapter 3, however, we do present some observations of key findings, along with the data tables for 1992, followed by a brief summary of results by Region.

Chapter 4 presents the 1992 maps. They begin with the Uganda-wide maps, followed by those that 'zoom in' on each Region. There are two sets of rural poverty maps per Region – the first at the District-level and the second showing the County-level estimates. Subcounty-level poverty maps for the largest urban areas in each Region are also presented. Two measures of poverty are given — the headcount index (percent of the population below the poverty line) and the poverty gap (the distance poor people have to go to reach the poverty line, measured as a percent of the poverty line). A third poverty measure, a measure of consumption/expenditure inequality called the Gini coefficient, is not mapped but this information is included in the tables found in Chapter 3 and on the CD-ROM that comes with this book.

The 1999 maps, provided in Chapter 5, again start with the Uganda-wide rural poverty incidence and poverty gap maps at the District and County-level. Although the maps are accessible, the underlying data are not presented but are available upon request from UBOS.

Box 1.1. Organization of the maps in this report

This report covers the following administrative units in Uganda: Regions (4), Districts (56), and Counties (238 – 149 rural and 89 urban). The maps are found as follows in Chapters 4 and 5:

Two poverty measures exist for each area described below:

A – Poverty Incidence: Percent of Rural Population below the Poverty Line
B – Poverty Gap: Gap for Rural Poor to reach Poverty Line

Chapter 4:

Uganda Poverty Density 1992 County Level
Uganda 1992 - District Level
Uganda 1992 - County Level
Central Region 1992 - District Level
Central Region 1992 - County Level
Kampala 1992 Subcounty Level
Masaka 1992 Subcounty Level
Western Region 1992 - District Level
Western Region 1992 - County Level
Mbarara 1992 Subcounty Level
Eastern Region 1992 - District Level
Eastern Region 1992 - County Level
Jinja 1992 Subcounty Level
Northern Region 1992 - District Level
Northern Region 1992 - County Level
Arua 1992 Subcounty Level

Chapter 5:

Uganda Change in Poverty 1992-1999 County Level
Uganda 1999 - District Level
Uganda 1999 - County Level
Central Region 1999 - District Level
Central Region 1999 - County Level
Western Region 1999 - District Level
Western Region 1999 - County Level
Eastern Region 1999 - District Level
Eastern Region 1999 - County Level
Northern Region 1999 - District Level
Northern Region 1999 - County Level

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Chapter 2 Overview of Data, Concepts and Methods

The analysis focuses on consumption, which is generally considered an important, objective and quantifiable dimension of well-being. Ugandan household expenditure and consumption – that is, expenditure on food and non-food items, such as clothing, durables, health and transport, and the value of food that is both produced and consumed at home, are the basis of the analysis. A poverty line is defined in relation to the cost of obtaining sufficient calories given the kinds of food consumed by the poor. Non-food requirements differ by Region and by whether a household is located in an urban or rural area. The data and measures reported in this volume are first described in more detail below, followed by a brief description of the analytical methods used.

2.1 Poverty Measures

In the analysis the "official" poverty lines adopted by the government of Uganda and set by the work of Appleton (1999) are used. These poverty lines are estimated using a methodology described in detail in Ravallion (1994), and account for both food and non-food requirements within households. The food requirements are national, while the non-food requirements differ by Region and by whether a household is located in an urban or a rural area. Through the application of regional price adjustments relative differences in the cost of living between different areas — particularly between rural and urban areas, are taken into consideration. In addition, to account for differences in needs among household members (e.g. relative to adults, children consume less food), adult equivalence scales were used.[2]

The national poverty line is UShs 16,443 per adult equivalent per month (using 1989 prices). However, the poverty lines used in this analysis differ by Region and by rural and urban areas and are found in Table 2.1. Regional differences in poverty lines are not large. At the prevailing exchange rate at the time, the national poverty line was equivalent to $34 per capita per month and hence comparable to the "$1 a day" poverty line sometimes used for international poverty comparisons by the World Bank (Appleton, 2001).

Quantitative measures of poverty are subsequently constructed. These poverty measures reflect the difference between a household's per capita consumption and the poverty line. Two measures of poverty are calculated; the poverty incidence (also known as the headcount index) and the poverty gap (both measures are also referred to as the FGT indices–Foster, Greer and Thorbecke, 1984). A measure of inequality, called the Gini coefficient is also presented, along with the density of the poor, i.e. the number of poor people per square kilometre.

The poverty incidence, or headcount index, measures the share of the total population in a given area whose consumption is below the poverty line. This is the proportion of the population who cannot afford to purchase the basic basket of goods. Estimations, based on this measure, indicate that overall, national poverty incidence in Uganda in 1992 was around 56 percent and by 1999, it had fallen to 35 percent (GoU, June 2000). These national averages mask large regional differences. For instance, in 1999 rural poverty rates varied from 67.7 percent in the Northern Region to 25.7 percent in the Central Region. Similarly, these Regional averages mask a tremendous variation of poverty across Counties and Subcounties. The data and maps included in this book and accompanying CD-ROM provide, for the first time, a more detailed exploration of this spatial variation in poverty and inequality within Uganda's Regions.

Table 2.1 Different poverty lines used in the poverty estimates

Region	UShs/adult/month Urban	Rural
Western	16,174	15,189
Eastern	16,548	15,446
Central	17,314	15,947
Northern	16,304	15,610

2.2 Interpreting the Poverty Incidence Measure

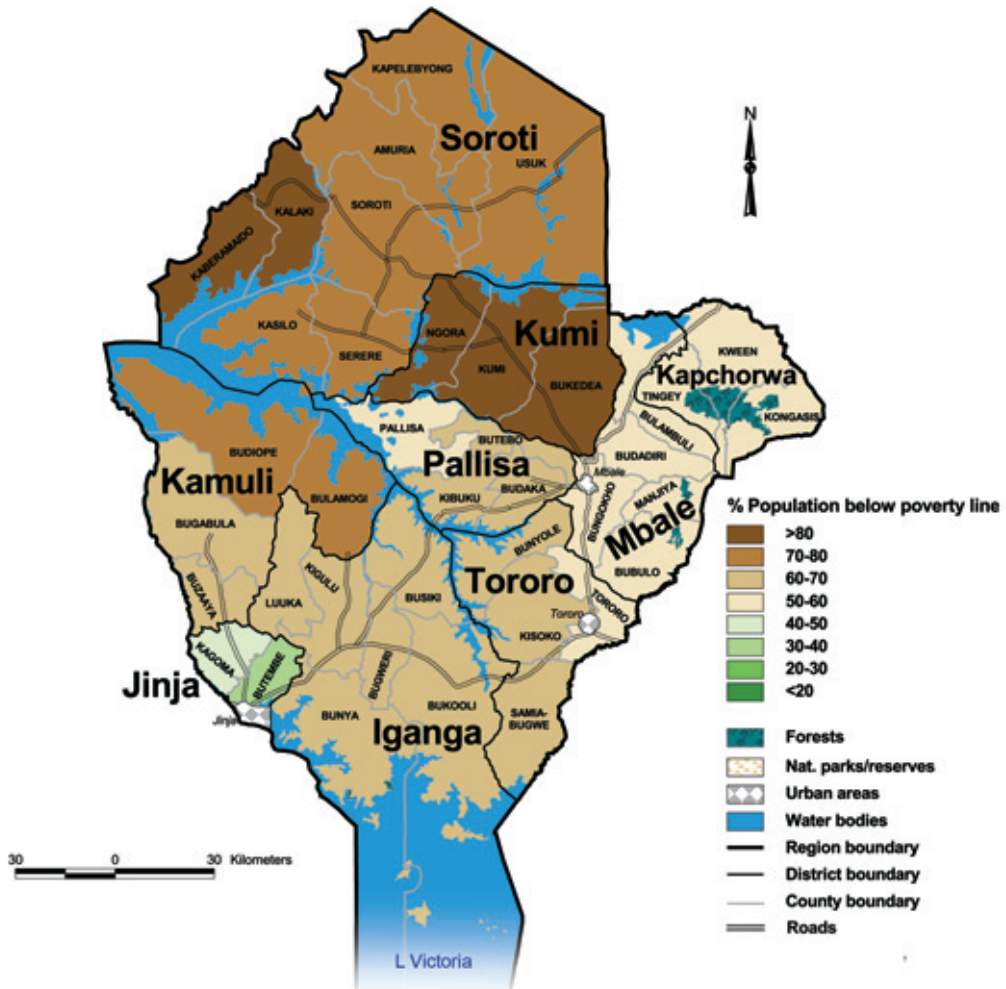
Figure 2.1 shows the poverty incidence, or the percentage of the population falling below the poverty line, for rural areas of Eastern Region in 1992. Figure 2.1 shows the names of the Counties, and the poverty rate for each of Eastern Region's 39 Counties. Dark brown shading shows areas of higher poverty rates; dark green areas are less poor.

From Figure 2.1, it can be seen that there were five Counties in Eastern Region in 1992 where more than 80 percent of the population fell below the rural poverty line (i.e. they had monthly expenditures less than UShs 15,446/adult/month – darkest brown areas). There were no Counties falling in the lowest poverty category (<20 percent). The least poor County (Jinja) had the lowest poverty rate, falling between 30 and 40 percent (dark green shading).

Interestingly, there are Counties located next to each other, but with very different poverty rates. This can be seen in Figure 2.1 in Kagoma County, Jinja District (40–50 percent poverty incidence) next to Buzaaya County, Kamuli District (60–70 percent poverty incidence). Such an observation requires further exploration about the factors underlying such differences and raises questions about the targeting of expenditures aimed at poverty alleviation.

[2] Further details on these concepts and measurements for Uganda are provided in Appleton et al., 1999.

Figure 2.1: Interpreting the Poverty Incidence Measure: Eastern Region 1992 County-level Poverty Incidence Example



Another issue addressed by examining Figure 2.1 is the extent to which clustering of poor areas occurs (pockets of poverty), as opposed to the incidence of poverty being evenly spread across the Region. For example, in Eastern Region it is evident that poverty is very high and concentrated in the north, while the Eastern part of this Region shows uniform poverty rates in the range of 50–60 percent.

However, what Figure 2.1 doesn't show is how precise each of these estimated poverty rates is – there is a standard error term associated with each estimate that is not shown in the maps but is available in the associated data tables. A cautious reader may discover that a County with a poverty rate of 50 percent and a standard error of three percent, for example, may not have a statistically significant different poverty incidence than a County with an estimated headcount index of 48 percent and a standard error of one percent. Yet, these Counties will show up with different shadings on the map.

The poverty incidence measure does not capture the number of people in a given area. Some areas on this map may show high poverty incidence, but are, in fact, sparsely populated areas. As decision makers are likely to be interested not only in the incidence of poverty but also in the number of poor in a particular area, examining the poverty density maps, which present the number of poor people per km^2, alongside the poverty incidence maps, provides valuable and complementary information regarding the geographic dimensions of poverty in Uganda.

The poverty incidence measure also does not indicate how poor the poor are. It does not distinguish between a household whose consumption levels are very close to the poverty line, and a household whose consumption levels are far below it. And, if people below the poverty line were to become poorer, the measure would not change. The poverty gap measure overcomes this problem. It is presented in Figure 2.2, and discussed in more detail in the next section.

2.3 Interpreting the Poverty Gap Measure

A measure called the poverty gap provides information on how far the consumption of poor people is from the poverty line, i.e. the depth of poverty. The measure captures the average expenditure short-fall, or gap. It is obtained by adding up all the short-falls of the poor (ignoring the non-poor) and dividing this total by the number of poor. The poverty gap measures the consumption deficit of the population, or the resources that would be needed to lift all the poor out of poverty through perfectly targeted cash transfers (i.e. to close the gap). In this sense, the poverty gap is a crude measure of the minimum amount of resources necessary

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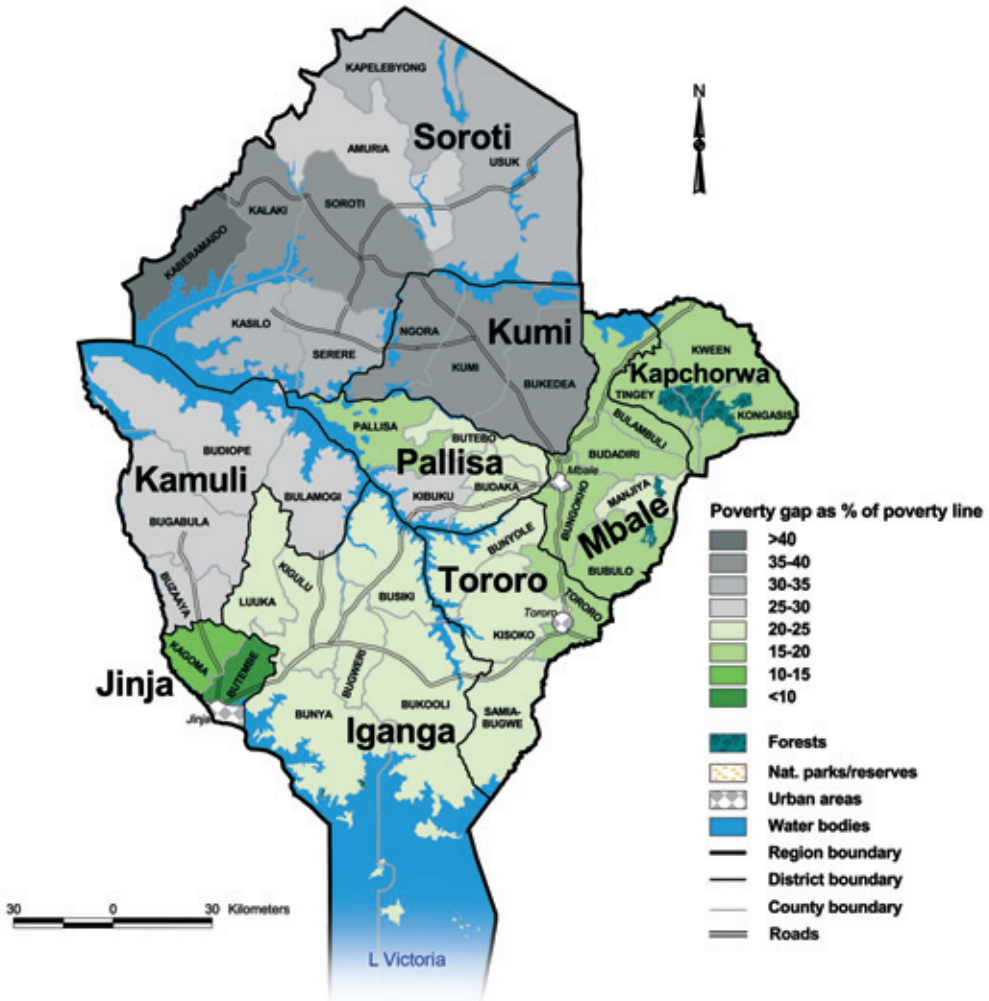
Figure 2.2: Interpreting the Poverty Gap Measure: Eastern Region 1992 County-level Poverty Gap Example



to eliminate poverty, that is, the amount that one would have to transfer to the poor to boost them up to the poverty line, under (the heroic) assumption of perfect targeting.

The estimated national average poverty gap in Uganda in 1997/98 was 13.7 percent (Appleton et al., 1999). This implies that, on average, every poor person would have required an additional Ushs 2,253 per month to reach the national poverty line (i.e., 13.7 percent of the UShs 16,443 poverty line). This does not suggest, however, that cash transfers, even if perfectly targeted, are either practically feasible or the best policy option for alleviating poverty.

Figure 2.2 shows the poverty gap for Eastern Region at the County-level. The green areas show relatively low poverty gaps and the grey shading indicates high poverty gaps. This map indicates that the northern part of the Region has the highest poverty gap (>25 percent) – i.e. the amount of money it would take on average in that area to boost a poor person's expenditure levels up to the poverty line (i.e. UShs 15,446/adult/month in rural areas of Eastern Region) is great. Decision-makers could use this information to identify areas of deep (or shallow) poverty and to estimate how much it would cost to raise standards of living in such areas. Only one County in Eastern Region has a poverty gap of <10 percent (Butembe County in Jinja District, which also happens to be the least poor County).

2.4 Interpreting the Inequality Measure, the Gini coefficient

The poverty measures focus on where individuals find themselves in relation to the poverty line, and deal with the bottom of the consumption distribution (i.e. those that fall below the poverty line). Inequality, on the other hand, is a broader concept. It is defined over the entire population, and not just for the population below the poverty line. The most widely used measure of inequality is the Gini coefficient. This measure ranges from zero (perfect equality, or everyone has the same expenditure or income) to one (perfect inequality, or when one person has it all). For most developing countries, Gini coefficients range between point three and point six (Minot et al., 2003).

In many developing countries, as incomes or consumption rise, the gap between the poor and rich widens at first, and narrows later when the country becomes sufficiently rich (this is Kuznets famous inverted U-curve). The sub-District evidence regarding consumption inequality in Uganda provides important baseline information that will allow policymakers and others to track this relationship for Uganda.

2.5 Methods for Estimating Poverty Measures Below the Region Level

2.5.1 Poverty mapping method for the 1992 welfare estimates

The poverty mapping methodology used involves combining information from the 1992 Integrated Household Survey (IHS) and the 1991 Population and Housing Census[3], to produce baseline 1992 poverty estimates with a spatial profile ranging from the national level down to the Subcounty-level for rural and urban areas[4]. The basis for these estimates are household per capita expenditure as a measure of welfare.

Household surveys that sample a representative subset of the population and collect detailed information regarding consumption expenditures (e.g., the 1992 and subsequent integrated household surveys) can be used to estimate measures of urban and rural poverty at the National and Regional levels. However, the small sample sizes of household surveys preclude estimating meaningful poverty measures for smaller areas such as Districts and Counties. Moreover, increasing the sample size of detailed household surveys such as the IHS to make these representative of the population below the Region level is neither practically feasible (because of prohibitively high costs) nor desirable (because of the likelihood of increased measurement errors).

Data collected via national surveys such as the 1991 Population and Housing Census (PHC) are able to provide representative measurement below the District level because the PHC enumerates the entire population. Unfortunately, the Census data does not contain detailed information on consumption required to estimate poverty and inequality indicators. Adding consumption information to the information to be collected via a full Census would be very costly. However, these shortcoming can be circumvented by implementing a recently developed methodological approach (Elbers, Lanjouw and Lanjouw 2002, 2003) that enables combining detailed information on consumption from the 1992 IHS with the complete geographic coverage provided by the 1991 Population and Housing Censuses.

The first step of the analysis involves exploring the relationship between a set of characteristics of households and the consumption level of the same households through an analysis of the IHS survey data, which has detailed information about what households are consuming. An estimated regression explains daily per capita consumption by a number of socio-economic characteristics such as household size, education levels, housing characteristics, and access to basic services. While the Census does not contain information on household consumption, it does contain these socio-economic characteristics. Therefore, it is possible to statistically infer Census household consumption by applying the survey-based estimated relationship to the Census socio-economic variables to predict the welfare level of all households in the Census. This, in turn, allows for estimation of the proportion of households that are poor and other poverty measures. And, because much more information (the Census) is used than the IHS alone, the estimates are accurate for relatively small geographic areas such as Districts, Counties and Subcounties. These estimates are then put on a map. Details on this method and analysis for Uganda can be found in Okwi et al., 2003. Additional details on the poverty mapping analysis and more references are provided in Appendix 1.

2.5.2 Poverty mapping method for the 1999 welfare estimates

The 1999 poverty estimates use consumption information from the 1999/2000 Uganda National Household Survey (UNHS), and information about household characteristics from the 1992 IHS. In particular, because a relatively small sub-sample of households was interviewed in the 1992 IHS and the 1999/2000 UNHS, it was possible to relate 1999 consumption to 1992 household characteristics. This was used to derive estimated poverty levels for 1999 and to calculate the changes in poverty levels between 1992 and 1999. The presented estimates will be refined and replaced when the poverty estimates based on the 2002 PHC become available. In the meantime, these estimates provide a useful, interim, indication of the direction and magnitude of poverty changes during the 1990's.

Hoogeveen et al., 2003 has a detailed description of the method behind the 1999 estimates. It shows how the small area estimation method used to derive the 1992 poverty maps in Uganda was extended to allow the estimation of the same District and County-level poverty measures for 1999. The approach makes use of a sub-sample of households that were included in the 1992/1993 IHS and the 1999/2000 UHNS. Inclusion in the 1992/93 IHS implies that "original" household characteristics are known, and that a relation between the 1991 PHC and the sample survey could be made. Inclusion in both the 1992/93 IHS and 1999/2000 UNHS implies that "future" – i.e. 1999 – consumption levels could be related to "original" – i.e. 1992 – household characteristics, which in turn can be related to the 1991 PHC. This permitted us to update the poverty map for 1992 to 1999.

The key to this approach is the availability of a set of households interviewed in both the 1992 integrated household survey and the 1999 Uganda National Household Survey. The sub-sample of households for which this holds is relatively small (1,263 households, or around 1/10 of the full sample) and several caveats need to be pointed out. First, the number of urban panel households was too small to reliably estimate an urban consumption model. As a result, updated estimates are presented for only rural areas (based on a sub-sample of 1,071 households). Second, this is the first time that the poverty mapping methodology extends to updated estimates. The 1999 poverty estimates therefore should be treated as research results whose validity requires further testing and verification. For instance, the 1999/2000 stratum level estimates from the survey are closely replicated. The results are accurate on average but considerable divergence from the actual (but unknown) individual County estimates is a real possibility (see Hoogeveen et al., 2003 for a more detailed discussion of this). This calls for caution in the use of these estimates, and especially to the weight attributed to County or Subcounty specific predictions. In order to ensure the use of the estimates in a manner that respects these caveats, the 1999 poverty point estimates are not provided within this report, but can be made available upon request to UBOS. However, the maps are presented with their categorical breakdowns (i.e. showing estimated poverty levels of between 10 and 20 percent, etc). Clearly, there are some interesting spatial patterns that are interesting to see and look into further as we await the new 2002/2003 poverty map based on the new Census and survey data.

3 The Census was administered in January 1991 and covers 450,000 urban households and 3.0 million rural households.

4 The poverty estimates are generated from estimating a relation between per capita consumption (from the 1992 IHS) and a number of key variables such as household size, age of the head of household and education (from the 1991 Census). We have assumed that these key variables remained basically unchanged for households during the 1991-1992 period, so we refer to the poverty estimates as being 1992 estimates.

Chapter 3 Where are the Poor? A Sub-Region Profile,1992 and 1999

In this section, we present the poverty and inequality estimates for 1992 and 1999 based on selected standard indices[5], that is, the head count, poverty gap and the Gini coefficient (Chapter 2). Tables 3.1 and 3.2 present Uganda's poverty estimates for the four Regions, the 39 (1992) Districts, 149 rural Counties and 732 rural Subcounties, 89 urban Counties and 171 urban Subcounties, together with their standard errors. These tables (along with the report and maps) are also on the CD-ROM.

The Government of Uganda's official monthly per capita poverty lines are used to indicate poverty thresholds. These differ by Region, and for rural areas are the following: UShs 15,947 for Central Region, UShs 15,446 for Eastern Region, UShs 15,610 for Northern Region and UShs 15,189 for Western Region. The urban poverty lines are slightly higher, at: UShs 17,314 for Central Region, UShs 16,548 for Eastern Region, UShs 16,304 for Northern Region and UShs 16,174 for Western Region (also summarised in Table 2.1). In other words, urban households in Western Region whose consumption and expenditure is valued less than UShs 16,174/adult/month is said to fall below the poverty line, i.e. are poor. Households that have consumption/expenditure levels above the relevant poverty line are considered non-poor.

To reflect inequality, we calculated the Gini coefficient, which varies from zero (perfect equality of expenditures as a proxy for income levels across households) to one (perfect inequality). The tables also indicate the standard errors associated with each of the estimates. Clearly, these standard errors are lower at the Regional than at the District level and lower at the District levels than at the County level. Poverty and inequality estimates are available for the Subcounty level, but the standard errors are sufficiently high in many instances to merit caution in their use.

The Census-based poverty estimates enable us to produce the disaggregated poverty maps for Uganda showing Regional, District and County-level poverty incidence and gaps for 1992 and 1999 (Chapters 4 and 5). Changes in rural poverty, between 1992 and 1999, are shown in Figure 5.0. However, the reader should take into consideration the caveats presented above in the methodology section when interpreting the map showing changes in poverty incidence from 1992–1999. Disaggregated to the Subcounty level, poverty estimates for Kampala and four other major urban centres are presented in Figures 4.5, 4.6, 4.9, 4.12, 4.15.

While the 1992 poverty estimates and maps show baseline information, for planning and other purposes, the 1999 estimates should be interpreted with caution. No explanations of the causes of the changes in poverty between 1992 and 1999 are provided as this is beyond the scope of this report[6]. However, we begin by making some general observations regarding what these maps show, what contributions these analyses make towards a better understanding of the question of 'where are the poor in Uganda?', and what are some of the key findings regarding changes in rural poverty over the period 1992 to 1999.

3.1 Poverty in 1992: Key findings/contributions of this analysis

Previous poverty estimates were based on surveys that were designed to be representative at the Regional level. Our analysis also produces results at the Regional level. This allows for comparison. Such a comparison demonstrates the robustness of the methodology. That is, the Census-based poverty and inequality estimates are entirely consistent with the earlier survey estimates. The demonstrated robustness of the method means that we can also have confidence in the newly available estimates for the lower administrative levels, i.e. District, County, and Subcounty and by rural and urban categories. There are no Subcounty rural poverty estimates in this report, as in some cases the standard errors are quite high. However, poverty and inequality estimates at the Subcounty level are presented for Kampala and the other major urban centres due to the relatively low standard errors associated with these estimates.

District and County-level estimates based on the administrative boundaries used in 1991 and 1992 are also presented. In 1991 and 1992, there were 39 Districts and 238 Counties. This adds a considerable amount of detail to the poverty data that was available previously only at a Regional level.

In 1992, estimated poverty incidence and inequality measures show a marked variation in both urban and rural areas. Tables 3.1 and 3.2 present the 1992 poverty and inequality indices by District, County and Subcounty for rural and urban areas. The poverty estimates given are Census-based point estimates, with their associated standard errors also noted. The Census-based standard errors were consistently lower than the original Regional-level estimates based on the household survey alone (see Appleton et al., 1999), indicating the newer poverty estimates are more precise (due to the additional information gained by linking the two data sources for this analysis).

For rural areas of Uganda, the Census-based predictions show that the lowest levels of poverty in 1992 were in Central (with 54 percent of the population below the poverty line) and Western Regions (56 percent), while Northern Region had the highest poverty incidence (74 percent). No Region had less than 50 percent of poor households, a finding consistent with earlier results based on the survey data alone. When the other measures of welfare, the poverty gap and Gini coefficient were considered, the comparison among the rural strata at the Regional-level was again consistent with the survey rankings. Poverty gap estimates were higher for rural areas compared to urban areas for all Regions.

5 For poverty, the Foster-Greer-Thorbecke measures FGT a reported with a values of 0 and 1, reflecting poverty incidence and poverty gap, respectively.

6 The presence of comparable poverty estimates for 1992 and 1999 does present, however, a good opportunity to explore the causes of changes in poverty. Schipper and Hoogeveen (2003) for instance, use these data to investigate how initial levels of education and inequality affect growth. They find a positive association between education and growth and a negative association between inequality and growth.

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The new Census-based estimates at the District-level show considerable spatial heterogeneity within Regions. Table 3.1 shows the District-level poverty estimates by Region for rural areas and Table 3.2 shows the same figures for urban areas. For the low poverty Central Region, rural District-level poverty incidence estimates ranged from a low of 31 percent (Kalangala District) to a high of 64 percent (Mubende District). For the high poverty Northern Region, the rural District-level poverty incidence estimates ranged from 63 percent (Arua District) to 91 percent (Kitgum and Kotido Districts). Typically, urban areas had much lower poverty estimates than did rural areas. For example, in Eastern Region, 24 to 50 percent of the urban population fell below the poverty line, whereas the corresponding rural poverty incidences range was 39 to 82 percent.

The County-level estimates show even more spatial heterogeneity in poverty measures within Districts (Tables 3.1 and 3.2). For example, in the urban areas in Eastern Region, headcount estimates ranged from 15 to 65 percent; in Northern, from 16 to 84 percent; in Western, from eight to 58 percent, and in Central from 11 to 65 percent. Clearly, this analysis shows many Counties with new poverty estimates that are statistically different from the previously available District or Regional-level estimates. This heterogeneity is even more marked in urban compared to rural areas.

The poverty gap was generally higher in rural areas than in urban and was highest in Northern Region, reaching 49 percent. In 1992, the poverty gap was smaller in the less poor Districts, such as Kampala and Mukono. In Districts and Counties where poverty incidences were below 20 percent, the poverty gap averaged around five percent (i.e. on average, a poor individual in that area required five percent of the poverty line, or UShs 822 per month, to reach the poverty line). Districts and Counties with poverty incidence levels of higher than 60 percent typically had poverty gaps greater that 20 percent.

The analysis of poverty measures for Kampala was done separately from the rest of the Central Region urban strata, due to its huge influence as the capital city and its mix of both very wealthy and very poor people (see Map 4.5.A). There were an estimated 106,000 poor people residing in Kampala City County in 1992. The new poverty estimates for Kampala (15 percent of individuals living below the poverty line, a poverty gap of 3 percent and a relatively high inequality measure of .38) were not statistically different from the original survey estimates, thus we cannot reject the null hypothesis that the Census-based prediction is equal to the household survey estimate (i.e. giving us confidence in our predictions).

The estimated inequality measures (i.e. the Gini coefficients, where zero implies an equal wealth distribution and 1 implies one person controls all the wealth) are also shown in Tables 3.1 and 3.2. In general, the levels of expenditure inequality in rural areas in 1992 ranged from .20 to .48 for urban areas and .22 to .41 for rural areas. These figures suggest that inequality is in some cases higher in urban than in rural areas of Uganda, as is the case elsewhere in Africa (e.g. Mistiaen et al., 2002, found higher urban expenditure inequality in Madagascar).

Mapping the density of rural poverty for 1992 reveals that, although the highest poverty rates were found in the remoter northern areas, these areas are relatively sparsely populated, so the greatest numbers of poor were found in Eastern, Central and Western Regions. The total number of estimated poor was 8.8 million in rural areas and just under $^1/_2$ million in urban areas in 1992. Densely populated poor areas (>100 poor persons/km^2) were Mbabe and Tororo Districts in the East; areas close to the Kenya border in the southeast and following the shores of Lake Victoria; and Districts such as Kasese, Bushenyi, Kisoro and Kabele in Western Uganda. Sparsely populated poor areas (<20 poor persons/km^2) included nine Counties in Northern, three in Central, one in Western and one in Eastern Region.

3.2

3.2 Summary of 1992 Results by Region

Central Region. This Region stood out as the least poor Region in Uganda in 1992 for both rural and urban areas. Within rural areas, roughly 1.9 million individuals were living below the poverty line. The District-level rural poverty head count ranged from 31 to 64 percent; while in urban areas it ranged from 15 to 49 percent. The poorest District was Mubende, with more than 64 percent of its 450,140 people living below the poverty line in rural areas. For urban areas, Kampala District stood out as the wealthiest District, with only 15 percent of its 700,000 people living below the poverty line. Kampala District also had the lowest poverty gap, but the highest inequality index among all urban areas. Across rural Counties, the poverty headcount ranged from as low as 26 percent to as high as 71 percent, showing wide variations even within the richest Region. This evidence supports the value of these new poverty maps. They show that even in the least poor Region, areas (Districts and Counties) that are as poor as those found in the poorest Region can be identified. The total 1992 population for Central Region was roughly 3.6 million in rural areas and 1.1 million in urban areas.

Urban inequality ranged from Gini coefficients of .24 to .46 across Counties. For rural areas, the Districts showed relatively little variation in Gini coefficients across Regions, with County-level inequality indices ranging from .28 to .35.

Eastern Region. With a rural population of 3.7 million and a small urban population of .3 million in 1992, this Region demonstrated the widest variability in poverty levels. Overall, rural poverty stood at 64 percent in rural areas and 38 percent in urban centres, implying that there were around 2.4 million rural poor people and 120,000 urban poor. The District-level poverty incidence estimates ranged from 38 to 82 percent with Jinja District, the industrial centre of Uganda, having the lowest poverty levels (38 percent), and Kumi District (seriously affected by insurgency at the time) having alarmingly high rates of poverty (82 percent). County-level variations were even higher, especially for the rural areas, from a low of 32 percent to a high of 85 percent. Variation was also very high in urban areas (15 to 65 percent). The poverty gap ranged from four to 27 percent in urban areas and 10 to 40 percent in rural zones.

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Inequality indices were also heterogeneous across Eastern Region. Rural inequality as shown by the Gini coefficient ranged from .29 to .35 across Counties. Urban inequality was estimated to range from .22 to .44 at County-level.

Northern Region. Ranked as the poorest Region in 1992, Northern Region had a rural population of 2.9 million with only .2 million living in urban areas. Of the rural population, about 75 percent were poor. In urban areas, close to 50 percent lived below the poverty line. Despite these high levels of poverty, considerable variability in poverty levels existed between Districts and Counties in the Region. The poorest rural Districts were Kitgum and Kotido, with poverty incidences of 91 percent. The least poor Districts were Arua and Lira. In Lira, at the County-level, 54 to 83 percent of the rural population fell below the poverty line, and 28 to 67 percent of the urban population were living below the poverty line.

Poverty gaps were also relatively high in Northern Region, ranging from 5 to 37 percent in urban areas and from 13 to 49 percent in the rural areas. The high rural poverty gaps in this Region clearly show how far people needed to go in order to become non-poor (i.e. reach the poverty line).

Inequality in Northern Region was greater at the County than District-level. For rural areas, the inequality indices showed a variation from .25 to .34 between Districts, and .22 to .37 between Counties in the Region. Urban inequality ranged from .29 to .48 across Counties.

Western Region. This Region had a rural population of 4.2 million plus .2 million people living in urban areas in 1992, and it ranked second to the least poor Region in Uganda. There is significantly less heterogeneity in poverty levels seen in this Region compared to the others. More than one half of the rural population and one third of the urban population was living below the poverty line. In terms of urban poor, Kasese District had the lowest headcount poverty of 21 percent (although the rural poverty incidence in Kasese District was 53 percent, highlighting the typical large disparity in poverty levels when moving from urban to rural areas even within the same District). The highest recorded poverty rates seen in urban areas in Western Region were in Kisoro (58 percent). Rural poverty was also highest in Kisoro District, with 70 percent living below the poverty line, and lowest in Mbarara District, with 47 percent of the population living below the poverty line. At the County level, poverty incidence ranged from 38 to 74 percent in rural areas and from 8 to 58 percent in urban areas.

Urban poverty gaps were relatively low at the District-level, with Kasese having the lowest poverty gap of six percent and Kisoro the highest at 21 percent. Rural poverty gaps were slightly higher, ranging from 14 percent in Mbarara to 29 percent in Kibaale. In other words, the rural poor in Western Region still had a long way to go in order to get out of poverty during the 1990's.

The inequality levels found in Western Region were similar to those noted above for the other Regions. For example, at the County-level inequality was highest in rural areas (.28 to .42) and slightly lower in urban areas (.28 to .38).

3.3 The 1999 Poverty Analyses and Changes in Rural Poverty 1992 to 1999: Key Findings

The 1999 maps (Figures 5.2.A - 5.11.A) show very high poverty levels persisting throughout Northern Region, with 7 out of 8 Districts with over 50 percent of individuals living below the poverty line. Kitgum, Kotido, and Moroto, all areas with serious insecurity problems, had poverty rates greater than 70 percent. Lower poverty can be seen in Gulu District, where in 1999 two Counties had a rural poverty incidence below 40 percent.

All areas of Central Region had rural poverty rates lower than 40 percent in 1999. Poverty rates below 20 percent are witnessed in one District and eight Counties of Central Region. The news is similarly positive for Eastern Region, where only two Districts had poverty rates of 50 percent and above; most Districts and Counties had poverty levels of 30 to 35 percent. This contrasts significantly to the 1992 situation, when only Jinja District had a rural poverty incidence below 50 percent.

A lot of variation in rural poverty levels can be seen in Western Region in 1999, with poor Districts such as Masindi, Budibugyo and Kasese (greater than 50 percent poverty incidence) on the one hand, and relatively wealthy Districts such as Mbarara and Bushenyi where most Counties had poverty levels below 20 percent.

The results from the analysis of changes in poverty levels from 1992–99 are encouraging, showing widespread and large decreases in the incidence of poverty across Uganda (Figure 5.0). The value of being able to see what has happened to Counties and Districts, and not just Regions, is now even more obvious, since these gains have not been achieved uniformly. From the discussion in the methodology section, it is clear that cautious interpretation of the 1999/2000 District estimates is in order. Nonetheless, the data is sufficiently accurate that an examination of the broad changes and trends in poverty levels and inequality is interesting and useful. Having said that, when the 2003 maps, based on more recent Census and full survey data, become available, the more precise poverty estimates should replace the interim 1999 map.

Previous analysis of poverty trends shows how poverty dropped across all Regions during the 1990's (Appleton, 2001). This analysis shows that poverty dropped in almost all Districts as well (with the exception of three Districts, Apac, Moyo and Kasese, where poverty appears to have increased from 1992 to 1999). The highest drops in rural poverty incidence (dark green areas in Figure 5.0, showing a more than 60 percent decline in poverty) are seen across Central and in parts of Western Region, and include the Districts of Kibaale, Luwero, Bushenyi, Rakai, Mpigi and Kisoro. Poverty was estimated to have increased in Arua, Moyo and Apac Districts of Northern Region and Kasese District in Western Region.

Although rural population was estimated to have grown to around 19.4 million in 1999, up from 14.3 million in 1991[7], the total number of rural poor was estimated in this analysis to have dropped by 16 percent, from 8.8 million to 7.4 million.

At County-level, the spatial pattern of welfare does not appear to have changed significantly during the 1990's. The County-level maps for 1992 and 1999 illustrate dramatically how almost all rural areas in Uganda benefited from the growth that took place during the 1990's (see Figure 5.0).

This new data shows that 28 percent of Uganda's 149 rural Counties have poverty levels that have decreased by zero to 30 percent from 1992 to 1999, 47 percent of Counties have experienced a 30 to 60 percent decline in poverty incidence, and for 16 percent of Counties, the decrease exceeded 60 percent. Poverty worsened in eight percent of Uganda's rural Counties during this period.

The trend in the poverty gap is similar to the trend in poverty incidence, with 88 percent of Counties showing a decrease in poverty gap from 1992 to 1999. The poverty gap increased during this period in Moyo, Arua, Apac and Bundibugyo, and Kasese Districts.

Remarkably the trend in inequality was generally downward (ie. less inequality), although for 39 percent of Uganda's Districts and Counties, inequality worsened from 1992 to 1999. These areas of increasing inequality were once again concentrated in Northern Region and in Kasese, Masindi and Bundibugyo Districts

7 Rural population in 1999 was estimated by applying Regional growth rates calculated from the 2002 Census (provisional results) to the 1991 population (Census) figures to estimate the total rural population by Region in 1999. The total 1999 rural population estimates were then multiplied by the poverty rates predicted in our analysis to arrive at the estimated number of rural poor in 1999.

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Table 3.1 Uganda Rural Poverty Rates by County 1992

Region / District / County	Headcount Index: Percent of Individuals below Poverty Line (std. error)		Poverty Gap as Percent of Poverty Line (std. error)		Gini Coefficient: Inequality Measure (std. error)		Total Number of Individuals in 1992*	Estimated Number of Poor Individuals in 1992** (std. error)	
CENTRAL REGION	**54.19**	**1.69**	**17.95**	**0.84**	**0.31**	**0.02**	**3,573,292**	**1,936,284**	**60,495**
KALANGALA DISTRICT	**31.46**	**3.59**	**8.66**	**1.38**	**0.32**	**0.01**	**14,207**	**4,469**	**511**
BUJUMBA	36.47	4.77	10.10	1.83	0.30	0.01	7,335	2,675	350
KYAMUSWA	26.11	3.73	7.12	1.41	0.33	0.01	6,872	1,794	256
KIBOGA DISTRICT	60.37	2.72	20.85	1.47	0.30	0.01	132,711	80,112	3606
KIBOGA	60.37	2.72	20.85	1.47	0.30	0.01	132,711	80,112	3,606
LUWERO DISTRICT	**55.92**	**1.88**	**18.33**	**0.90**	**0.30**	**0.01**	**403,898**	**225,840**	**7,600**
BURULI	59.30	2.31	20.19	1.16	0.30	0.01	89,147	52,864	2,060
WABUSANA (BAMUNANIKA)	61.56	2.23	21.06	1.21	0.29	0.01	105,562	64,984	2,354
KATIKAMU	50.38	2.17	15.46	0.97	0.29	0.01	118,899	59,904	2,585
NAKASEKE	53.26	1.98	17.11	0.95	0.30	0.01	90,290	48,088	1,785
MASAKA DISTRICT	**51.74**	**2.20**	**16.04**	**1.02**	**0.29**	**0.01**	**749,541**	**387,824**	**16,489**
KALUNGU	53.69	2.88	16.46	1.29	0.28	0.01	139,084	74,673	4,005
BUKOTO	49.47	2.22	15.04	1.04	0.29	0.01	347,301	171,810	7,719
MAWOGOLA	55.60	2.48	18.11	1.21	0.29	0.01	118,562	65,926	2,936
LWEMIYAGA	45.72	5.31	14.63	2.10	0.33	0.03	19,314	8,830	1,026
BUKOMANSIMBI	53.15	2.53	16.62	1.18	0.29	0.01	125,280	66,585	3,168
MPIGI DISTRICT	**51.49**	**3.16**	**17.35**	**1.94**	**0.34**	**0.03**	**754,594**	**388,560**	**23,817**
BUTAMBALA	57.58	4.37	19.57	2.38	0.31	0.04	69,421	39,974	3,033
MAWOKOTA	60.05	3.79	20.96	2.11	0.32	0.04	140,260	84,230	5,320
GOMBA	67.40	4.13	25.24	2.26	0.31	0.04	110,427	74,422	4,562
KYADONDO	39.82	2.87	12.28	1.84	0.34	0.03	199,217	79,328	5,727
BUSIRO	47.01	3.15	15.13	1.98	0.33	0.03	235,269	110,605	7,414
MUBENDE DISTRICT	**64.16**	**4.20**	**23.52**	**2.31**	**0.32**	**0.03**	**450,140**	**288,793**	**18,920**
BUSUJJU	71.19	4.51	26.79	2.79	0.29	0.02	64,060	45,605	2,890
KASSANDA	63.99	4.31	23.69	2.39	0.32	0.02	141,133	90,308	6,084
MITYANA	67.68	4.31	24.80	2.51	0.30	0.02	129,466	87,624	5,583
BUWEKULA	56.51	5.20	20.05	2.42	0.35	0.03	115,481	65,256	6,004
MUKONO DISTRICT	**48.67**	**2.53**	**15.43**	**1.31**	**0.31**	**0.02**	**705,090**	**343,148**	**17,856**
MUKONO	42.04	2.26	12.28	1.15	0.31	0.02	165,849	69,725	3,745
BUVUMA ISLANDS	43.10	5.05	13.67	2.39	0.32	0.02	18,243	7,863	922
BUYIKWE	48.99	2.75	15.68	1.40	0.32	0.02	189,277	92,723	5,210
BBAALE	51.72	4.16	16.59	1.93	0.30	0.02	81,917	42,370	3,405
NTENJERU	48.71	3.80	15.66	1.87	0.32	0.02	124,914	60,850	4,750
NAKIFUMA	55.74	3.10	18.51	1.75	0.30	0.02	124,890	69,617	3,877
RAKAI DISTRICT	**59.91**	**2.18**	**20.00**	**1.09**	**0.28**	**0.01**	**363,111**	**217,537**	**7,916**
KABULA	64.81	2.82	22.88	1.60	0.29	0.01	46,505	30,139	1,313
KAKUUTO	61.55	2.73	20.77	1.43	0.28	0.01	65,840	40,521	1,799
KOOKI	59.90	2.41	20.31	1.29	0.29	0.01	129,437	77,532	3,117
KYOTERA	57.15	2.60	18.16	1.17	0.28	0.01	121,329	69,345	3,158
EASTERN REGION	**63.69**	**1.60**	**23.78**	**0.94**	**0.32**	**0.01**	**3,692,375**	**2,351,496**	**58,974**
IGANGA DISTRICT	**63.92**	**2.21**	**23.13**	**1.35**	**0.30**	**0.01**	**882,613**	**564,210**	**19,477**
BUNYA	62.98	2.25	22.89	1.40	0.31	0.01	206,298	129,921	4,646
LUUKA	62.79	2.80	22.29	1.65	0.30	0.01	128,500	80,686	3,593
BUKOOLI	64.78	2.40	23.44	1.45	0.30	0.01	223,591	144,839	5,356
KIGULU	63.22	2.84	22.74	1.67	0.30	0.01	129,341	81,765	3,668
BUSIKI	66.24	2.79	24.37	1.76	0.30	0.01	118,807	78,697	3,317
BUGWERI	63.49	3.37	23.07	1.97	0.30	0.01	76,076	48,302	2,565
JINJA DISTRICT	**38.84**	**4.61**	**11.90**	**2.02**	**0.33**	**0.01**	**203,322**	**78,974**	**9,383**
BUTEMBE	32.46	4.99	9.88	2.04	0.35	0.02	83,612	27,144	4,174
KAGOMA	43.30	4.94	13.31	2.25	0.31	0.01	119,710	51,830	5,914

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KAMULI DISTRICT	**70.16**	**3.01**	**27.35**	**2.01**	**0.31**	**0.01**	**461,476**	**323,750**	**13,891**
BULAMOGI	70.59	3.36	27.52	2.28	0.30	0.01	99,392	70,165	3,338
BUGABULA	69.69	3.43	27.03	2.28	0.31	0.01	144,931	100,998	4,965
BUDIOPE	71.92	2.83	28.75	2.01	0.31	0.01	125,467	90,230	3,555
BUZAAYA	68.01	3.55	25.77	2.24	0.30	0.01	91,686	62,356	3,259
KAPCHORWA DISTRICT	**54.31**	**5.91**	**17.68**	**3.02**	**0.29**	**0.01**	**108,932**	**59,166**	**6,441**
TINGEY	52.13	6.31	16.54	3.03	0.29	0.01	43,148	22,492	2,721
KWEEN	59.07	6.18	19.96	3.41	0.29	0.01	35,877	21,192	2,218
KONGASIS	51.77	6.47	16.60	3.25	0.29	0.01	29,907	15,482	1,934
KUMI DISTRICT	**82.29**	**3.67**	**36.81**	**3.56**	**0.30**	**0.01**	**210,527**	**173,244**	**7,719**
BUKEDEA	81.46	4.17	36.16	3.77	0.30	0.01	71,028	57,858	2,965
NGORA	81.84	3.95	36.49	3.87	0.31	0.02	55,527	45,445	2,191
KUMI	83.29	3.87	37.56	3.86	0.30	0.01	83,972	69,941	3,252
MBALE DISTRICT	**55.91**	**3.00**	**18.80**	**1.54**	**0.31**	**0.01**	**640,986**	**358,390**	**19,258**
BULAMBULI	56.09	3.61	18.81	1.78	0.30	0.01	63,967	35,880	2,307
MANJIYA	59.45	3.57	20.44	1.93	0.30	0.01	78,228	46,509	2,791
BUDADIRI	53.86	3.71	17.81	1.83	0.30	0.01	142,568	76,781	5,287
BUBULO	58.13	3.50	19.53	1.82	0.29	0.01	176,081	102,361	6,161
BUNGOKHO	53.77	3.00	18.17	1.53	0.33	0.01	180,142	96,859	5,408
PALLISA DISTRICT	**62.58**	**4.02**	**22.33**	**2.33**	**0.30**	**0.01**	**347,196**	**217,270**	**13,952**
BUDAKA	64.82	4.05	23.58	2.51	0.30	0.01	98,302	63,717	3,980
BUTEBO	60.42	4.93	21.00	2.67	0.29	0.01	62,310	37,645	3,074
PALLISA	56.9	5.84	19.20	3.01	0.30	0.01	96,918	55,149	5,657
KIBUKU	67.76	4.10	25.28	2.69	0.29	0.01	89,666	60,759	3,681
SOROTI DISTRICT	**77.70**	**2.71**	**33.62**	**2.05**	**0.32**	**0.01**	**356,408**	**276,945**	**9,652**
USUK	78.10	3.05	33.48	2.35	0.31	0.01	68,710	53,661	2,096
SOROTI	78.74	2.68	34.48	2.21	0.32	0.01	67,757	53,351	1,815
SERERE	76.46	3.27	32.24	2.47	0.31	0.01	57,064	43,633	1,867
KASILO	76.08	3.63	32.09	2.78	0.31	0.01	28,101	21,379	1,019
KAPELEBYONG	76.55	5.33	33.16	4.38	0.32	0.02	19,992	15,305	1,067
AMURIA	71.31	7.61	29.55	4.25	0.32	0.04	43,614	31,101	3,321
KABERAMAIDO	85.14	3.93	39.92	4.18	0.30	0.01	32,832	27,952	1,290
KALAKI	79.72	3.75	34.94	3.20	0.31	0.01	38,338	30,563	1,438
TORORO DISTRICT	**62.29**	**3.77**	**22.61**	**2.26**	**0.31**	**0.01**	**480,915**	**299,547**	**18,129**
BUNYOLE	66.20	3.79	24.85	2.44	0.30	0.01	102,275	67,701	3,878
SAMIA-BUGWE	64.54	4.26	23.77	2.66	0.30	0.01	132,806	85,716	5,652
KISOKO (WEST BUDAMA)	64.43	4.12	23.65	2.55	0.30	0.01	155,837	100,404	6,420
TORORO	50.81	5.54	16.55	2.64	0.31	0.01	89,997	45,726	4,987
NORTHERN REGION	**74.48**	**1.84**	**30.3**	**1.11**	**0.31**	**0.01**	**2,875,900**	**2,141,882**	**52,928**
APAC DISTRICT	**67.92**	**3.17**	**24.56**	**1.85**	**0.30**	**0.01**	**440,757**	**299,358**	**13,964**
MARUZI	65.68	3.55	23.46	2.02	0.30	0.01	70,657	46,410	2,510
OYAM	67.94	3.26	24.53	1.89	0.30	0.01	173,443	117,843	5,648
KWANIA	66.12	3.32	23.61	1.89	0.30	0.01	83,037	54,905	2,759
KOLE	70.59	3.10	25.97	1.93	0.29	0.01	113,620	80,200	3,520
ARUA DISTRICT	**63.19**	**6.51**	**18.86**	**3.18**	**0.25**	**0.02**	**599,995**	**379,145**	**39,061**
TEREGO	54.75	8.84	13.45	3.51	0.22	0.02	97,506	53,382	8,621
ARINGA	75.92	6.68	24.52	4.55	0.23	0.02	97,890	74,323	6,540
MADI-OKOLLO	67.80	5.99	23.03	3.97	0.28	0.02	69,238	46,945	4,147
MARACHA	58.03	9.11	14.65	3.77	0.22	0.02	105,948	61,481	9,651
VURRA	59.06	7.18	15.81	3.26	0.25	0.02	62,740	37,054	4,505
AYIVU	53.65	7.85	13.52	3.16	0.24	0.02	109,522	58,758	8,597
KOBOKO	82.59	5.32	34.68	5.30	0.28	0.02	57,151	47,203	3,038
GULU DISTRICT	**75.54**	**3.12**	**32.58**	**2.34**	**0.34**	**0.01**	**289,151**	**218,431**	**9,030**

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ASWA	71.95	3.66	30.36	2.49	0.35	0.02	70,083	50,425	2,562
KILAK	81.55	2.98	37.37	2.73	0.32	0.01	85,183	69,470	2,537
NWOYA	83.64	3.00	39.27	3.03	0.32	0.01	36,205	30,283	1,087
OMORO	69.87	3.80	27.53	2.43	0.33	0.01	97,680	68,252	3,708
KITGUM DISTRICT	**91.47**	**1.31**	**47.53**	**2.05**	**0.30**	**0.01**	**328,926**	**300,854**	**4,317**
LAMWO	91.51	1.34	48.24	2.21	0.31	0.01	69,156	63,287	924
CHUA	91.75	1.50	47.87	2.32	0.30	0.01	88,274	80,990	1,327
ARUU	91.70	1.33	48.13	2.09	0.30	0.01	78,781	72,243	1,048
AGAGO	90.96	1.42	46.15	2.05	0.29	0.01	92,715	84,334	1,317
KOTIDO DISTRICT	**91.16**	**1.35**	**46.23**	**1.86**	**0.29**	**0.01**	**153,315**	**139,754**	**2,068**
LABWOR	88.25	1.87	42.96	2.32	0.30	0.01	30,743	27,130	576
JIE	93.14	1.40	49.43	2.43	0.29	0.01	45,376	42,264	637
DODOTH	91.14	1.85	45.65	2.53	0.28	0.01	77,196	70,360	1,431
LIRA DISTRICT	**68.92**	**2.56**	**25.66**	**1.59**	**0.31**	**0.01**	**465,042**	**320,501**	**11,922**
ERUTE	65.92	2.90	24.16	1.73	0.32	0.01	160,827	106,015	4,661
KIOGA	66.33	3.16	23.90	1.84	0.30	0.01	66,631	44,197	2,107
MOROTO	71.39	2.47	26.87	1.57	0.30	0.01	111,108	79,316	2,749
OTUKE	75.95	2.46	30.66	1.84	0.30	0.01	42,669	32,407	1,051
DOKOLO	69.88	2.87	25.81	1.84	0.30	0.01	83,807	58,566	2,402
MOROTO DISTRICT	**86.71**	**2.92**	**42.95**	**2.59**	**0.34**	**0.04**	**153,244**	**132,883**	**4,478**
BOKORA	83.84	3.58	39.84	2.94	0.35	0.05	36,285	30,420	1,301
KADAM (CHEKWII)	84.11	4.09	41.46	3.40	0.37	0.05	37,168	31,262	1,521
UPE	90.27	3.03	47.14	4.05	0.32	0.03	8,697	7,851	263
PIAN	84.88	4.30	40.20	3.78	0.33	0.05	24,083	20,441	1,035
MATHENIKO	91.27	2.12	47.17	3.11	0.30	0.03	47,011	42,908	998
MOYO DISTRICT	**70.09**	**3.17**	**24.54**	**1.93**	**0.28**	**0.01**	**158,927**	**111,393**	**5,034**
WEST MOYO	67.22	3.74	23.42	2.00	0.28	0.01	49,149	33,039	1,840
OBONGI	85.64	3.88	31.91	3.82	0.23	0.02	21,522	18,431	836
EAST MOYO	67.90	3.70	23.37	2.14	0.28	0.01	88,256	59,923	3,269
NEBBI DISTRICT	**83.60**	**2.18**	**36.50**	**2.07**	**0.29**	**0.01**	**286,543**	**239,563**	**6,250**
PADYERE	81.57	2.64	35.03	2.33	0.29	0.01	106,217	86,643	2,804
JONAM	84.20	2.84	37.37	2.86	0.29	0.01	62,931	52,990	1,790
OKORO	85.12	1.93	37.36	1.88	0.28	0.01	117,395	99,930	2,265
WESTERN REGION	**55.50**	**1.72**	**20.21**	**1.02**	**0.34**	**0.02**	**4,198,966**	**2,330,492**	**72,208**
BUNDIBUGYO DISTRICT	**59.04**	**3.24**	**22.42**	**1.91**	**0.35**	**0.02**	**101,405**	**59,869**	**3,289**
NTOROKO	55.89	4.99	20.86	2.85	0.36	0.03	21,360	11,937	1,067
BWAMBA	59.88	3.61	22.84	2.16	0.34	0.02	80,045	47,932	2,886
BUSHENYI DISTRICT	**48.96**	**3.09**	**15.46**	**1.37**	**0.30**	**0.01**	**709,940**	**347,593**	**21,921**
RUHINDA	52.80	3.37	16.58	1.53	0.28	0.01	132,754	70,098	4,474
BUHWEJU	50.37	4.32	15.67	1.93	0.29	0.01	54,719	27,561	2,361
IGARA	45.19	3.89	13.20	1.66	0.28	0.01	144,792	65,429	5,631
BUNYARUGURU	49.63	2.54	19.46	1.42	0.40	0.01	73,792	36,621	1,874
SHEEMA	42.37	3.86	11.98	1.55	0.28	0.01	149,836	63,487	5,785
RUSHENYI	55.05	3.27	17.79	1.65	0.29	0.01	72,979	40,176	2,387
KAJARA	54.55	3.42	18.19	1.75	0.30	0.01	81,068	44,222	2,776
HOIMA DISTRICT	**55.76**	**7.82**	**22.66**	**5.03**	**0.38**	**0.08**	**187,024**	**104,278**	**14,632**
BUHAGUZI	54.07	8.13	21.33	5.06	0.37	0.08	72,809	39,366	5,921
BUGAHYA	56.83	7.82	23.50	5.10	0.39	0.09	114,215	64,908	8,934
KABALE DISTRICT	**57.59**	**3.53**	**21.32**	**2.00**	**0.34**	**0.01**	**381,102**	**219,468**	**13,457**
RUKIGA	57.45	3.58	21.83	2.09	0.35	0.01	85,390	49,054	3,059
NDORWA	58.17	3.76	21.54	2.13	0.34	0.01	150,700	87,666	5,671
RUBANDA	57.06	3.71	20.80	2.04	0.33	0.01	145,012	82,748	5,381
KABAROLE DISTRICT	**56.10**	**2.63**	**20.32**	**1.74**	**0.34**	**0.02**	**691,705**	**388,014**	**18,182**

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MWENGE	59.60	3.65	21.49	2.29	0.32	0.03	177,659	105,884	6,491
BUNYANGABU	55.66	3.05	21.10	1.88	0.37	0.02	124,111	69,081	3,784
BURAHYA	55.50	3.91	19.79	2.47	0.33	0.03	136,396	75,702	5,340
KIBALE	57.49	3.24	21.26	1.84	0.34	0.01	115,034	66,133	3,725
KITAGWENDA	48.34	2.84	16.62	1.50	0.34	0.01	80,610	38,964	2,286
KYAKA	55.71	3.87	19.55	2.57	0.32	0.04	57,895	32,251	2,243
KASESE DISTRICT	**52.90**	**4.92**	**20.44**	**2.70**	**0.38**	**0.01**	**293,047**	**155,011**	**14,432**
BUKONJO	52.78	5.84	18.66	3.05	0.34	0.01	159,849	84,370	9,341
BUSONGORA	53.03	4.24	22.58	2.52	0.42	0.01	133,198	70,641	5,644
KIBAALE DISTRICT	**65.64**	**7.68**	**29.20**	**2.24**	**0.40**	**0.07**	**208,893**	**137,114**	**16,037**
BUGANGAIZI	66.90	8.66	29.09	2.78	0.37	0.08	44,524	29,785	3,855
BUYANJA	71.31	9.64	31.99	2.75	0.36	0.09	37,578	26,796	3,624
BUYAGA	63.53	6.96	28.41	2.35	0.41	0.06	126,791	80,555	8,823
KISORO DISTRICT	**70.53**	**3.31**	**27.38**	**2.35**	**0.30**	**0.02**	**174,947**	**123,393**	**5,784**
BUFUMBIRA	70.53	3.31	27.38	2.35	0.30	0.02	174,947	123,393	5,784
MASINDI DISTRICT	**66.22**	**7.69**	**28.63**	**2.78**	**0.37**	**0.08**	**220,130**	**145,769**	**16,917**
BURULI	63.63	7.92	27.19	3.28	0.37	0.09	69,656	44,325	5,517
BULIISA	69.50	9.43	31.98	2.79	0.38	0.09	40,684	28,275	3,837
BUJENJE	63.89	7.96	26.91	3.21	0.36	0.09	42,104	26,899	3,351
KIBANDA	68.34	6.79	29.16	2.77	0.36	0.08	67,686	46,258	4,595
MBARARA DISTRICT	**46.59**	**2.70**	**14.38**	**1.23**	**0.30**	**0.01**	**862,019**	**401,621**	**23,289**
KASHARI	38.98	3.60	10.87	1.37	0.29	0.01	119,256	46,489	4,289
RWAMPARA	42.99	2.68	12.93	1.13	0.30	0.01	117,400	50,474	3,142
RUHAAMA	52.82	2.99	16.81	1.46	0.29	0.01	127,691	67,452	3,817
KAZO	50.56	3.50	16.71	2.13	0.32	0.03	62,879	31,789	2,200
ISINGIRO	49.90	3.03	16.16	1.44	0.31	0.01	143,509	71,612	4,351
IBANDA	43.88	3.19	13.13	1.37	0.30	0.01	141,447	62,060	4,516
BUKANGA	51.40	3.45	16.15	1.69	0.29	0.01	75,882	39,006	2,618
NYABUSHOZI	44.27	3.95	13.32	1.89	0.29	0.02	73,955	32,738	2,920
RUKUNGIRI DISTRICT	**67.40**	**2.94**	**26.17**	**2.02**	**0.32**	**0.01**	**368,754**	**248,531**	**10,823**
RUJUMBURA	73.13	3.32	29.19	2.59	0.31	0.01	114,737	83,911	3,807
KINKIIZI	62.83	3.19	23.72	1.97	0.33	0.01	154,968	97,370	4,943
RUBABO	67.90	3.35	26.51	2.36	0.32	0.01	99,049	67,250	3,317

* These figures do not correspond exactly to the published Census figures as some households had to be dropped from the analysis.

** The poverty estimates were derived for each level (Region, District, County) in separate analyses; thus the sum of the county-level estimates does not equal the District-level estimate and the sum of the District-level estimates does not equal the Region-level estimate.

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Table 3.2: Uganda Urban Poverty by Subcounty 1992

Region / District / County / Subcounty	Headcount Index: Percent of Individuals below Poverty Line (std. error)		Poverty Gap as Percent of Poverty Line (std. error)		Gini Coefficient: Inequality Measure (std. error)		Total Number of Individuals in 1992*	Estimated Number of Poor Individuals in 1992** (std. error)	
CENTRAL REGION	**19.17**	**1.50**	**4.64**	**0.50**	**0.37**	**0.02**	**1,093,566**	**209,653**	**16,424**
KALANGALA DISTRICT	**44**	**8.29**	**12**	**3.51**	**0.32**	**0.04**	**1,322**	**579**	**110**
BUJUMBA COUNTY	44	8.29	12	3.51	0.32	0.04	1,322	579	110
KALANGALA TOWN COUNCIL	44	8.29	12	3.51	0.32	0.04	1,322	579	110
KAMPALA DISTRICT	**15**	**1.55**	**3**	**0.45**	**0.38**	**0.02**	**711,737**	**105,892**	**11,036**
KAMPALA CITY COUNTY	15	1.55	3	0.45	0.38	0.02	711,737	105,892	11,036
CENTRAL KAMPALA	11	1.21	3	0.40	0.45	0.03	101,225	10,787	1,227
KAWEMPE	17	1.90	4	0.54	0.32	0.01	148,019	24,964	2,809
MAKINDYE	14	1.65	3	0.46	0.33	0.01	174,659	25,027	2,874
NAKAWA	16	1.75	4	0.62	0.46	0.03	113,592	18,127	1,990
RUBAGA	16	1.82	4	0.52	0.31	0.01	167,776	26,355	3,046
KIBOGA DISTRICT	**49**	**5.22**	**12**	**2.18**	**0.25**	**0.01**	**4,773**	**2,356**	**249**
KIBOGA COUNTY	49	5.22	12	2.18	0.25	0.01	4,773	2,356	249
KIBOGA	49	5.22	12	2.18	0.25	0.01	4,773	2,356	249
LUWERO DISTRICT	**47**	**3.78**	**13**	**1.84**	**0.30**	**0.02**	**29,256**	**13,709**	**1,106**
BURULI COUNTY	53	5.02	17	2.64	0.31	0.02	6,222	3,315	312
WABINYONYI	46	5.08	14	2.32	0.30	0.02	3,881	1,802	197
LWAMPANGA	65	8.13	22	4.80	0.29	0.03	2,341	1,513	190
KATIKAMU COUNTY	46	4.07	12	1.88	0.29	0.02	22,068	10,101	899
WOBULENZI TOWN COUNCIL	35	4.93	8	1.67	0.25	0.02	5,255	1,833	259
BOMBO TOWN COUNCIL	45	5.85	12	2.67	0.33	0.04	6,610	2,944	387
LUWERO TOWN COUNCIL	52	4.54	14	2.30	0.27	0.01	10,203	5,324	463
NAKASEKE COUNTY	30	7.75	8	2.79	0.29	0.03	966	294	75
NAKASEKE	30	7.75	8	2.79	0.29	0.03	966	294	75
MASAKA DISTRICT	**32**	**2.69**	**9**	**1.06**	**0.33**	**0.01**	**73,986**	**23,882**	**1,990**
BUKOTO COUNTY	29	3.20	8	1.12	0.31	0.01	13,231	3,805	423
KASWA	22	6.50	6	1.99	0.28	0.02	1,169	258	76
KISEKKA	26	4.62	6	1.51	0.30	0.02	3,771	968	174
LWENGO	33	5.31	9	1.97	0.31	0.01	2,486	819	132
MALONGO	25	4.05	7	1.44	0.33	0.02	4,073	1,031	165
MUKUNGWE	42	7.49	12	3.04	0.29	0.02	1,732	729	130
KALUNGU COUNTY	37	3.33	10	1.37	0.29	0.01	10,142	3,727	337
BUKULULA	33	3.66	9	1.42	0.29	0.01	7,304	2,384	267
KALUNGU	35	9.41	8	3.14	0.24	0.02	1,341	475	126
LWABENGE	58	8.14	18	4.07	0.26	0.02	1,497	868	122
LWEMIYAGA COUNTY	42	11.73	12	4.94	0.33	0.04	947	398	111
NTUSI	42	11.73	12	4.94	0.33	0.04	947	398	111
MASAKA MUNICIPALITY COUNTY	32	2.78	9	1.09	0.33	0.02	47,329	14,996	1,316
KATWE/BUTEGO	31	3.31	8	1.27	0.33	0.01	14,082	4,316	467
KIMANYA/KYABAKUZA	31	3.74	8	1.34	0.36	0.03	15,215	4,646	570
NYENDO/SENYANGE	33	3.21	9	1.28	0.31	0.01	18,032	6,033	579
MAWOGOLA COUNTY	41	6.94	11	2.69	0.26	0.02	2,337	956	162
MATEETE	41	6.94	11	2.69	0.26	0.02	2,337	956	162
MPIGI DISTRICT	**19**	**2.74**	**5**	**0.74**	**0.33**	**0.02**	**132,351**	**24,996**	**3,627**
BUSIRO COUNTY	23	4.04	6	1.09	0.28	0.01	14,669	3,388	593
KAKIRI	29	5.98	7	2.06	0.27	0.02	1,420	409	85
WAKISO	26	7.91	6	2.36	0.25	0.02	1,775	469	140
SSISA	25	4.61	6	1.35	0.28	0.01	6,119	1,508	282
NSANGI (MUKONO)	26	6.40	6	1.75	0.26	0.01	1,273	329	81
KATABI	16	4.88	4	1.27	0.28	0.02	4,082	672	199
ENTEBBE MUNICIPALITY COUNTY	12	2.01	3	0.59	0.38	0.03	40,269	5,016	811

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Region **District** County Subcounty	Headcount Index: Percent of Individuals below Poverty Line (std. error)		Poverty Gap as Percent of Poverty Line (std. error)		Gini Coefficient: Inequality Measure (std. error)		Total Number of Individuals in 1992*	Estimated Number of Poor Individuals in 1992** (std. error)	
KATABI/CENTRAL ENTEBBE	12	2.24	3	0.65	0.40	0.04	25,270	2,909	566
KIWAFU/KIGUNGU	14	2.01	4	0.62	0.32	0.02	14,999	2,106	302
GOMBA COUNTY	38	7.03	10	2.44	0.27	0.02	2,525	971	178
MADDU	40	8.91	10	3.05	0.26	0.02	1,371	543	122
MPENJA	37	9.01	10	3.13	0.28	0.02	1,154	428	104
KYADONDO COUNTY	18	3.12	4	0.80	0.28	0.01	60,306	10,958	1,882
MAKINDYE	13	2.87	3	0.71	0.28	0.01	23,422	3,036	672
KYAMBOGO	27	6.57	7	2.08	0.33	0.05	1,072	288	70
NANGABO	35	9.17	10	3.51	0.28	0.02	1,238	436	113
GOMBE	30	7.05	8	2.72	0.30	0.02	2,741	814	193
KIRA	19	4.06	4	1.04	0.27	0.01	21,016	3,979	854
NABWERU	22	3.31	5	0.99	0.28	0.01	10,817	2,404	358
MAWOKOTA COUNTY	34	4.55	9	1.55	0.29	0.02	11,835	4,060	539
BUWAMA	34	6.73	9	2.28	0.28	0.02	3,289	1,115	221
MPIGI TOWN COUNCIL	31	4.46	8	1.47	0.29	0.02	7,047	2,170	314
MUBENDE DISTRICT	40	3.77	11	1.49	0.30	0.01	30,006	11,938	1,130
BUWEKULA COUNTY	37	4.55	10	1.68	0.31	0.02	6,112	2,278	278
MUBENDE TOWN COUNCIL	37	4.55	10	1.68	0.31	0.02	6,112	2,278	278
KASSANDA COUNTY	44	6.30	11	2.39	0.27	0.02	1,130	497	71
KASSANDA	44	6.30	11	2.39	0.27	0.02	1,130	497	71
MITYANA COUNTY	40	4.09	11	1.62	0.29	0.01	22,764	9,163	931
SSEKANYONYI	46	7.46	12	3.27	0.28	0.02	1,297	594	97
MITYANA TOWN COUNCIL	40	4.24	11	1.67	0.29	0.01	21,467	8,568	910
MUKONO DISTRICT	25	3.82	6	1.10	0.29	0.01	96,176	23,839	3,677
BBAALE COUNTY	38	13.60	8	4.01	0.20	0.01	2,010	754	273
KITIMBWA	38	13.60	8	4.01	0.20	0.01	2,010	754	273
BUYIKWE COUNTY	23	3.58	5	1.04	0.29	0.01	55,355	12,832	1,982
LUGAZI TOWN COUNCIL	24	4.00	5	1.14	0.26	0.02	18,204	4,321	728
NJERU TOWN COUNCIL	23	3.87	5	1.13	0.30	0.02	35,812	8,086	1,387
BUIKWE	32	10.20	8	3.39	0.25	0.01	1,339	426	137
MUKONO COUNTY	24	3.74	6	1.10	0.29	0.01	12,690	3,028	475
GOMA	28	5.46	7	1.78	0.29	0.02	4,545	1,264	248
MUKONO TOWN COUNCIL	21	3.82	5	1.11	0.29	0.01	7,129	1,494	272
NTENJERU	27	9.23	6	2.62	0.24	0.02	1,016	269	94
NAKIFUMA COUNTY	29	5.77	7	1.64	0.31	0.04	6,977	1,998	403
KASAWO	38	8.80	10	2.93	0.25	0.01	1,935	730	170
NAKIFUMA	27	7.19	6	2.20	0.25	0.02	2,349	637	169
NTENJERU COUNTY	27	5.10	6	1.46	0.26	0.01	19,144	5,227	977
BUSAANA	37	9.43	9	2.99	0.24	0.02	1,227	454	116
KAYUNGA TOWN COUNCIL	26	5.12	6	1.46	0.27	0.01	13,811	3,619	707
KANGULUMIRA	28	8.10	6	2.41	0.23	0.01	4,106	1,154	333
RAKAI DISTRICT	**18**	**3.06**	**4**	**0.88**	**0.34**	**0.04**	**13,959**	**2,461**	**428**
KABULA COUNTY	15	3.73	4	1.09	0.35	0.04	5,250	776	196
LYANTONDE	15	3.73	4	1.09	0.35	0.04	5,250	776	196
KOOKI COUNTY	12	5.43	3	1.82	0.31	0.04	478	58	26
BYAKABANDA	12	5.43	3	1.82	0.31	0.04	478	58	26
KYOTERA COUNTY	17	3.49	4	1.02	0.32	0.04	7,178	1,241	251
KALISIZO	18	5.01	4	1.56	0.33	0.05	2,171	391	109
KYOTERA TOWN COUNCIL	17	3.79	4	1.09	0.32	0.03	5,007	850	190

Region **District** County Subcounty	Headcount Index: Percent of Individuals below Poverty Line (std. error)		Poverty Gap as Percent of Poverty Line (std. error)		Gini Coefficient: Inequality Measure (std. error)		Total Number of Individuals in 1992*	Estimated Number of Poor Individuals in 1992** (std. error)	
EASTERN REGION	**38.33**	**1.13**	**13.56**	**0.64**	**0.39**	**0.01**	**304,781**	**116,829**	**3,445**
IGANGA DISTRICT	**24**	**3.23**	**7**	**1.23**	**0.38**	**0.02**	**41,924**	**9,964**	**1,354**
BUGWERI COUNTY	34	4.42	11	2.18	0.39	0.03	6,954	2,330	308
BUYANGA	26	5.00	8	2.06	0.34	0.02	1,801	473	90
NAMALEMBA	35	3.84	12	1.75	0.38	0.03	3,221	1,125	124
BUKOOLI COUNTY	18	3.22	5	1.00	0.39	0.02	10,004	1,775	322
KAPYANGA	18	3.22	5	1.00	0.39	0.02	10,004	1,775	322
BUNYA COUNTY	30	4.32	9	1.65	0.39	0.03	6,069	1,840	262
BAITAMBOGWE	24	3.63	7	1.41	0.37	0.02	2,323	555	84
IMANYIRO	39	6.07	13	2.43	0.39	0.04	2,702	1,062	164
KITYERERA	21	5.47	6	1.80	0.37	0.05	1,044	223	57
KIGULU COUNTY	21	2.96	6	1.06	0.36	0.02	18,897	4,019	558
IGANGA TOWN COUNCIL	21	2.96	6	1.06	0.36	0.02	18,897	4,019	558
JINJA DISTRICT	**31**	**1.61**	**10**	**0.78**	**0.35**	**0.01**	**76,249**	**23,600**	**1,228**
BUTEMBE COUNTY	41	3.04	14	1.50	0.35	0.02	10,565	4,345	322
KAKIRA	54	2.16	21	1.69	0.40	0.04	3,734	2,003	81
MAFUBIRA	34	4.02	10	1.67	0.31	0.01	6,831	2,341	274
JINJA MUNICIPALITY COUNTY	28	1.72	9	0.73	0.35	0.01	60,973	17,202	1,049
CENTRAL JINJA	15	1.64	4	0.56	0.31	0.01	26,543	3,937	434
KIMAKA/MPUMUDDE/NALUFENYA	40	2.27	13	1.07	0.35	0.01	16,241	6,435	369
MASESE/WALUKUBA	38	2.12	13	0.93	0.34	0.01	18,189	6,831	386
KAGOMA COUNTY	44	6.91	16	3.93	0.35	0.02	4,711	2,053	326
BUWENGE	44	6.91	16	3.93	0.35	0.02	4,711	2,053	326
KAMULI DISTRICT	34	5.06	12	2.57	0.40	0.02	6,944	2,340	351
BUGABULA COUNTY	31	4.67	11	2.24	0.40	0.02	5,287	1,624	247
KAMULI TOWN COUNCIL	31	4.67	11	2.24	0.40	0.02	5,287	1,624	247
BULAMOGI COUNTY	43	6.87	16	3.85	0.40	0.03	1,657	715	114
NAMUGONGO	43	6.87	16	3.85	0.40	0.03	1,657	715	114
KAPCHORWA DISTRICT	**48**	**5.21**	**16**	**2.57**	**0.35**	**0.02**	**4,306**	**2,046**	**224**
TINGEY COUNTY	48	5.21	16	2.57	0.35	0.02	4,306	2,046	224
KAPCHORWA TOWN COUNCIL	48	5.21	16	2.57	0.35	0.02	4,306	2,046	224
KUMI DISTRICT	**47**	**3.41**	**18**	**2.15**	**0.44**	**0.04**	**11,133**	**5,248**	**379**
KUMI COUNTY	47	3.41	18	2.15	0.44	0.04	11,133	5,248	379
KUMI TOWN COUNCIL	47	3.41	18	2.15	0.44	0.04	11,133	5,248	379
MBALE DISTRICT	**47**	**2.28**	**19**	**1.31**	**0.41**	**0.01**	**56,408**	**26,277**	**1,284**
BUDADIRI COUNTY	63	6.50	27	4.24	0.40	0.05	3,040	1,915	198
BUWALASI	63	6.50	27	4.24	0.40	0.05	3,040	1,915	198
BUNGOKHO COUNTY	24	4.64	7	1.76	0.36	0.03	3,018	735	140
NAKALOKE	24	4.64	7	1.76	0.36	0.03	3,018	735	140
MBALE MUNICIPALITY COUNTY	47	2.13	19	1.24	0.41	0.01	50,350	23,627	1,073
INDUSTRIAL BOROUGH	46	2.05	18	1.27	0.41	0.02	22,441	10,256	461
NORTHERN BOROUGH	47	2.31	18	1.34	0.40	0.01	20,630	9,662	476
WANALE BOROUGH	51	2.96	22	1.51	0.40	0.02	7,279	3,709	216
PALLISA DISTRICT	**50**	**4.03**	**18**	**2.01**	**0.37**	**0.03**	**2,743**	**1,373**	**111**
PALLISA COUNTY	50	4.03	18	2.01	0.37	0.03	2,743	1,373	111
PALLISA	50	4.03	18	2.01	0.37	0.03	2,743	1,373	111
SOROTI DISTRICT	**43**	**1.93**	**14**	**1.19**	**0.38**	**0.03**	**44,180**	**18,785**	**855**
KABERAMAIDO COUNTY	60	3.72	21	2.24	0.33	0.04	1,722	1,029	64
KABERAMAIDO	60	3.72	21	2.24	0.33	0.04	1,722	1,029	64
KALAKI COUNTY	63	7.40	19	3.30	0.22	0.04	341	213	25
KALAKI	63	7.40	19	3.30	0.22	0.04	341	213	25
SOROTI MUNICIPALITY COUNTY	40	1.89	13	1.16	0.38	0.03	38,742	15,345	731
CENTRAL	46	2.24	15	1.29	0.36	0.03	9,936	4,592	222

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Region District County Subcounty	Headcount Index: Percent of Individuals below Poverty Line (std. error)		Poverty Gap as Percent of Poverty Line (std. error)		Gini Coefficient: Inequality Measure (std. error)		Total Number of Individuals in 1992*	Estimated Number of Poor Individuals in 1992** (std. error)	
EASTERN	33	1.88	10	1.14	0.38	0.03	16,462	5,413	310
USUK COUNTY	65	3.30	24	1.93	0.35	0.03	3,375	2,197	111
KATAKWI	65	3.30	24	1.93	0.35	0.03	3,375	2,197	111
TORORO DISTRICT	**45**	**1.57**	**16**	**0.94**	**0.38**	**0.01**	**60,894**	**27,195**	**956**
BUNYOLE COUNTY	22	5.73	7	1.78	0.38	0.05	1,522	329	87
BUSOLWE	22	5.73	7	1.78	0.38	0.05	1,522	329	87
SAMIA-BUGWE COUNTY	44	1.94	15	1.09	0.35	0.01	27,149	12,005	526
BUSIA TOWN COUNCIL	44	1.94	15	1.09	0.35	0.01	27,149	12,005	526
TORORO COUNTY	43	2.32	15	1.30	0.38	0.02	6,854	2,975	159
KWAPA	43	2.32	15	1.30	0.38	0.02	6,854	2,975	159
TORORO MUNICIPALITY COUNTY	47	1.85	18	1.12	0.40	0.02	25,369	11,886	470
TORORO WESTERN	42	2.03	16	1.06	0.39	0.02	12,543	5,242	254
TORORO EASTERN	52	2.14	20	1.36	0.40	0.03	12,826	6,644	274
NORTHERN REGION	**49.61**	**1.98**	**17.24**	**1.11**	**0.37**	**0.01**	**158,936**	**78,850**	**3,140**
APAC DISTRICT	**60**	**3.49**	**20**	**1.99**	**0.32**	**0.02**	**5,540**	**3,308**	**193**
MARUZI COUNTY	60	3.49	20	1.99	0.32	0.02	5,540	3,308	193
APAC TOWN COUNCIL	60	3.49	20	1.99	0.32	0.02	5,540	3,308	193
ARUA DISTRICT	**59**	**2.83**	**22**	**1.91**	**0.36**	**0.01**	**24,193**	**14,216**	**685**
ARUA MUNICIPALITY COUNTY	54	2.93	20	1.82	0.35	0.01	20,554	11,155	603
ARUA HILL	39	3.19	12	1.43	0.34	0.02	6,953	2,739	221
OLI RIVER	62	3.12	23	2.13	0.34	0.01	13,601	8,416	424
KOBOKO COUNTY	84	2.95	37	2.96	0.29	0.02	3,639	3,061	107
MIDIA	84	2.95	37	2.96	0.29	0.02	3,639	3,061	107
GULU DISTRICT	**41**	**2.60**	**13**	**1.21**	**0.35**	**0.01**	**35,061**	**14,287**	**913**
GULU MUNICIPALITY COUNTY	41	2.60	13	1.21	0.35	0.01	35,061	14,287	913
ARIAGA LAROO	53	3.44	17	1.83	0.32	0.02	8,145	4,298	280
BAZAAR	16	3.32	5	1.68	0.34	0.02	3,908	616	130
KASUBI KIROMBE	44	3.46	13	1.51	0.33	0.02	13,070	5,733	452
PECE	37	3.04	11	1.20	0.33	0.01	9,938	3,640	302
KITGUM DISTRICT	**63**	**3.54**	**22**	**2.18**	**0.33**	**0.01**	**15,089**	**9,481**	**534**
AGAGO COUNTY	60	5.37	18	3.17	0.29	0.02	2,859	1,726	154
PARABONGO	60	5.37	18	3.17	0.29	0.02	2,859	1,726	154
CHUA COUNTY	63	3.65	24	2.22	0.34	0.02	12,230	7,755	447
KITGUM TOWN COUNCIL	63	3.65	24	2.22	0.34	0.02	12,230	7,755	447
KOTIDO DISTRICT	**66**	**3.09**	**26**	**2.09**	**0.38**	**0.03**	**8,702**	**5,753**	**269**
DODOTH COUNTY	73	3.18	30	2.33	0.35	0.02	4,679	3,397	149
KAABONG TOWNSHIP	73	3.18	30	2.33	0.35	0.02	4,679	3,397	149
JIE COUNTY	59	3.89	22	2.51	0.40	0.04	4,023	2,357	156
KOTIDO TOWN COUNCIL	59	3.89	22	2.51	0.40	0.04	4,023	2,357	156
LIRA DISTRICT	**40**	**3.89**	**13**	**1.79**	**0.38**	**0.01**	**25,700**	**10,235**	**1,000**
LIRA MUNICIPALITY COUNTY	40	3.89	13	1.79	0.38	0.01	25,700	10,235	1,000
ADYEL	49	3.37	16	1.88	0.35	0.02	6,563	3,230	221
LIRA CENTRAL	28	5.38	8	2.00	0.37	0.02	12,694	3,532	683
OJWINA	50	3.69	17	2.13	0.36	0.02	4,983	2,494	184
RAILWAYS	67	3.59	25	2.68	0.34	0.04	1,460	979	52
MOROTO DISTRICT	**46**	**4.16**	**16**	**2.09**	**0.41**	**0.05**	**11,567**	**5,311**	**482**
KADAM (CHEKWII) COUNTY	72	6.27	28	3.82	0.29	0.02	1,412	1,010	89
NAKAPIRIPIRIT TOWN COUNCIL	72	6.27	28	3.82	0.29	0.02	1,412	1,010	89
MOROTO MUNICIPALITY COUNTY	40	4.35	14	2.02	0.41	0.06	9,314	3,759	405
NORTH DIVISION	31	4.84	9	1.85	0.35	0.06	5,470	1,677	265
SOUTH DIVISION	54	4.69	21	2.79	0.48	0.08	3,844	2,082	180
UPE COUNTY	64	5.92	24	3.86	0.34	0.04	841	542	50
AMUDAT	64	5.92	24	3.86	0.34	0.04	841	542	50

Region District County Subcounty	Headcount Index: Percent of Individuals below Poverty Line (std. error)		Poverty Gap as Percent of Poverty Line (std. error)		Gini Coefficient: Inequality Measure (std. error)		Total Number of Individuals in 1992*	Estimated Number of Poor Individuals in 1992** (std. error)	
MOYO DISTRICT	**61**	**4.14**	**23**	**2.43**	**0.37**	**0.03**	**10,549**	**6,403**	**437**
EAST MOYO COUNTY	55	5.20	20	2.72	0.34	0.02	4,609	2,553	240
ADROPI	55	5.20	20	2.72	0.34	0.02	4,609	2,553	240
WEST MOYO COUNTY	65	3.93	26	2.54	0.39	0.04	5,940	3,850	234
MOYO TOWN COUNCIL	65	3.93	26	2.54	0.39	0.04	5,940	3,850	234
NEBBI DISTRICT	**44**	**5.51**	**14**	**2.36**	**0.35**	**0.02**	**22,535**	**9,856**	**1,241**
JONAM COUNTY	36	6.08	11	2.34	0.37	0.02	4,566	1,655	278
PAKWACH	36	6.08	11	2.34	0.37	0.02	4,566	1,655	278
OKORO COUNTY	52	5.29	18	2.59	0.34	0.02	11,379	5,911	602
PAIDHA	52	5.29	18	2.59	0.34	0.02	11,379	5,911	602
PADYERE COUNTY	35	6.08	10	2.20	0.33	0.02	6,590	2,290	401
NEBBI TOWN COUNCIL	35	6.08	10	2.20	0.33	0.02	6,590	2,290	401
WESTERN REGION	**31.98**	**1.55**	**9.5**	**0.68**	**0.35**	**0.01**	**196,407**	**62,821**	**3,052**
BUNDIBUGYO DISTRICT	**37**	**4.52**	**12**	**2.06**	**0.40**	**0.06**	**8,771**	**3,207**	**397**
BWAMBA COUNTY	44	5.54	15	2.74	0.38	0.06	6,426	2,828	356
BUNDIBUGYO TOWN COUNCIL	44	5.54	15	2.74	0.38	0.06	6,426	2,828	356
NTOROKO COUNTY	16	4.62	4	1.29	0.36	0.06	2,345	379	108
KARUGUTU	16	4.62	4	1.29	0.36	0.06	2,345	379	108
BUSHENYI DISTRICT	**34**	**2.75**	**9**	**1.07**	**0.30**	**0.01**	**13,502**	**4,658**	**372**
IGARA COUNTY	34	2.75	9	1.07	0.30	0.01	13,502	4,658	372
BUSHENYI TOWN COUNCIL	34	2.75	9	1.07	0.30	0.01	13,502	4,658	372
HOIMA DISTRICT	**31**	**2.64**	**10**	**1.25**	**0.32**	**0.01**	**4,173**	**1,277**	**110**
BUGAHYA COUNTY	31	2.64	10	1.25	0.32	0.01	4,173	1,277	110
HOIMA TOWN COUNCIL	31	2.64	10	1.25	0.32	0.01	4,173	1,277	110
KABALE DISTRICT	**34**	**4.48**	**10**	**2.04**	**0.38**	**0.02**	**27,449**	**9,278**	**1,230**
KABALE MUNICIPALITY COUNTY	34	4.48	10	2.04	0.38	0.02	27,449	9,278	1,230
KABALE SOUTHERN	52	5.38	16	3.00	0.31	0.02	10,000	5,193	538
KABALE CENTRAL	20	2.80	5	1.18	0.35	0.01	8,987	1,795	252
KABAROLE DISTRICT	**42**	**2.42**	**13**	**1.24**	**0.34**	**0.01**	**32,500**	**13,650**	**785**
BUNYANGABU COUNTY	27	3.71	9	1.46	0.33	0.02	1,380	374	51
RWIIMI	27	3.71	9	1.46	0.33	0.02	1,380	374	51
FORT PORTAL MUNICIPALITY	45	2.67	14	1.37	0.33	0.01	27,830	12,436	744
EASTERN	52	3.13	16	1.64	0.30	0.01	10,584	5,452	331
WESTERN	45	3.09	15	1.61	0.32	0.01	7,461	3,342	231
SOUTHERN	37	2.57	11	1.11	0.34	0.01	9,785	3,642	252
KIBALE COUNTY	8	2.26	2	0.69	0.29	0.02	1,940	155	44
KAMWENGE	8	2.26	2	0.69	0.29	0.02	1,940	155	44
MWENGE COUNTY	51	3.38	18	1.82	0.32	0.02	1,350	686	46
NYANTUNGO	51	3.38	18	1.82	0.32	0.02	1,350	686	46
KASESE DISTRICT	**21**	**2.74**	**6**	**1.08**	**0.35**	**0.01**	**38,709**	**8,242**	**1,062**
BUKONJO COUNTY	46	10.33	14	4.94	0.31	0.02	4,207	1,918	434
KARAMBI	40	10.36	12	4.50	0.29	0.02	1,027	407	106
MUKUNYU	37	11.10	10	4.47	0.28	0.03	1,064	396	118
BUSONGORA COUNTY	18	2.22	5	0.79	0.34	0.01	34,502	6,323	767
KICWAMBA	26	4.88	7	1.91	0.33	0.02	3,789	1,004	185
KASESE TOWN COUNCIL	17	2.08	5	0.70	0.33	0.01	18,120	3,008	377
KILEMBE	15	3.42	5	1.41	0.35	0.03	4,931	739	169
LAKE KATWE	21	2.85	6	0.92	0.34	0.01	7,662	1,574	219
KIBAALE DISTRICT	**40**	**3.75**	**11**	**1.44**	**0.31**	**0.02**	**2,215**	**885**	**83**
BUYAGA COUNTY	40	3.75	11	1.44	0.31	0.02	2,215	885	83
KAGADI	37	4.11	10	1.54	0.32	0.02	1,250	464	51
MUHORO	44	4.54	12	1.73	0.26	0.02	965	420	44

Region District County Subcounty	Headcount Index: Percent of Individuals below Poverty Line (std. error)		Poverty Gap as Percent of Poverty Line (std. error)		Gini Coefficient: Inequality Measure (std. error)		Total Number of Individuals in 1992*	Estimated Number of Poor Individuals in 1992** (std. error)	
KISORO DISTRICT	**58**	**5.38**	**21**	**3.44**	**0.34**	**0.02**	**6,919**	**3,997**	**372**
BUFUMBIRA COUNTY	58	5.38	21	3.44	0.34	0.02	6,919	3,997	372
KISORO TOWN COUNCIL	58	5.38	21	3.44	0.34	0.02	6,919	3,997	372
MASINDI DISTRICT	**33**	**4.15**	**10**	**1.84**	**0.34**	**0.01**	**8,431**	**2,749**	**350**
BURULI COUNTY	25	2.36	8	1.07	0.34	0.01	5,637	1,388	133
MASINDI TOWN COUNCIL	19	2.22	5	0.88	0.32	0.01	4,390	837	97
KARUJUBU	44	5.01	15	2.69	0.34	0.02	1,247	550	62
KIBANDA COUNTY	49	8.62	16	3.84	0.29	0.01	2,794	1,361	241
KIGUMBA	49	8.62	16	3.84	0.29	0.01	2,794	1,361	241
MBARARA DISTRICT	**24**	**1.78**	**6**	**0.63**	**0.32**	**0.01**	**41,593**	**9,871**	**740**
IBANDA COUNTY	31	3.30	8	1.15	0.29	0.01	3,449	1,063	114
NYABUHIKYE	31	3.30	8	1.15	0.29	0.01	3,449	1,063	114
MBARARA MUNICIPALITY COUNTY	23	1.76	6	0.63	0.32	0.01	35,619	8,198	627
KAKOBA	23	1.66	6	0.63	0.33	0.01	14,966	3,391	248
KAMUKUZI	23	1.92	6	0.68	0.32	0.01	12,612	2,949	242
NYAMITANGA	23	2.73	6	0.87	0.32	0.01	8,041	1,858	220
RUHAAMA COUNTY	24	3.09	6	0.98	0.29	0.01	2,525	610	78
NTUNGAMO	24	3.09	6	0.98	0.29	0.01	2,525	610	78
RUKUNGIRI DISTRICT	**41**	**2.94**	**12**	**1.16**	**0.31**	**0.01**	**12,145**	**5,007**	**357**
KINKIIZI COUNTY	45	4.44	13	1.70	0.29	0.01	2,918	1,309	130
KAYONZA	46	5.69	14	2.03	0.30	0.02	1,283	587	73
KIHIIHI	44	4.78	12	1.84	0.28	0.01	1,635	721	78
RUJUMBURA COUNTY	40	2.83	11	1.13	0.31	0.01	9,227	3,699	261
RUKUNGIRI TOWN COUNCIL	41	3.18	11	1.25	0.29	0.01	7,989	3,303	254
BWAMBARA	32	4.01	11	1.71	0.38	0.02	1,238	395	50

* These figures do not correspond exactly to the published Census figures as some households had to be dropped from the analysis.

** The poverty estimates were derived for each level (Region, District, County) in separate analyses; thus the sum of the county-level estimates does not equal the District-level estimate and the sum of the District-level estimates does not equal the Region-level estimate.

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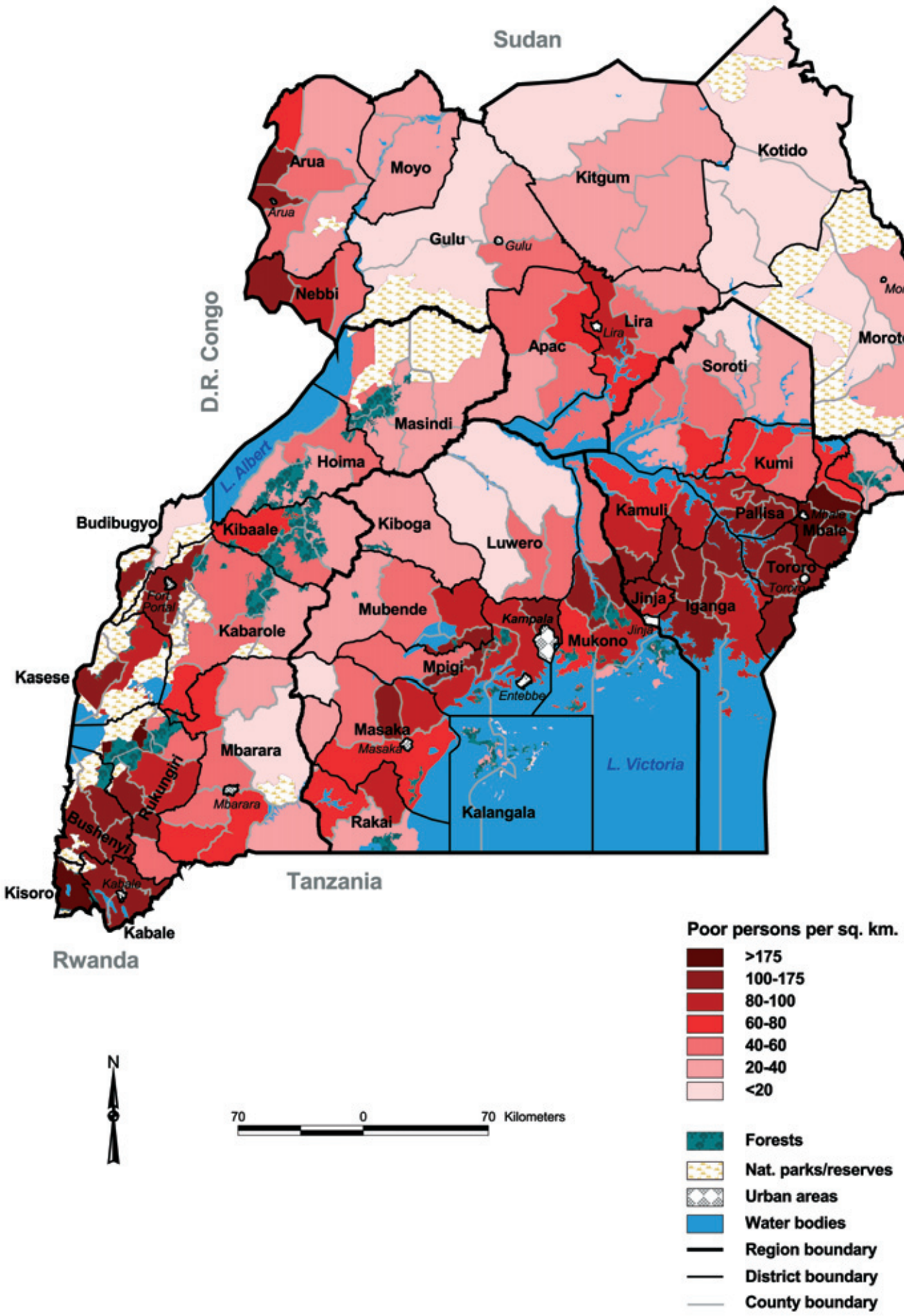
4.0 Uganda 1992 - County-Level Poverty Density



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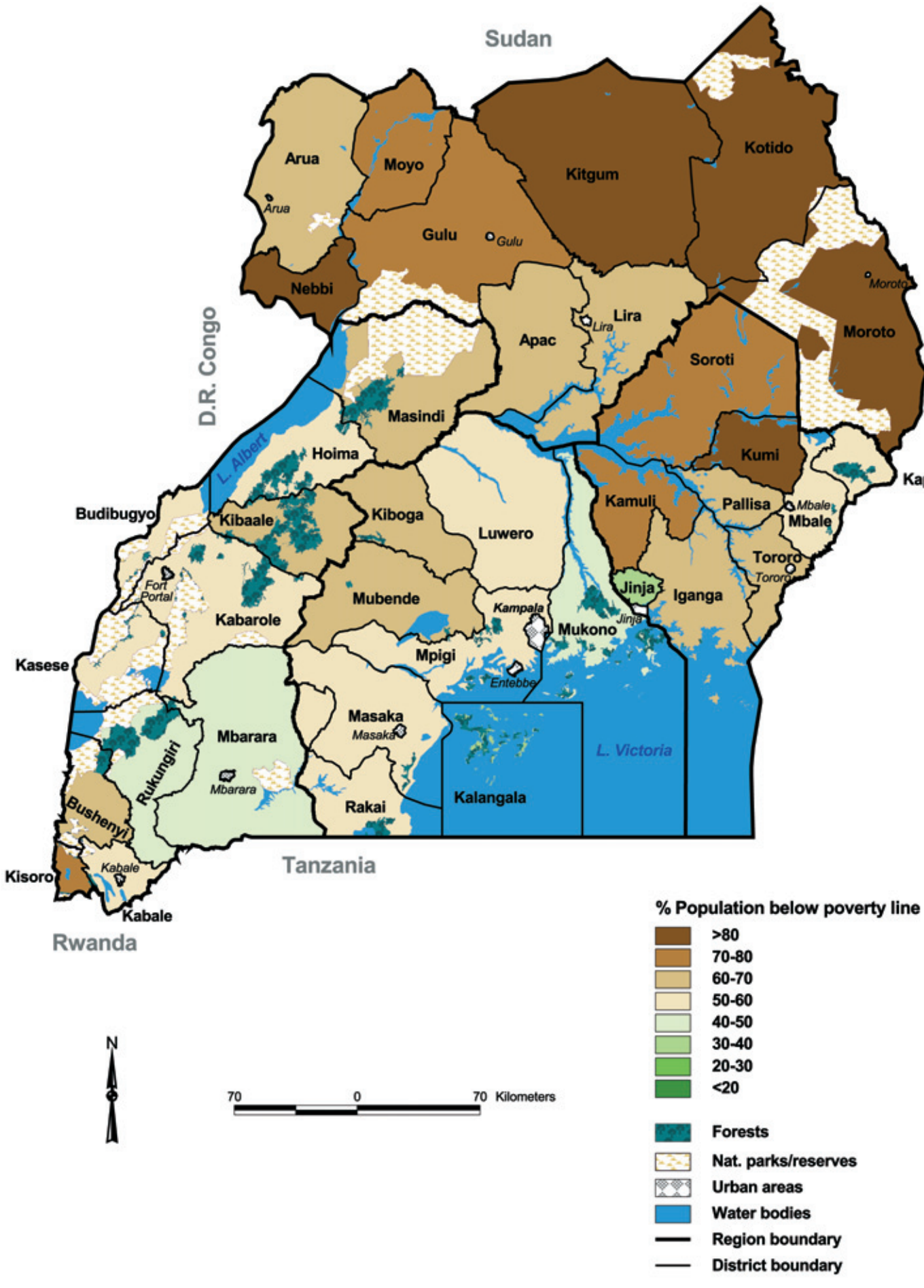
4.1.A Uganda 1992 - District-Level Poverty Incidence:

Percent of Rural Population below the Poverty Line



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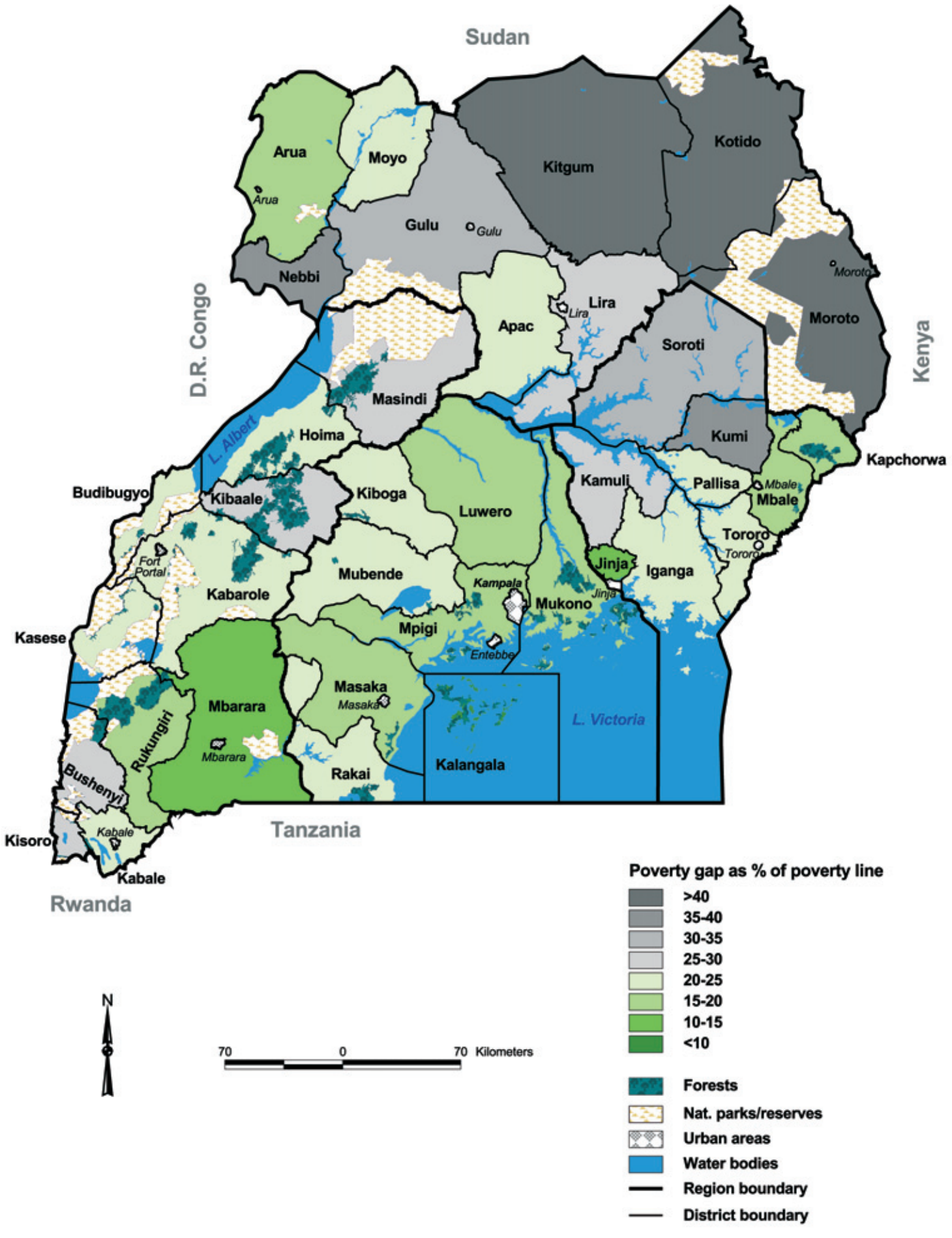
4.1.B Uganda 1992 - District-Level Poverty Gap:

Gap for Rural Poor to reach Poverty Line



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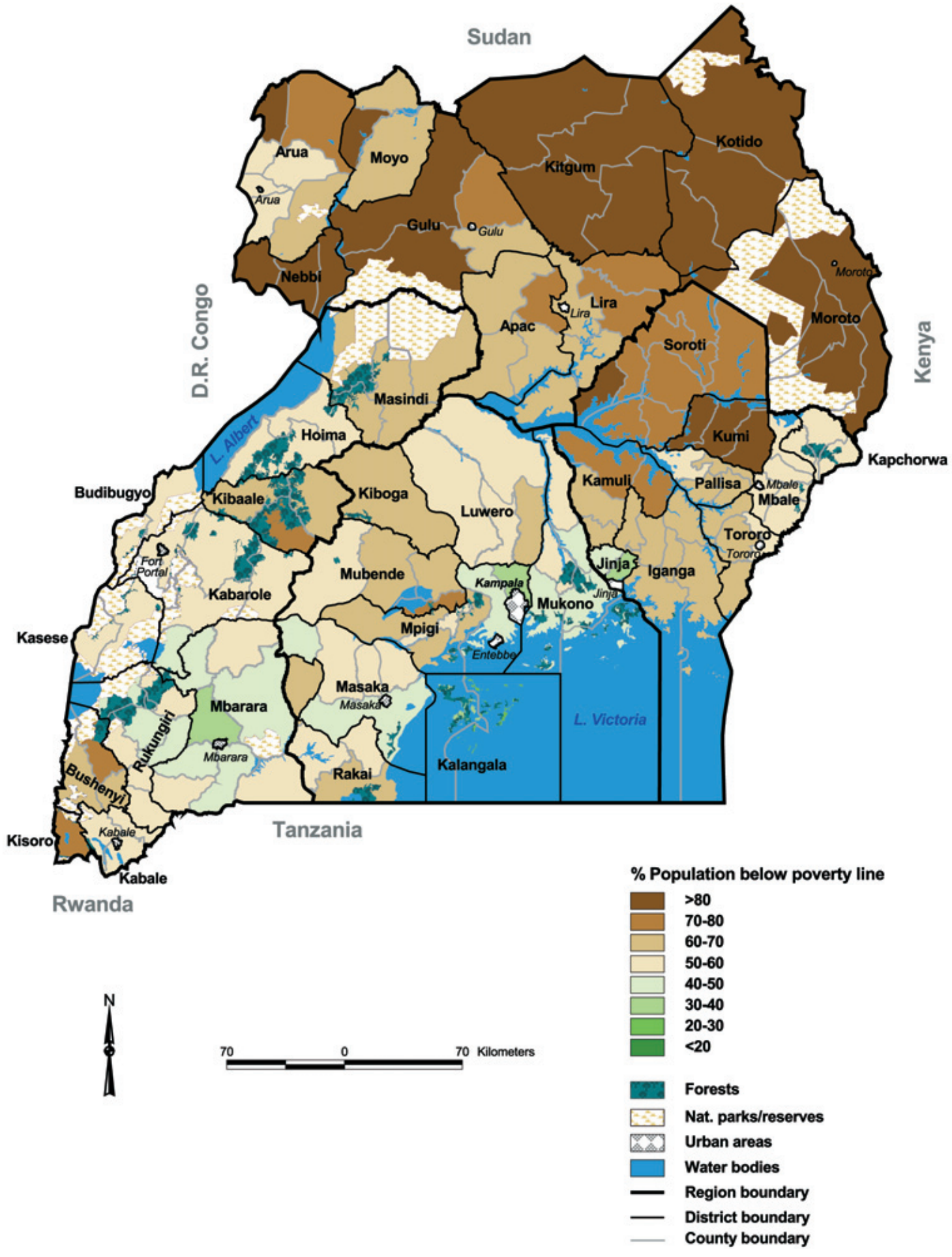
4.2.A Uganda 1992 - County-Level Poverty Incidence:

Percent of Rural Population below the Poverty Line



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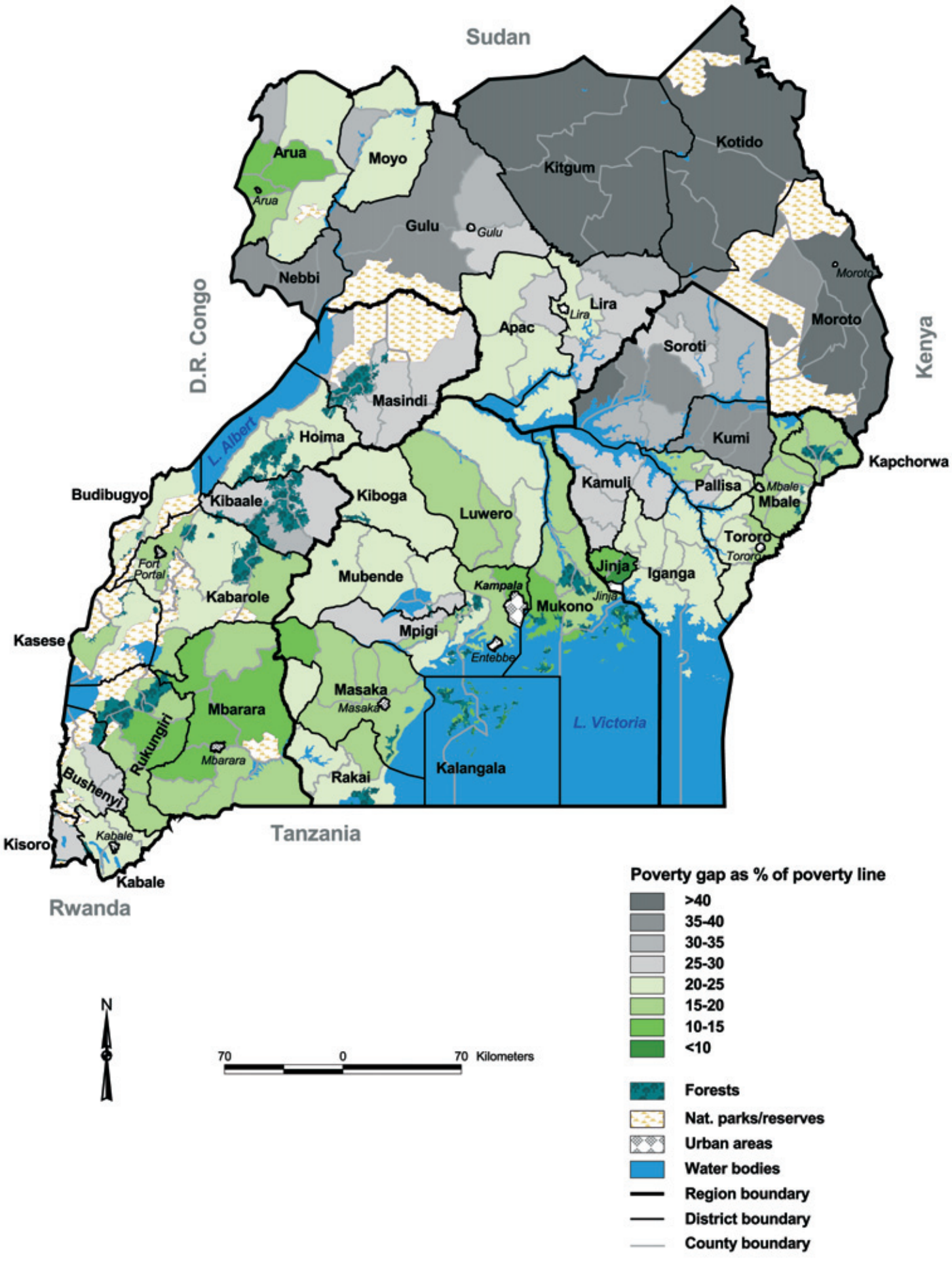
4.2.B Uganda 1992 - County-Level Poverty Gap:

Gap for Rural Poor to reach Poverty Line



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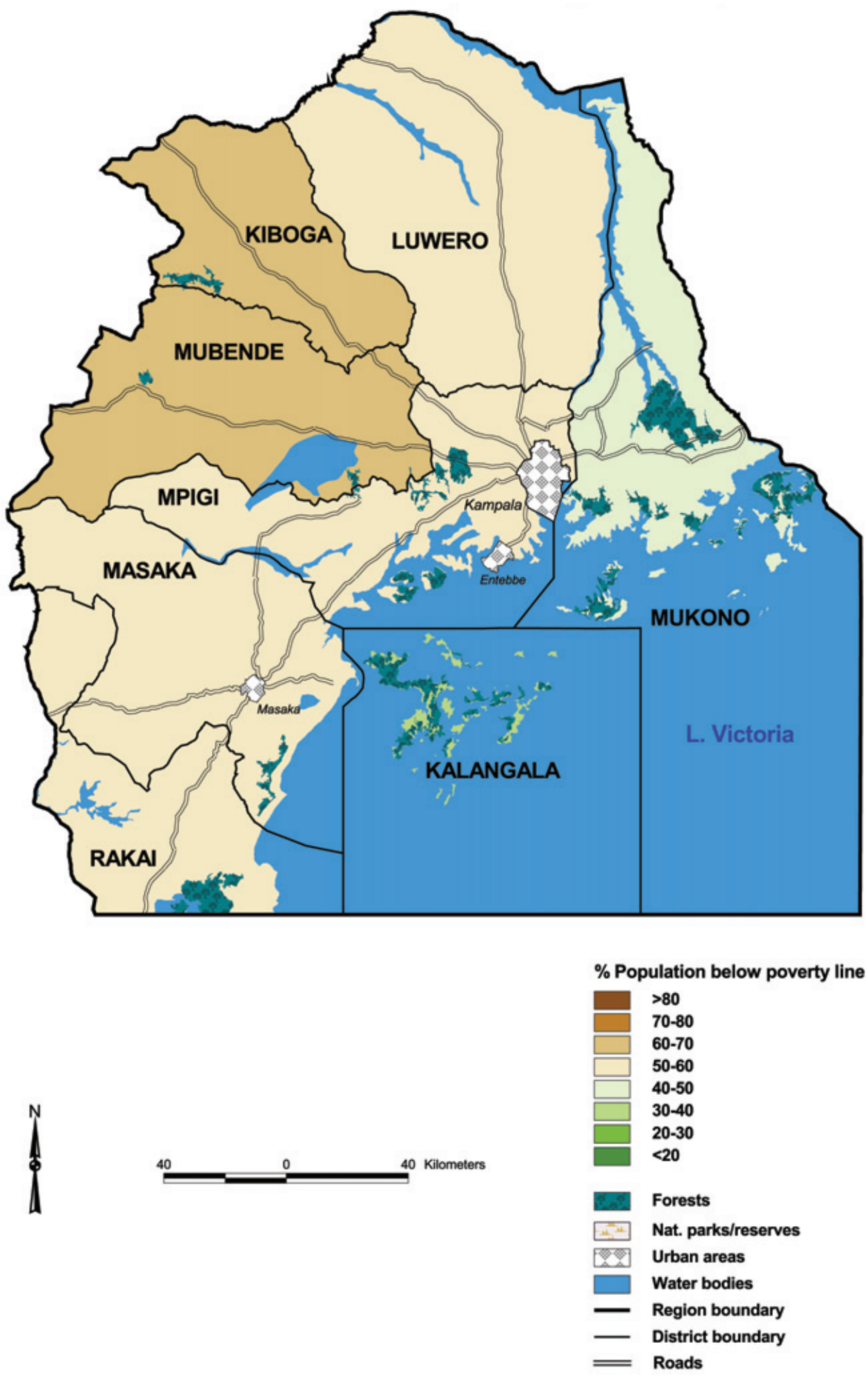
4.3.A Central Region 1992 - District-Level Poverty Incidence:

Percent of Rural Population below the Poverty Line



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4.3.B Central Region 1992 - District-Level Poverty Gap:

Gap for Rural Poor to reach Poverty Line

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4.4.A Central Region 1992 - County-Level Poverty Incidence:

Percent of Rural Population below the Poverty Line

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4.4.B Central Region 1992 - County-Level Poverty Gap:

Gap for Rural Poor to reach Poverty Line

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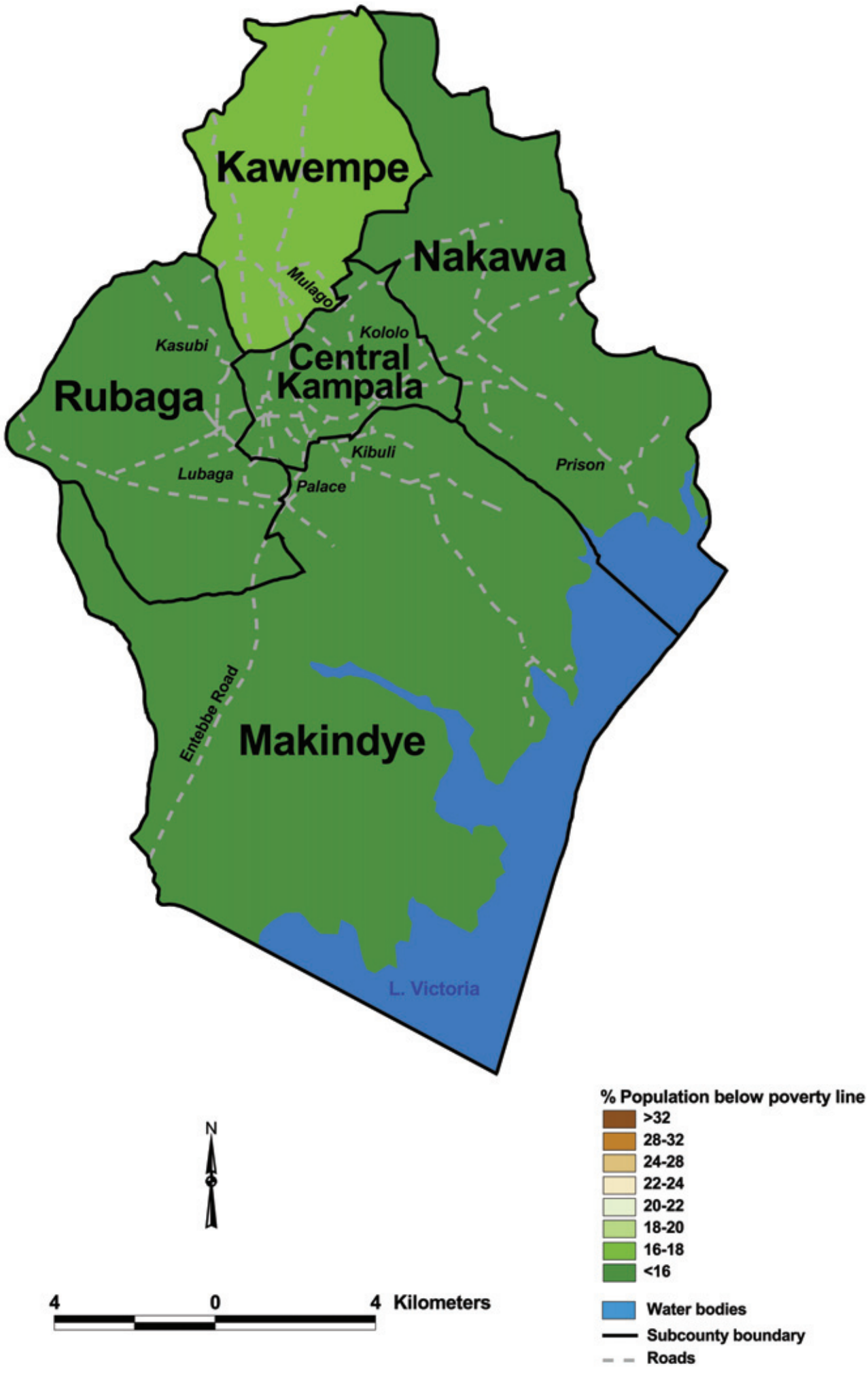
4.5.A Kampala 1992 - Subcounty-Level Poverty Incidence:

Percent of Urban Population below the Poverty Line



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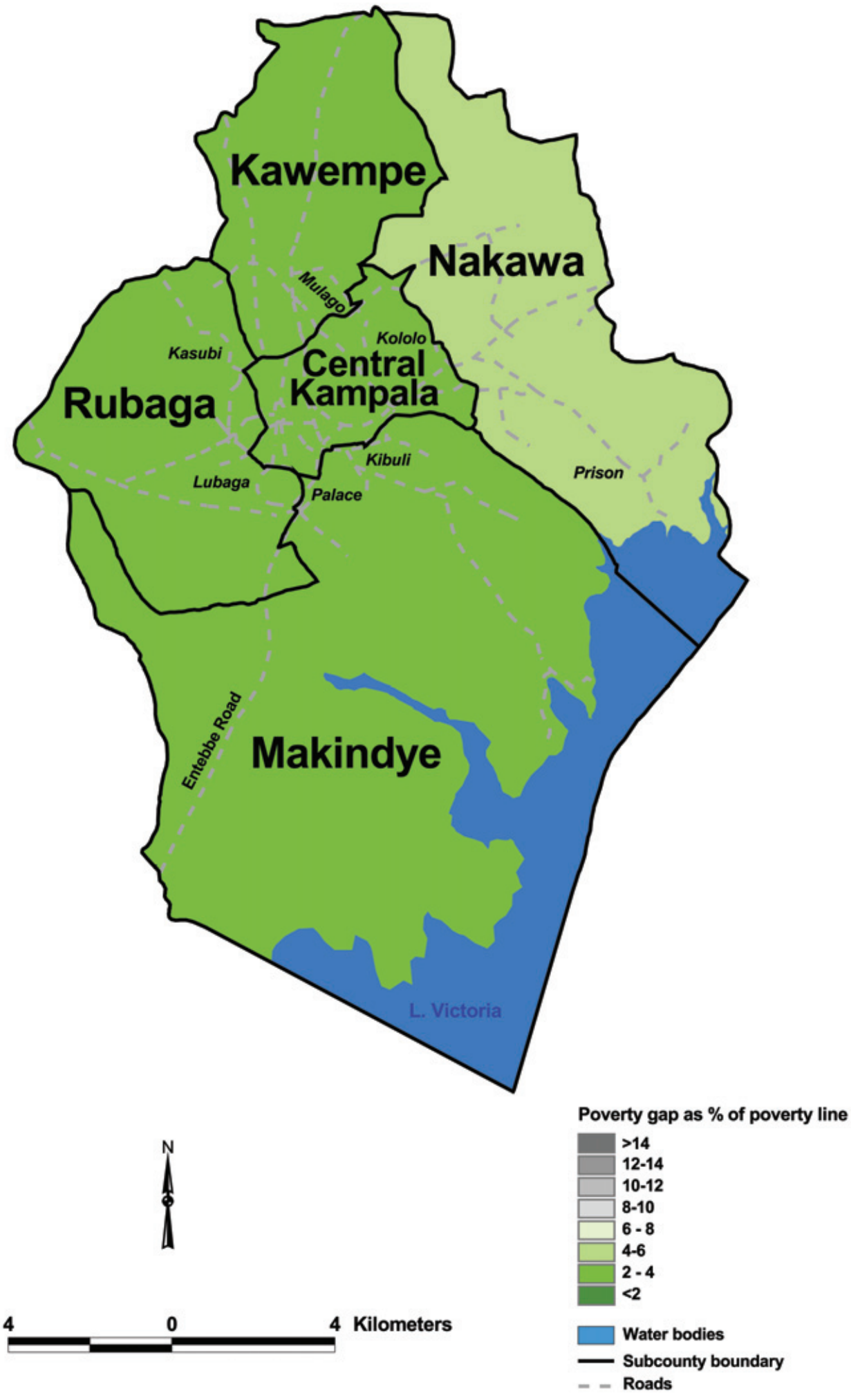
4.5.B Kampala 1992 - Subcounty-Level Poverty Gap:

Gap for Urban Poor to reach Poverty Line



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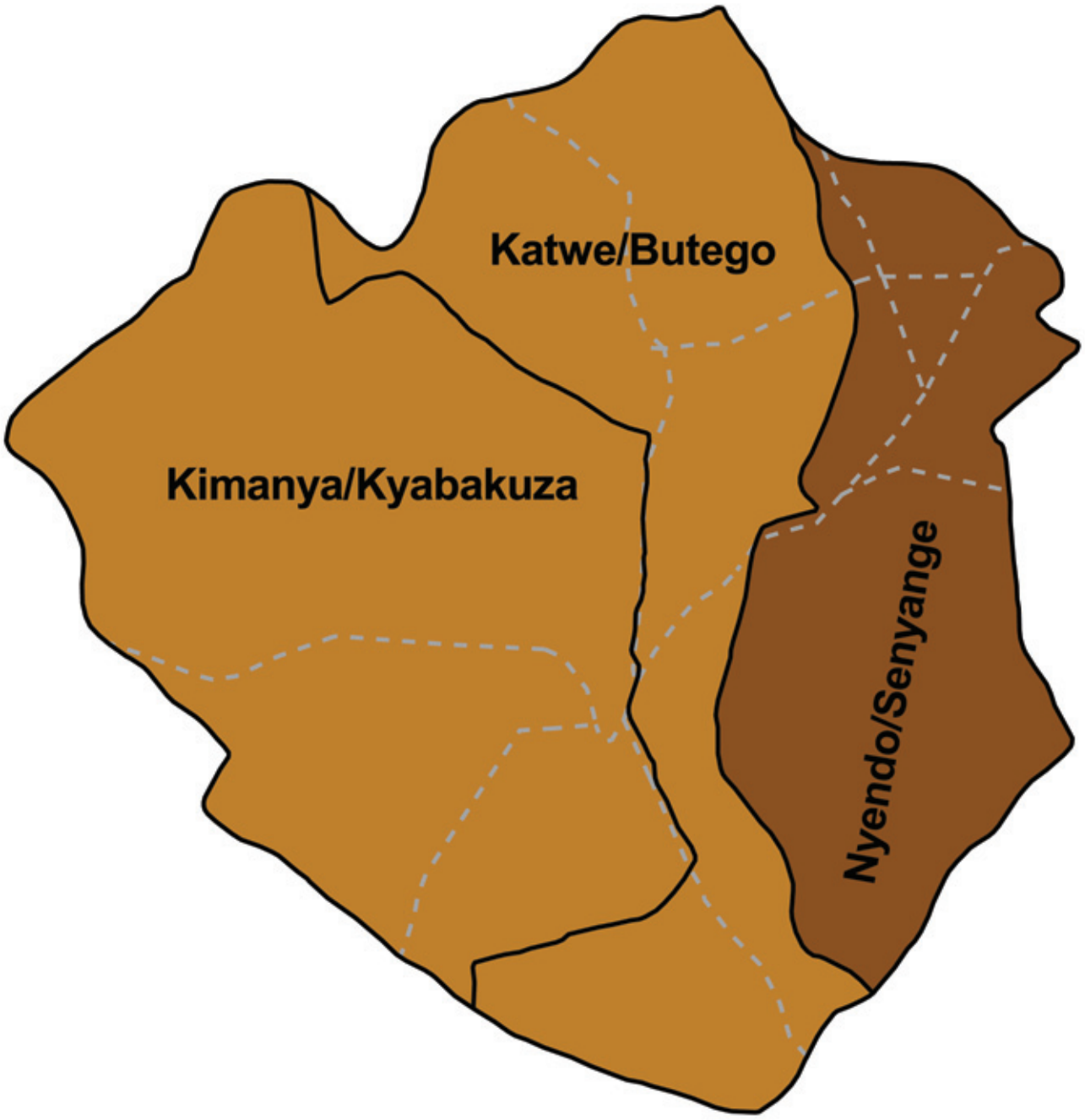
4.6.A Masaka 1992 - Subcounty-Level Poverty Incidence:

Percent of Urban Population below the Poverty Line



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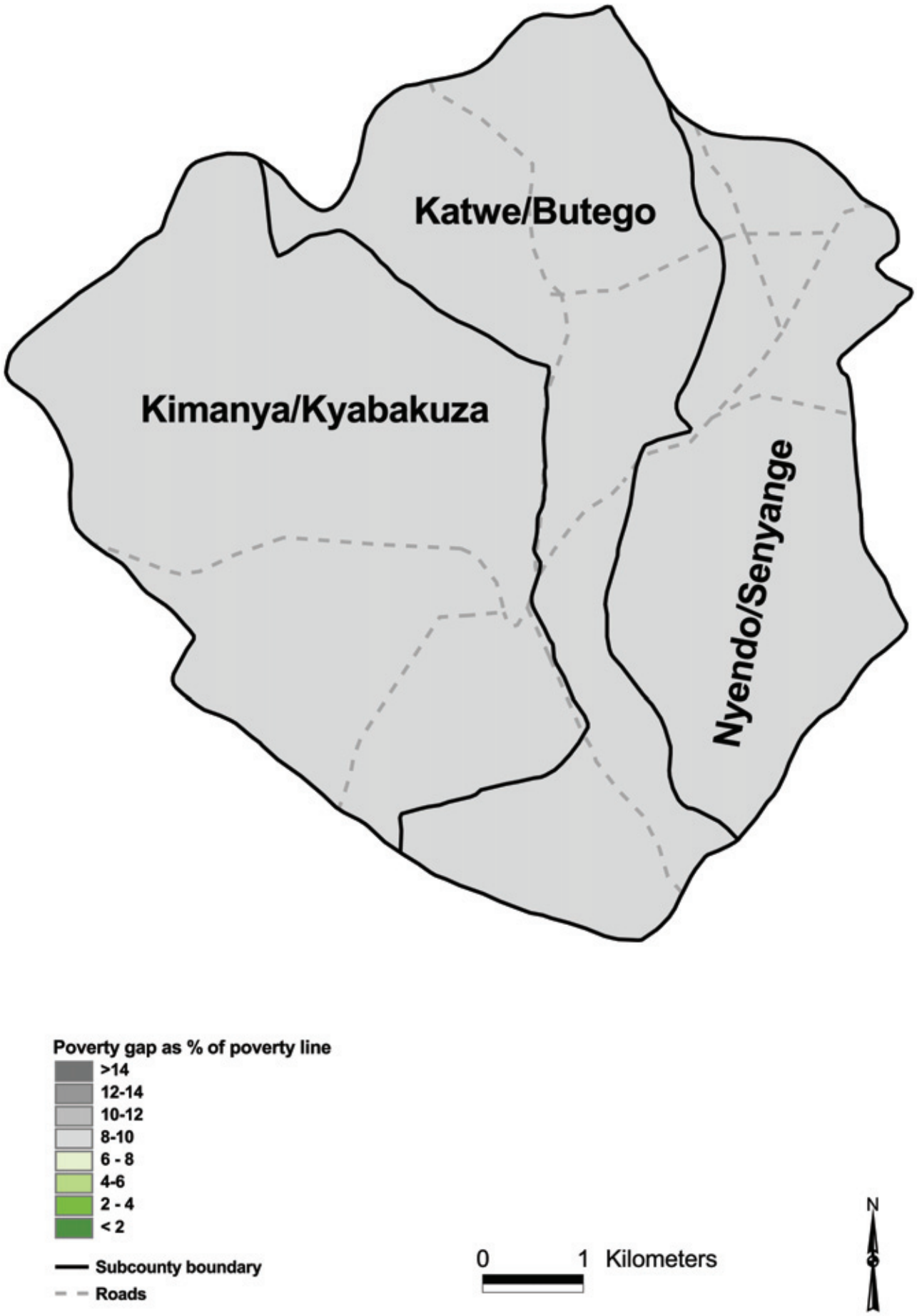
4.6.B Masaka 1992 - Subcounty-Level Poverty Gap:

Gap for Urban Poor to reach Poverty Line



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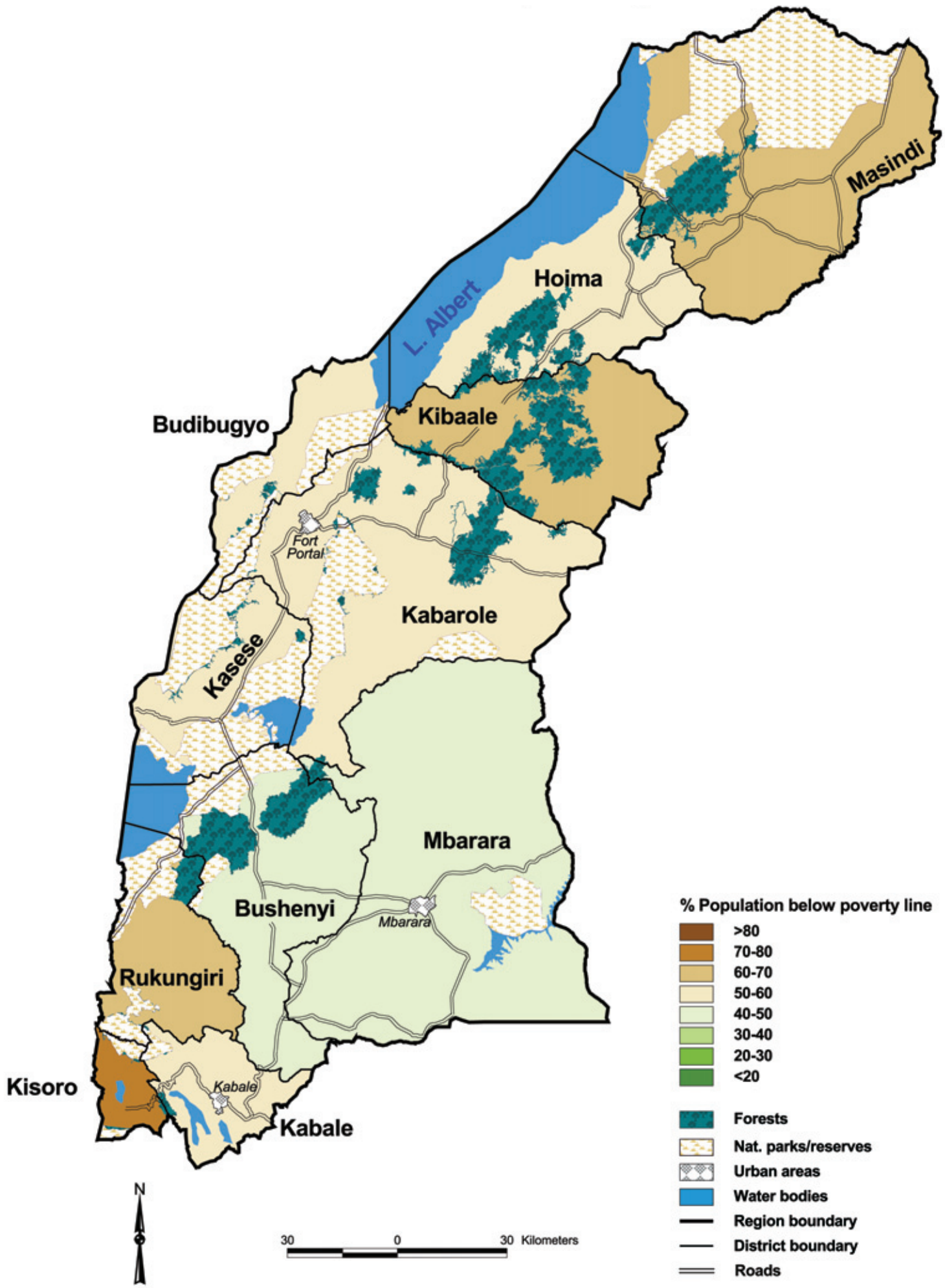
4.7.A Western Region 1992 - District-Level Poverty Incidence:

Percent of Rural Population below the Poverty Line



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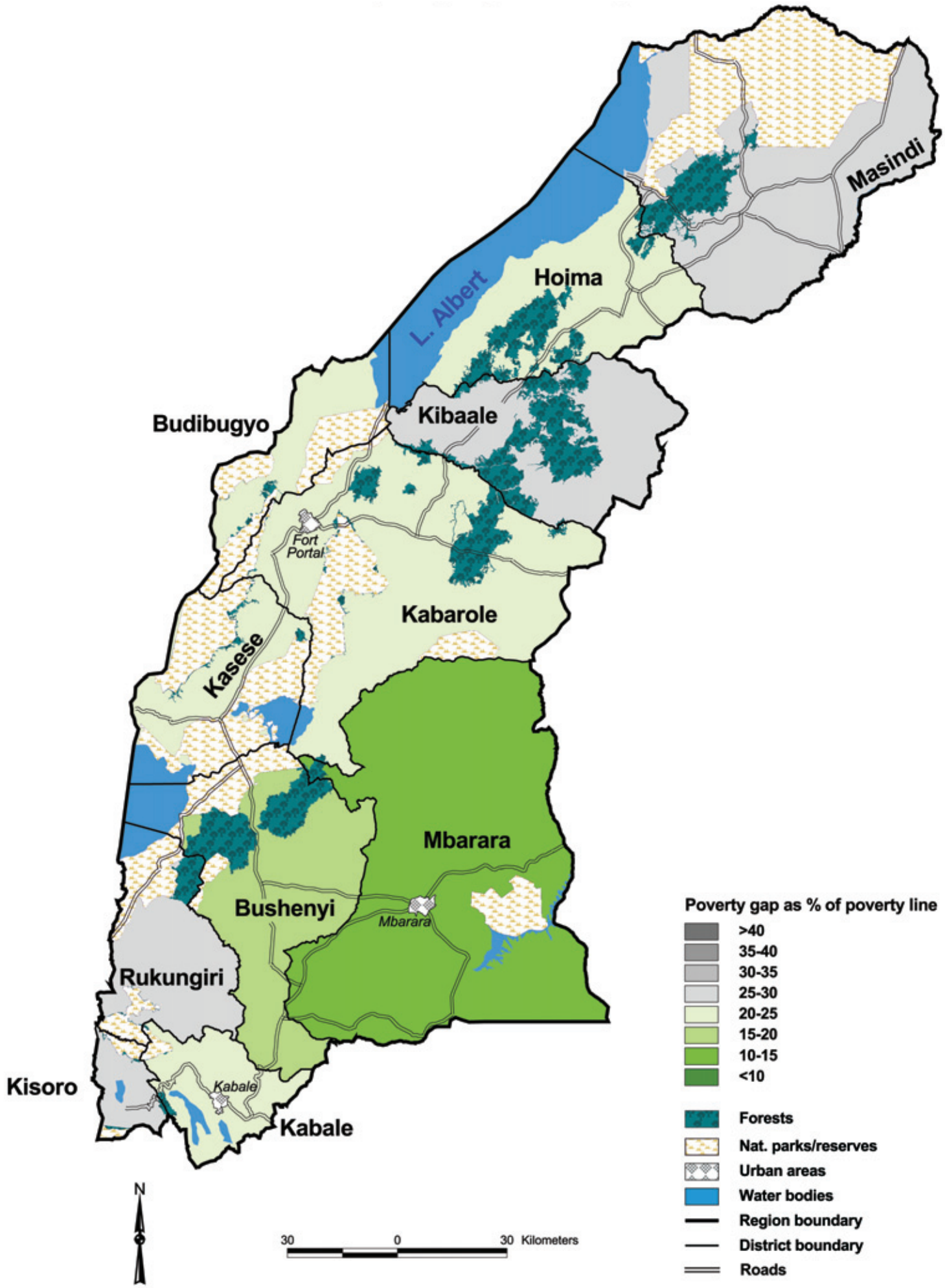
4.7.B Western Region 1992 - District-Level Poverty Gap:

Gap for Rural Poor to reach Poverty Line



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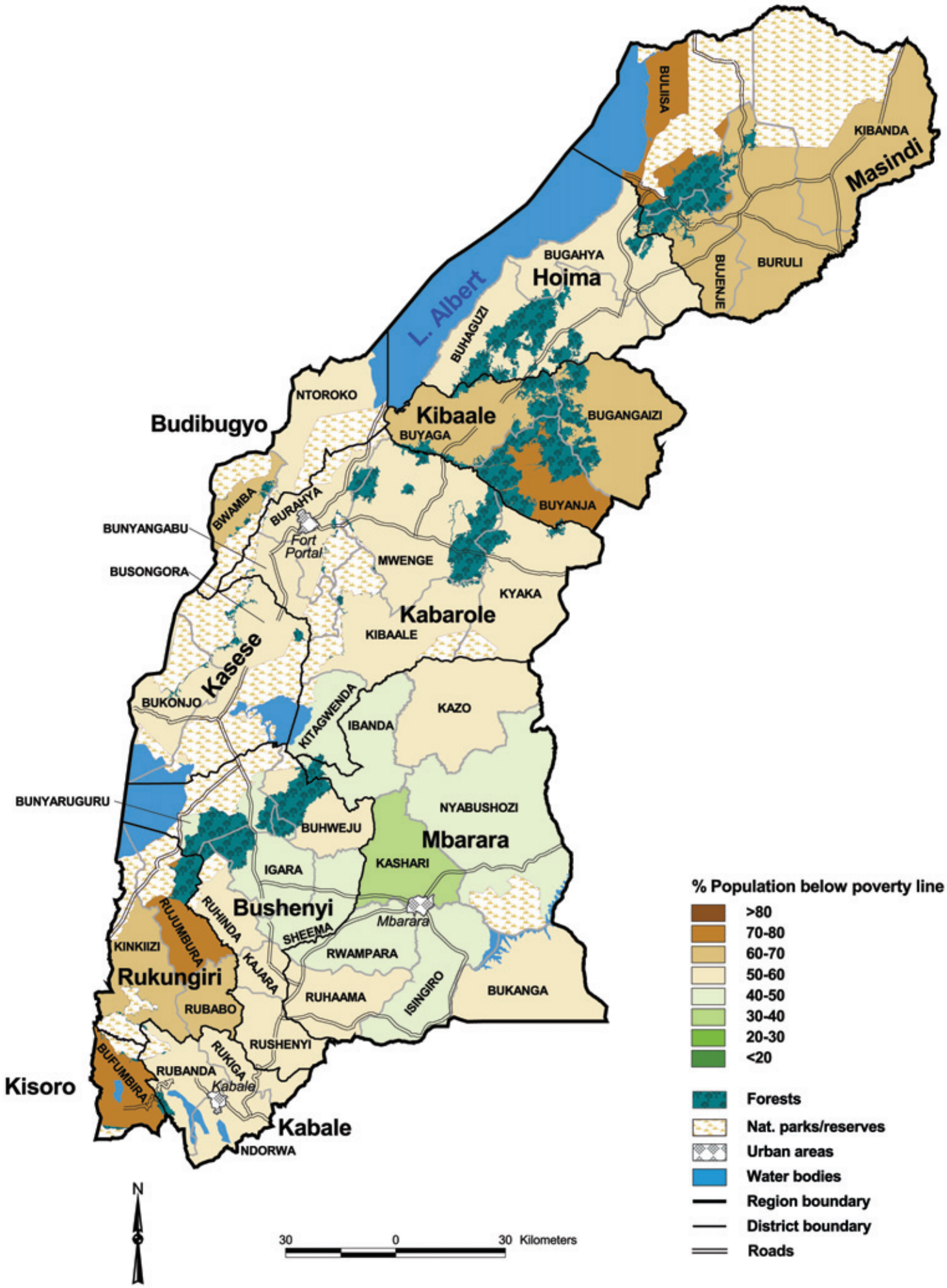
4.8.A Western Region 1992 - County-Level Poverty Incidence:

Percent of Rural Population below the Poverty Line



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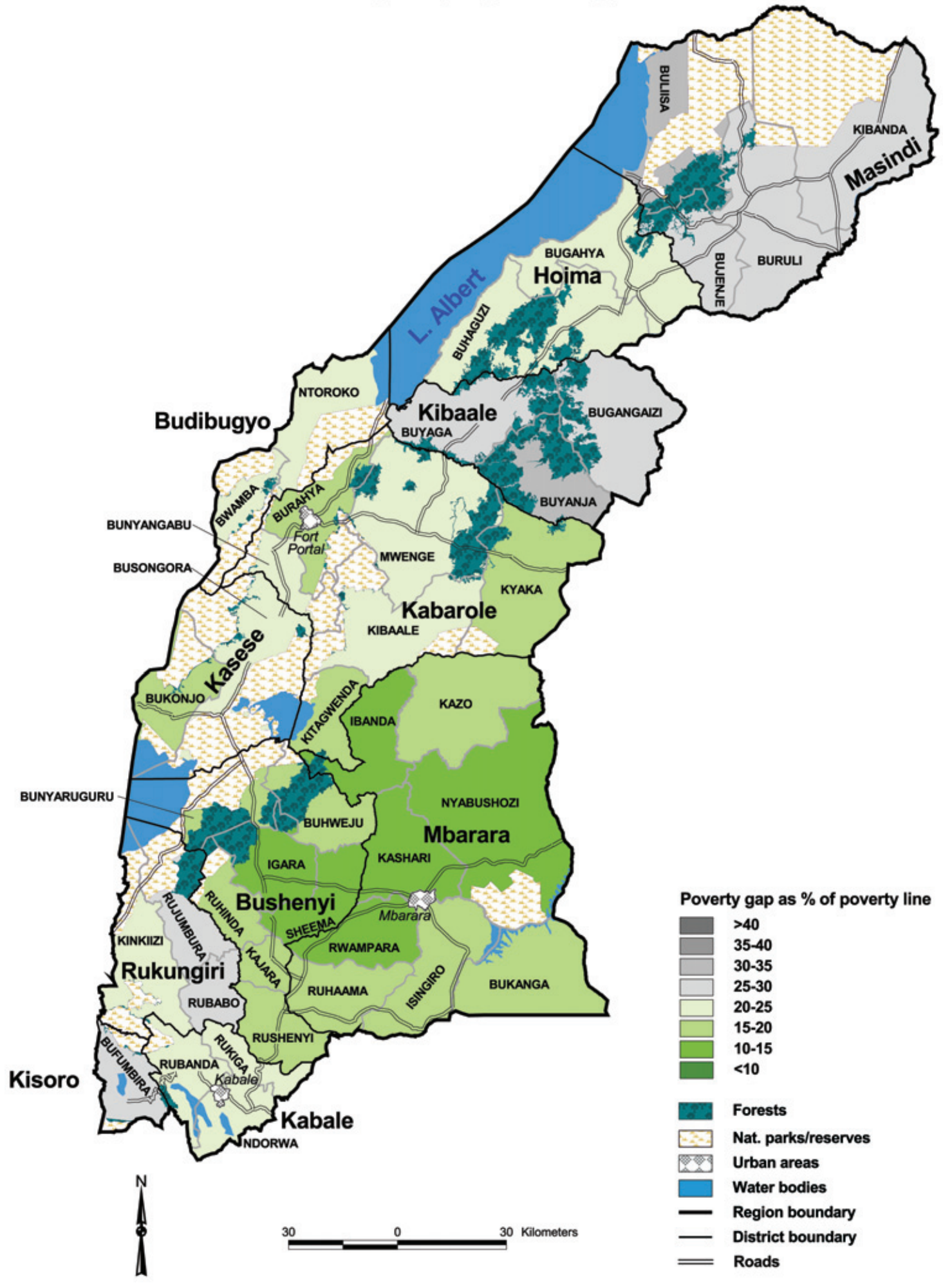
4.8.B Western Region 1992 - County-Level Poverty Gap:

Gap for Rural Poor to reach Poverty Line



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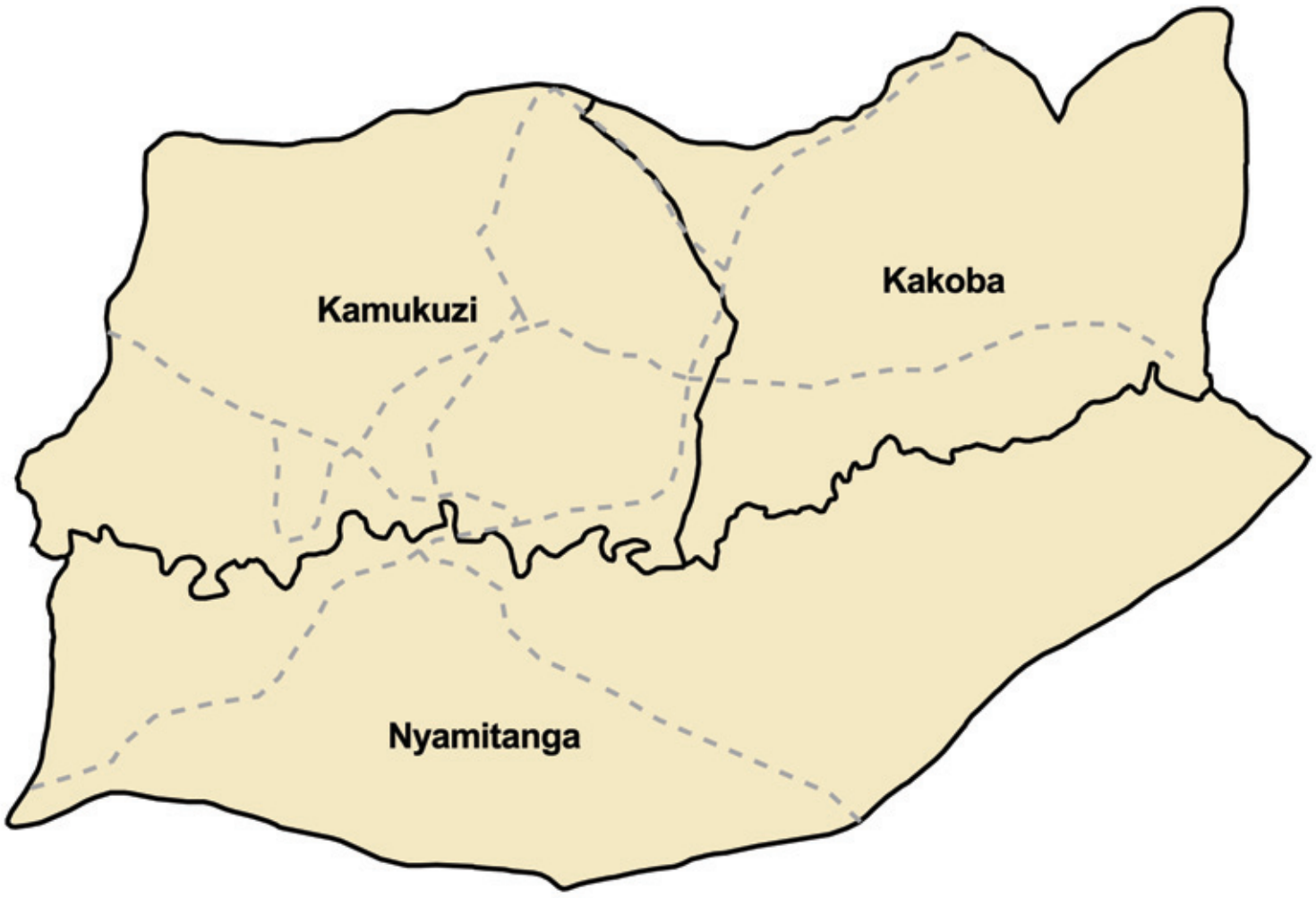
4.9.A Mbarara 1992 - Subcounty-Level Poverty Incidence:

Percent of Urban Population below the Poverty Line



% Population below poverty line
- >32
- 28-32
- 24-28
- 22-24
- 20-22
- 18-20
- 16-18
- <16

Subcounty boundary
Roads

0 1 Kilometers

N

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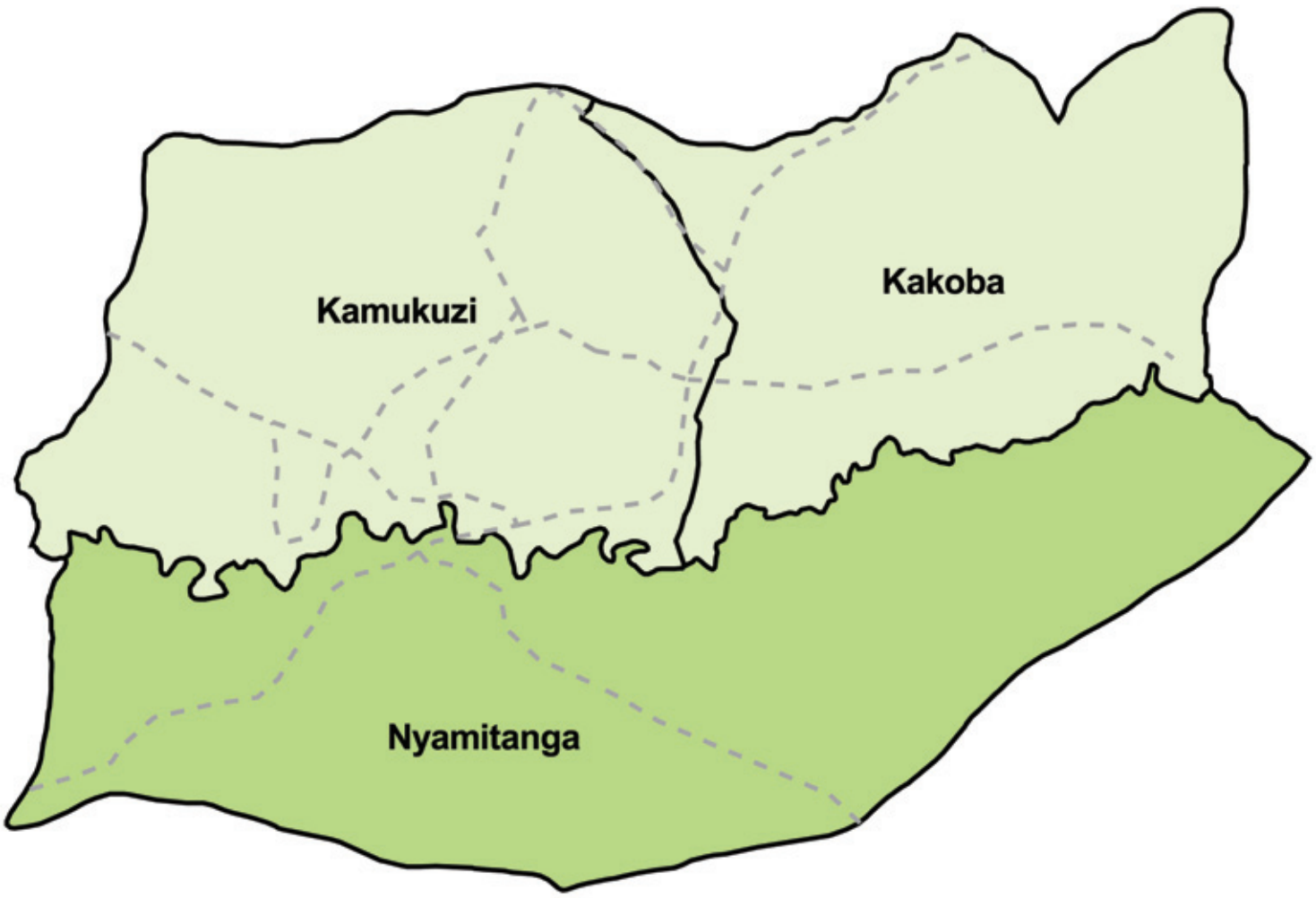
4.9.B Mbarara 1992 - Subcounty-Level Poverty Gap:

Gap for Urban Poor to reach Poverty Line



Poverty gap as % of poverty line
- >14
- 12-14
- 10-12
- 8-10
- 6 - 8
- 4-6
- 2 - 4
- < 2

Subcounty boundary
Roads

0 1 Kilometers

N

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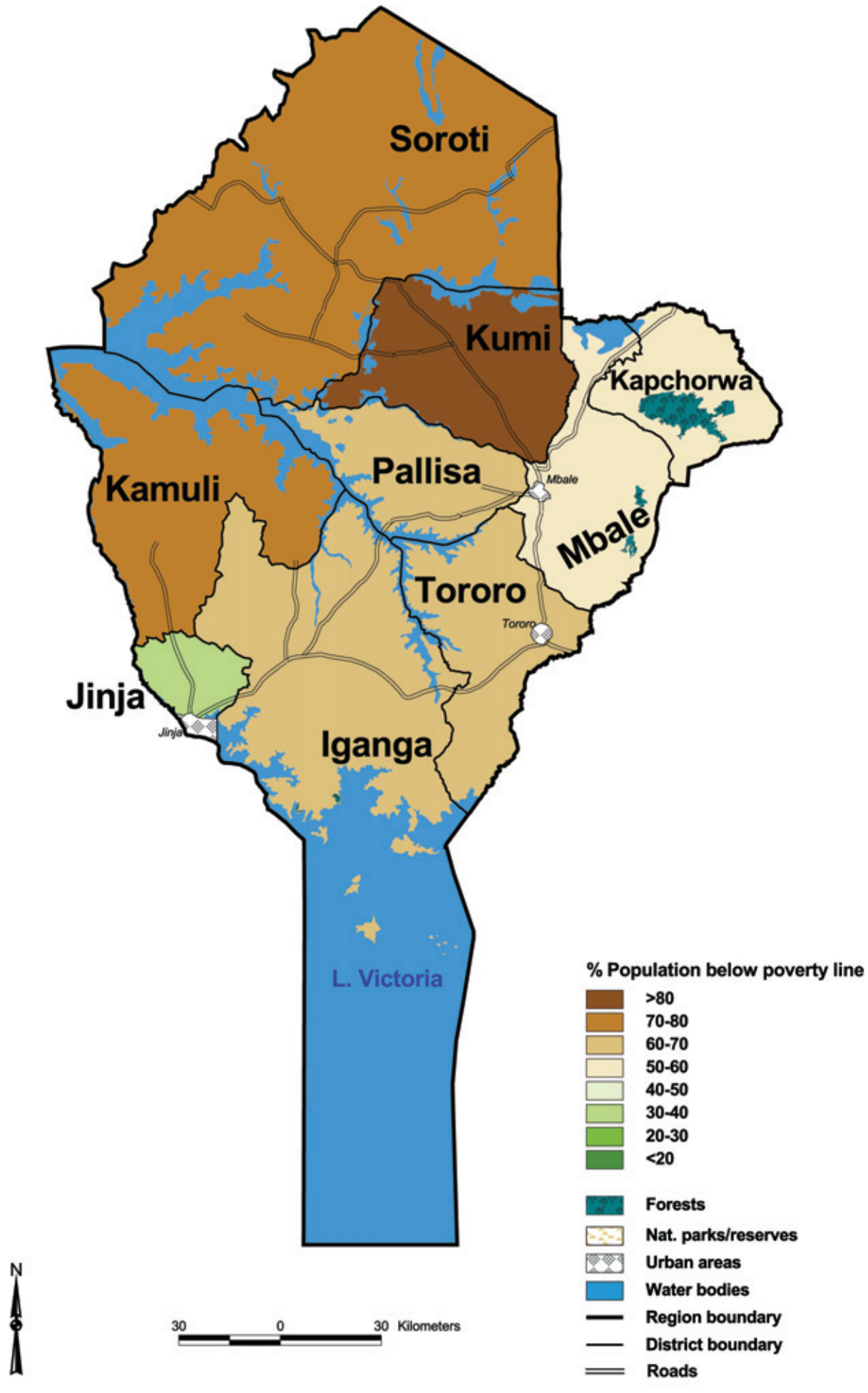
4.10.A Eastern Region 1992 - District-Level Poverty Incidence:

Percent of Rural Population below the Poverty Line



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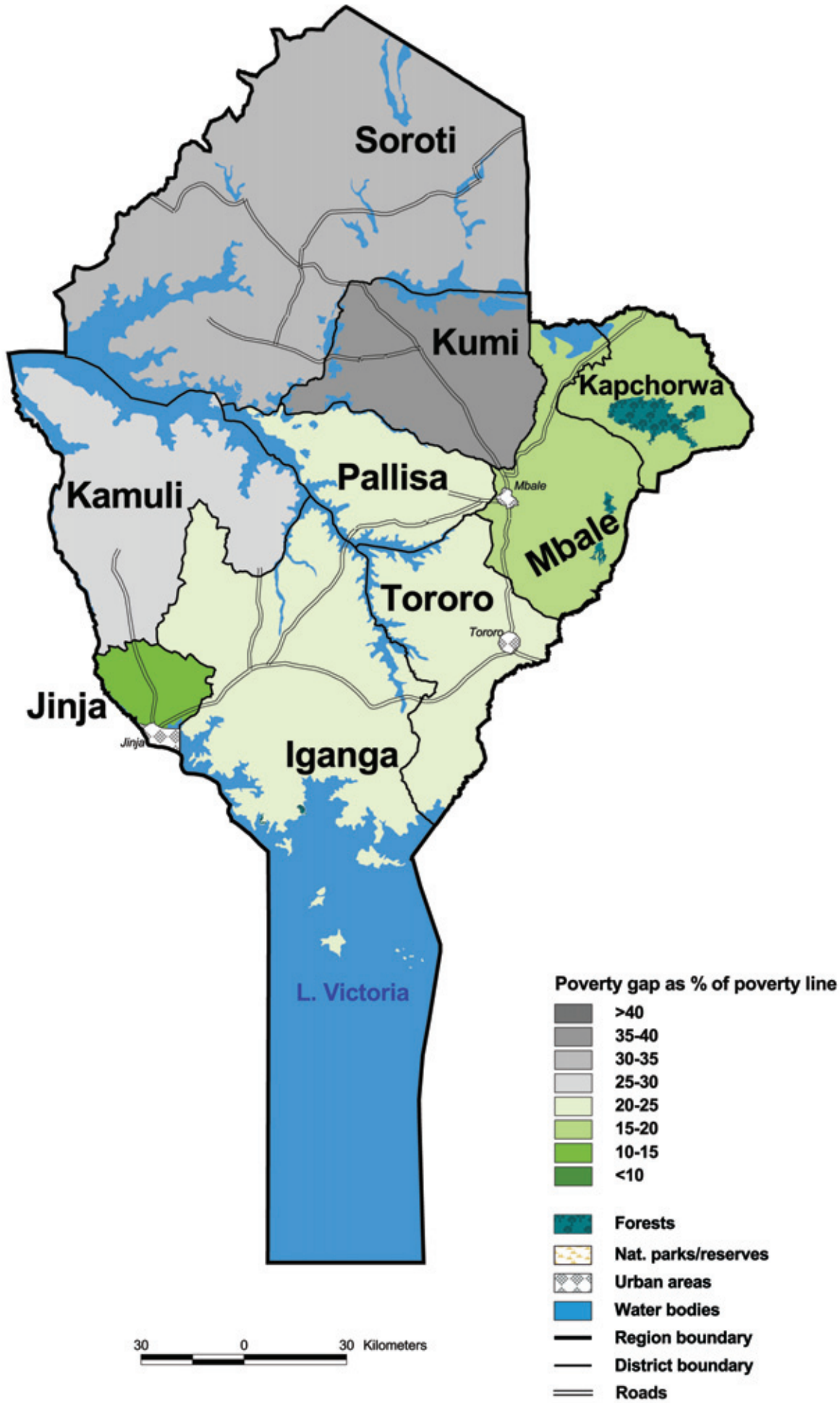
4.10.B Eastern Region 1992 - District-Level Poverty Gap:

Gap for Rural Poor to reach Poverty Line



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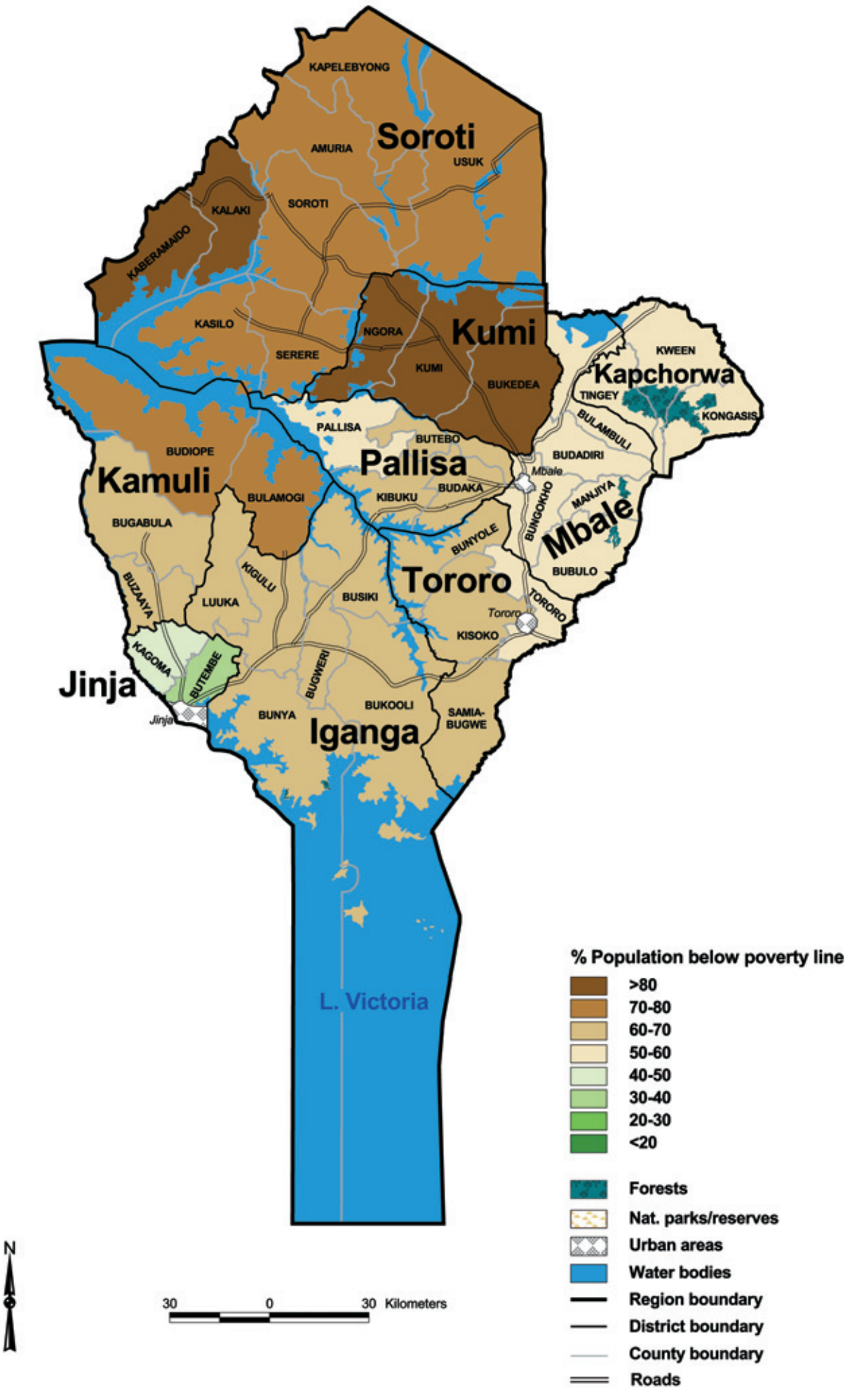
4.11.A Eastern Region 1992 - County-Level Poverty Incidence:

Percent of Rural Population below the Poverty Line



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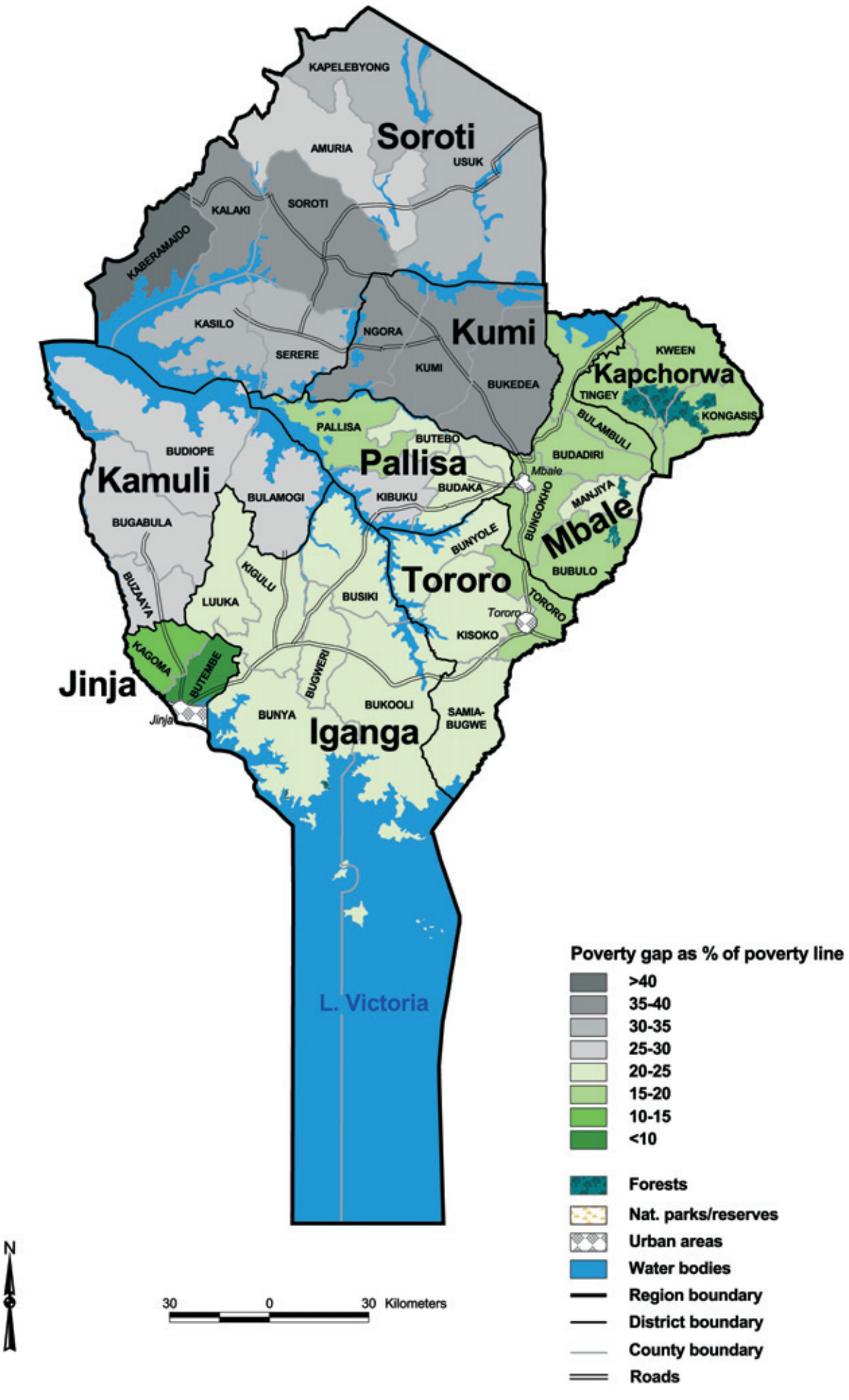
4.11.B Eastern Region 1992 - County-Level Poverty Gap:

Gap for Rural Poor to reach Poverty Line



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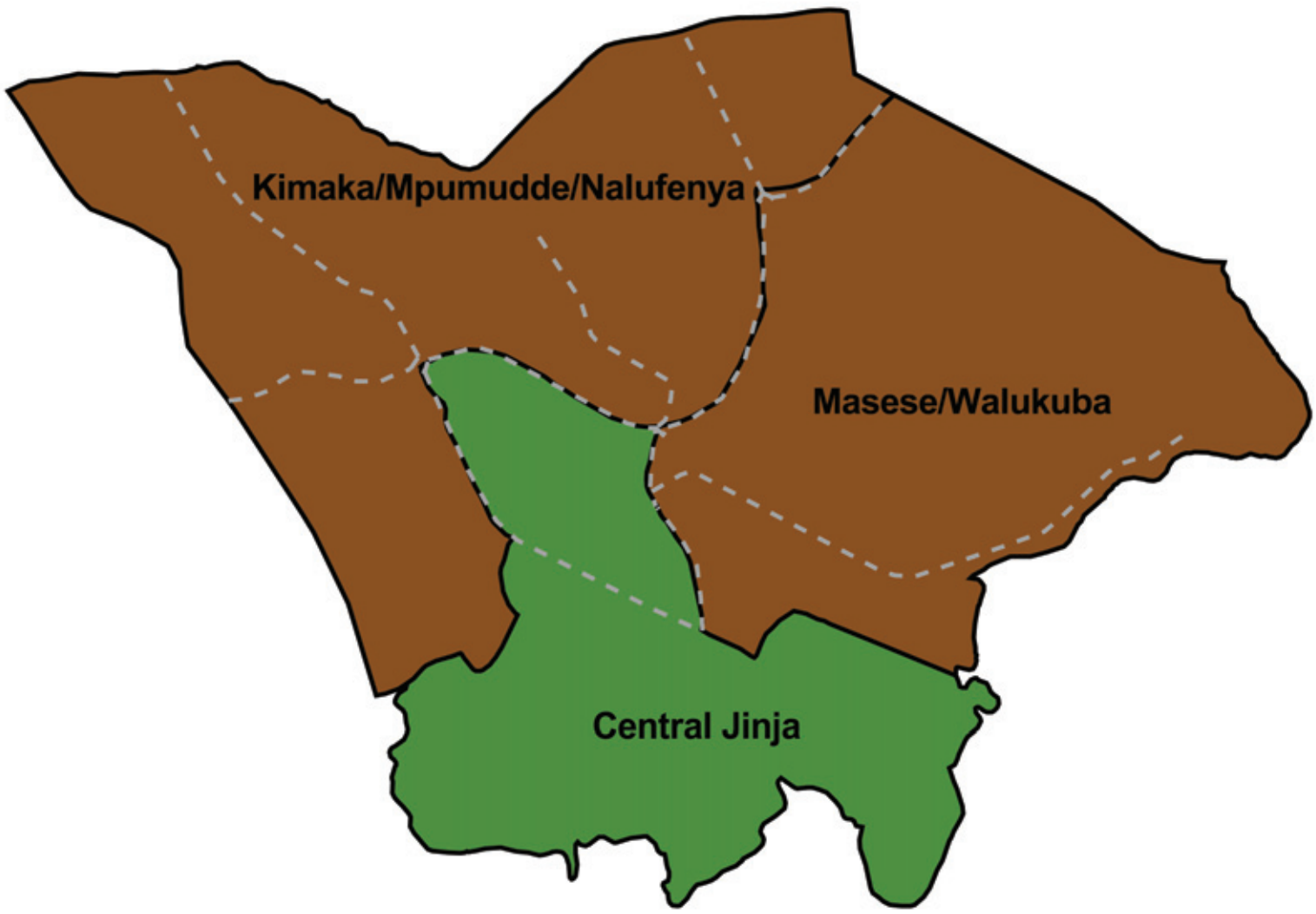
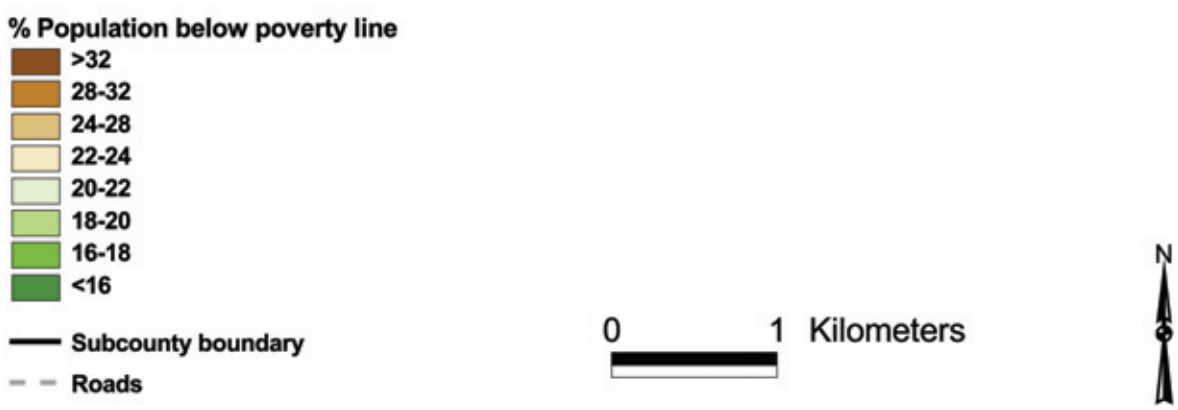
4.12.A Jinja 1992 - Subcounty-Level Poverty Incidence:

Percent of Urban Population below the Poverty Line





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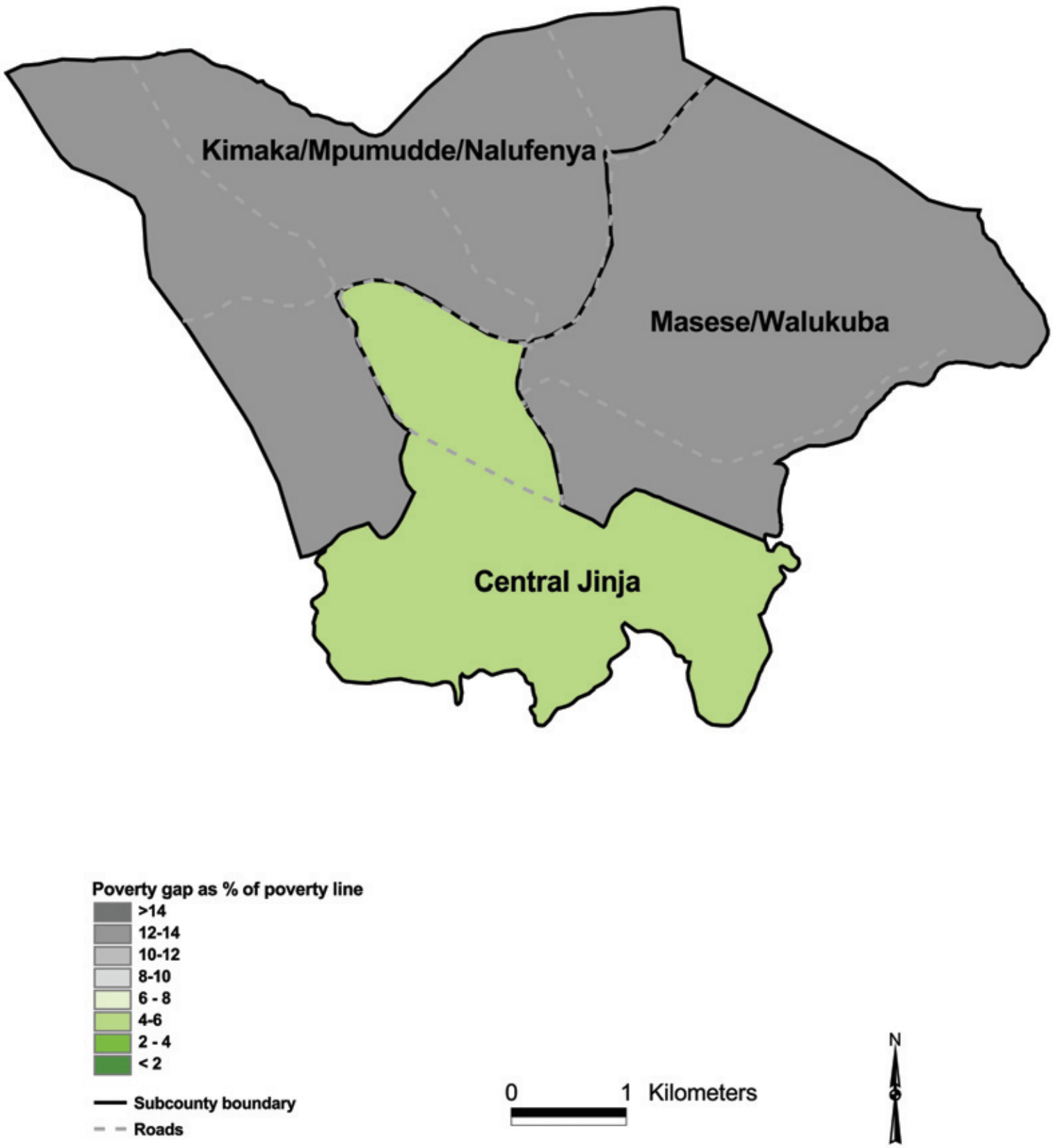
4.12.B Jinja 1992 - Subcounty-Level Poverty Gap:

Gap for Urban Poor to reach Poverty Line



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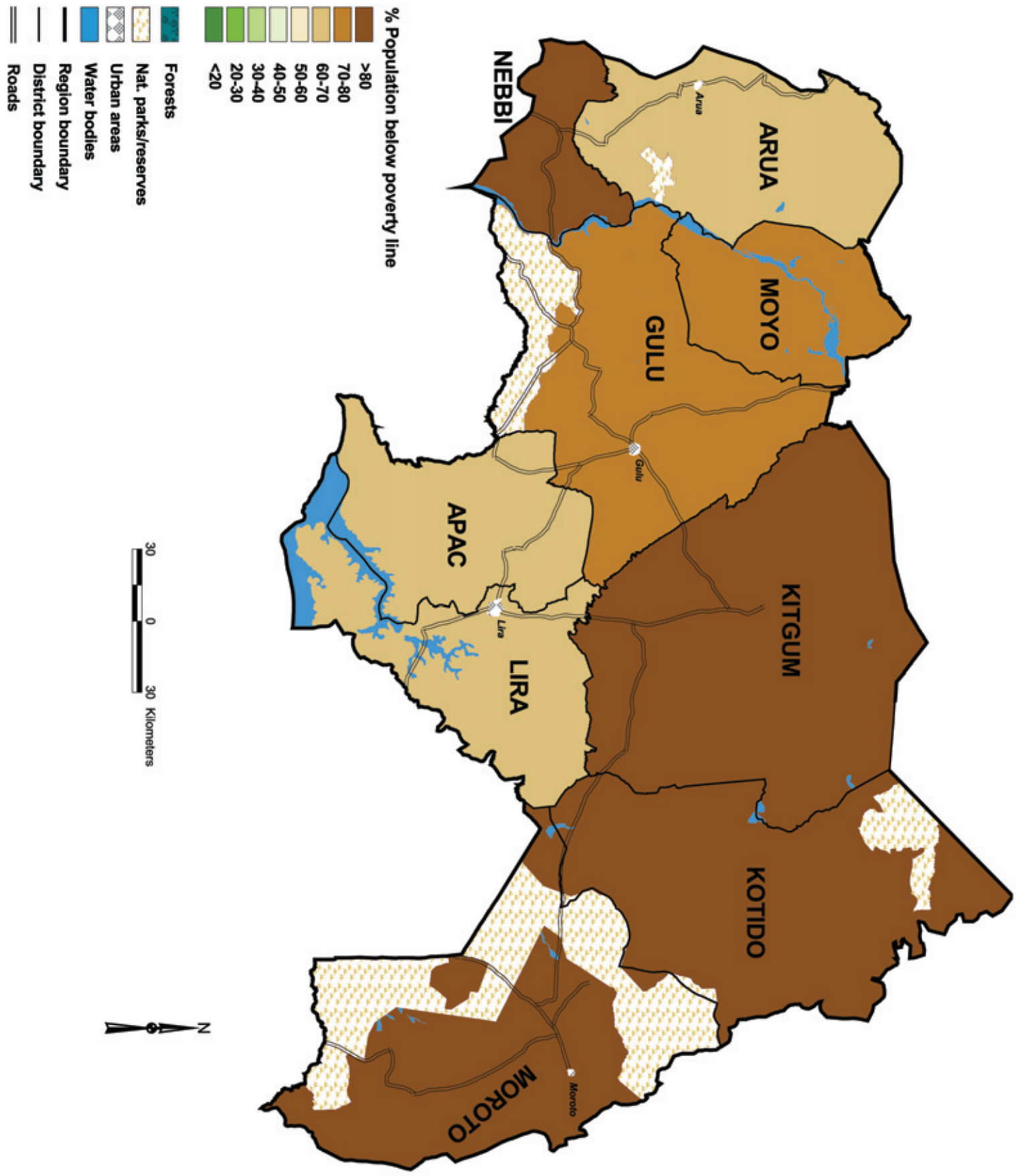
4.13.A Northern Region 1992 - District-Level Poverty Incidence:

Percent of Rural Population below the Poverty Line



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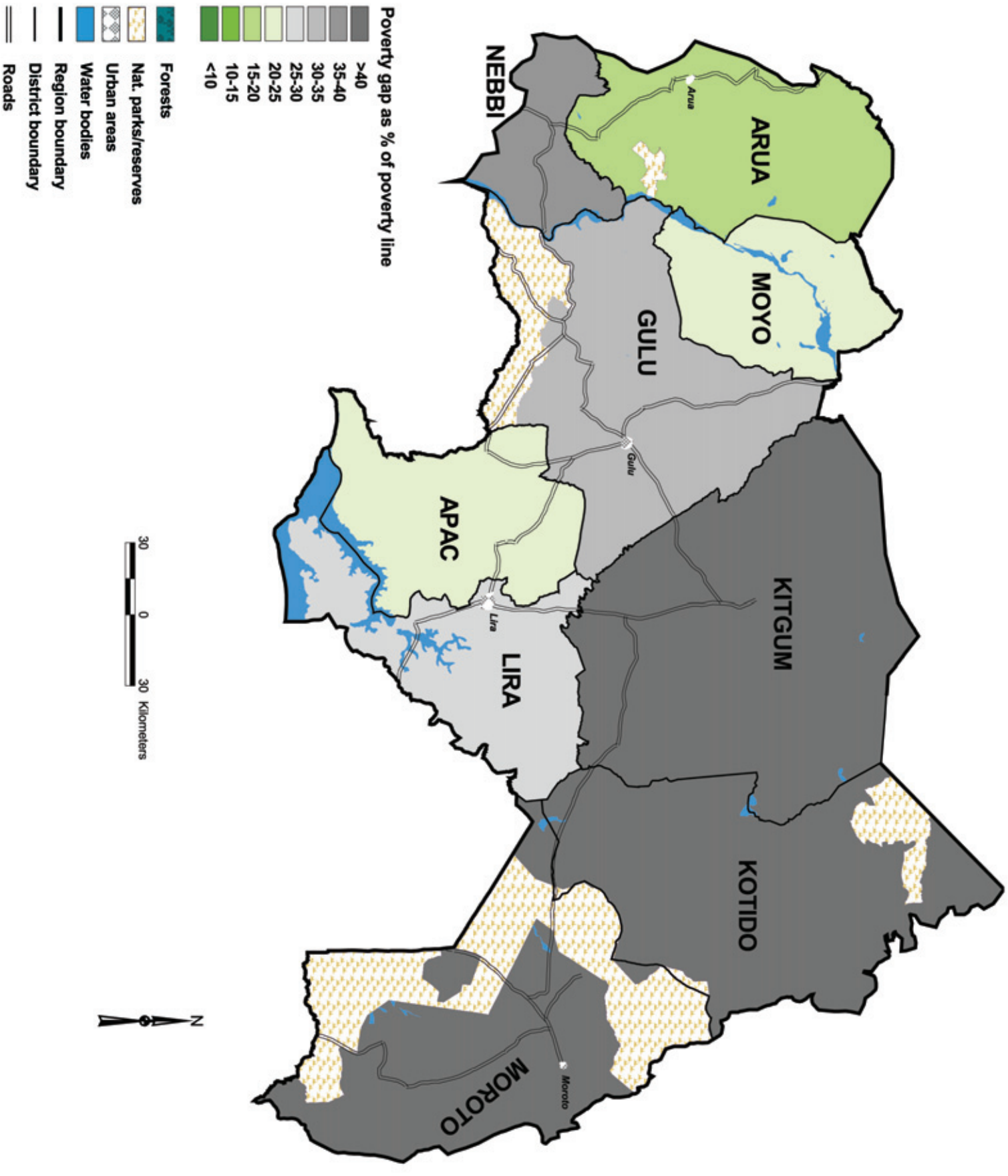
Gap for Rural Poor to reach Poverty Line



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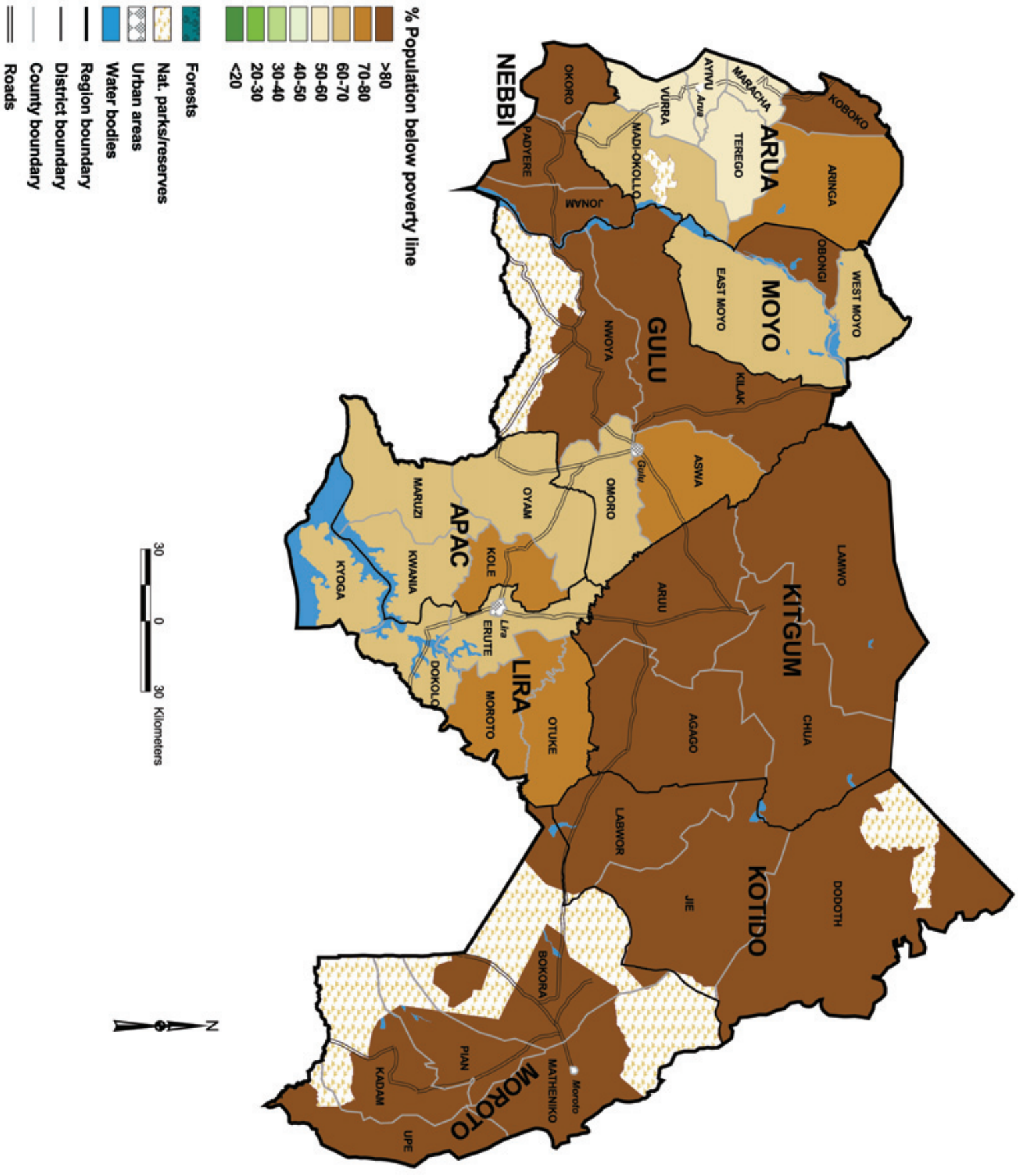
Percent of Rural Population below the Poverty Line



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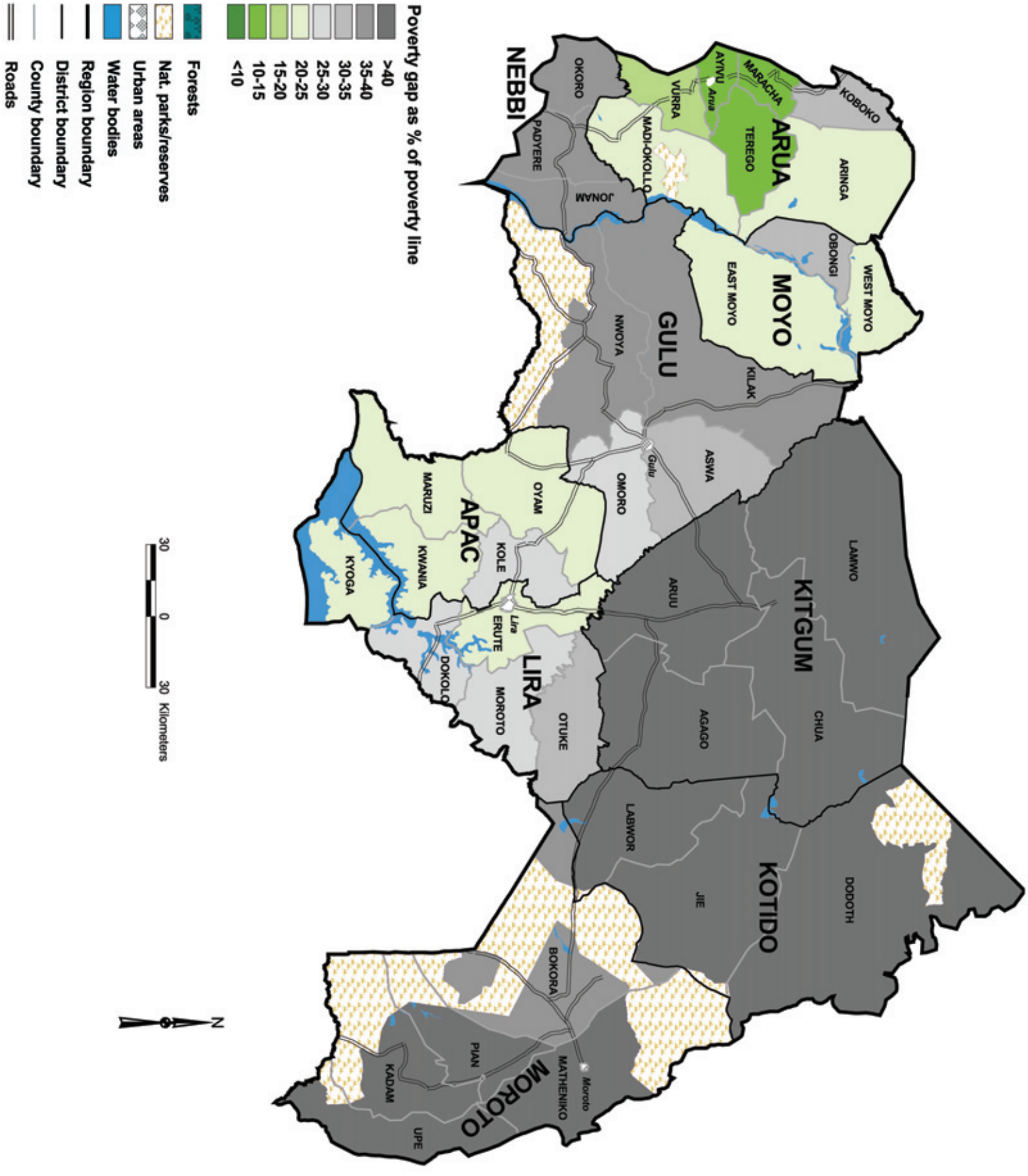
4.14.B Northern Region 1992 - County-Level Poverty Gap:

Gap for Rural Poor to reach Poverty Line



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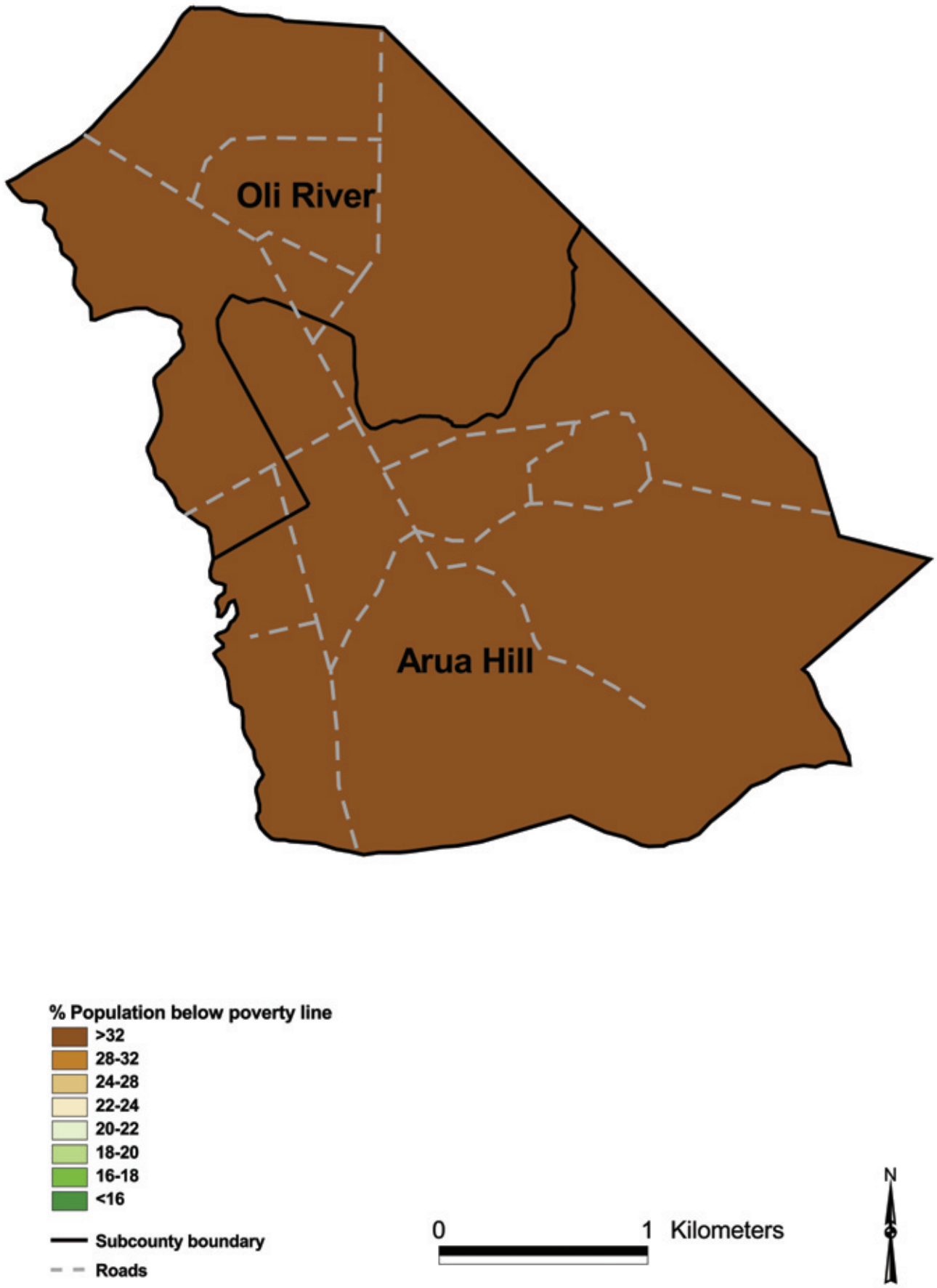
4.15.A Arua 1992 - Subcounty-Level Poverty Incidence:

Percent of Urban Population below the Poverty Line



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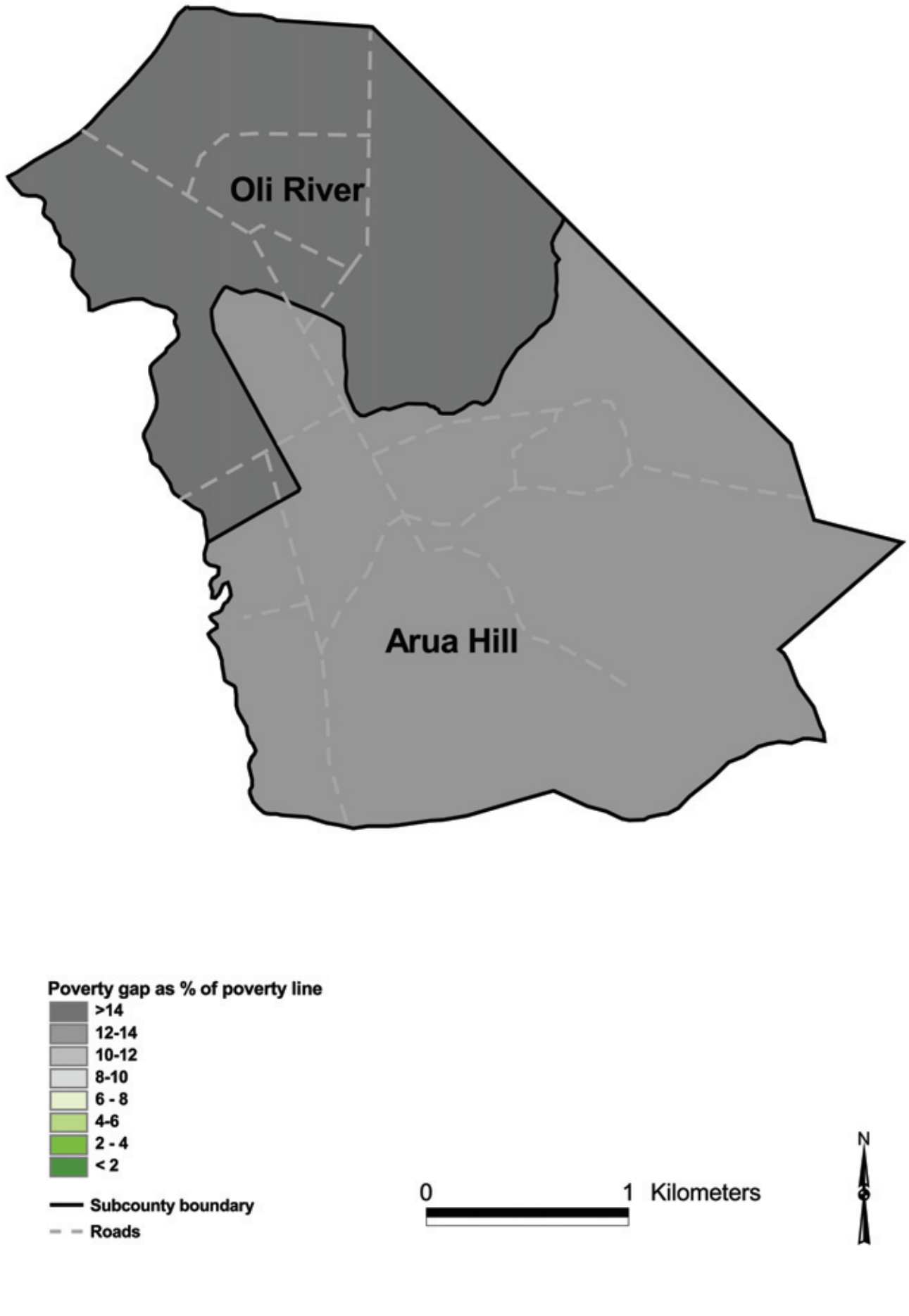
4.15.B Arua 1992 - Subcounty-Level Poverty Gap:

Gap for Urban Poor to reach Poverty Line



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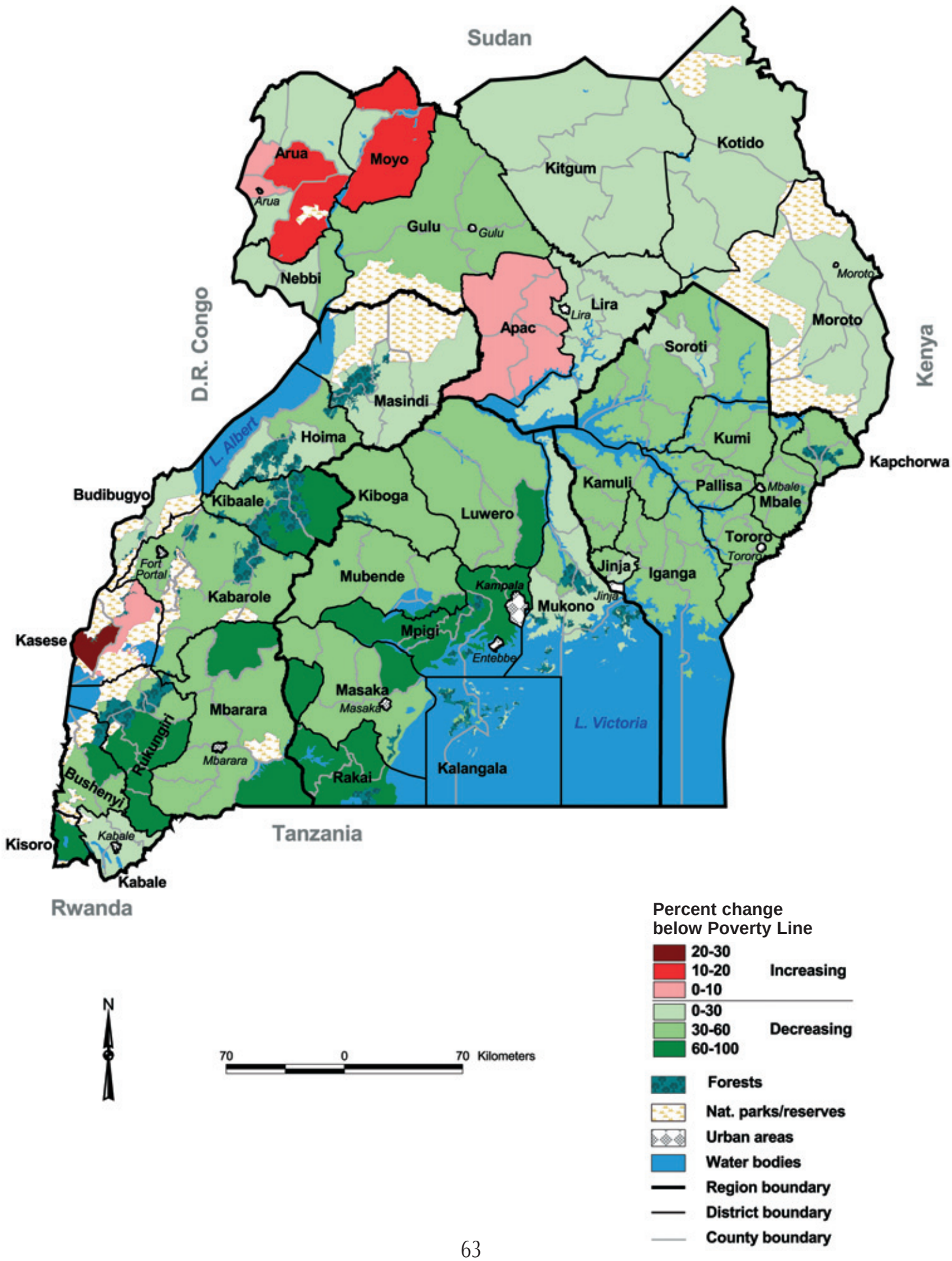
5.0 Uganda Change in Poverty 1992-1999 - County-Level



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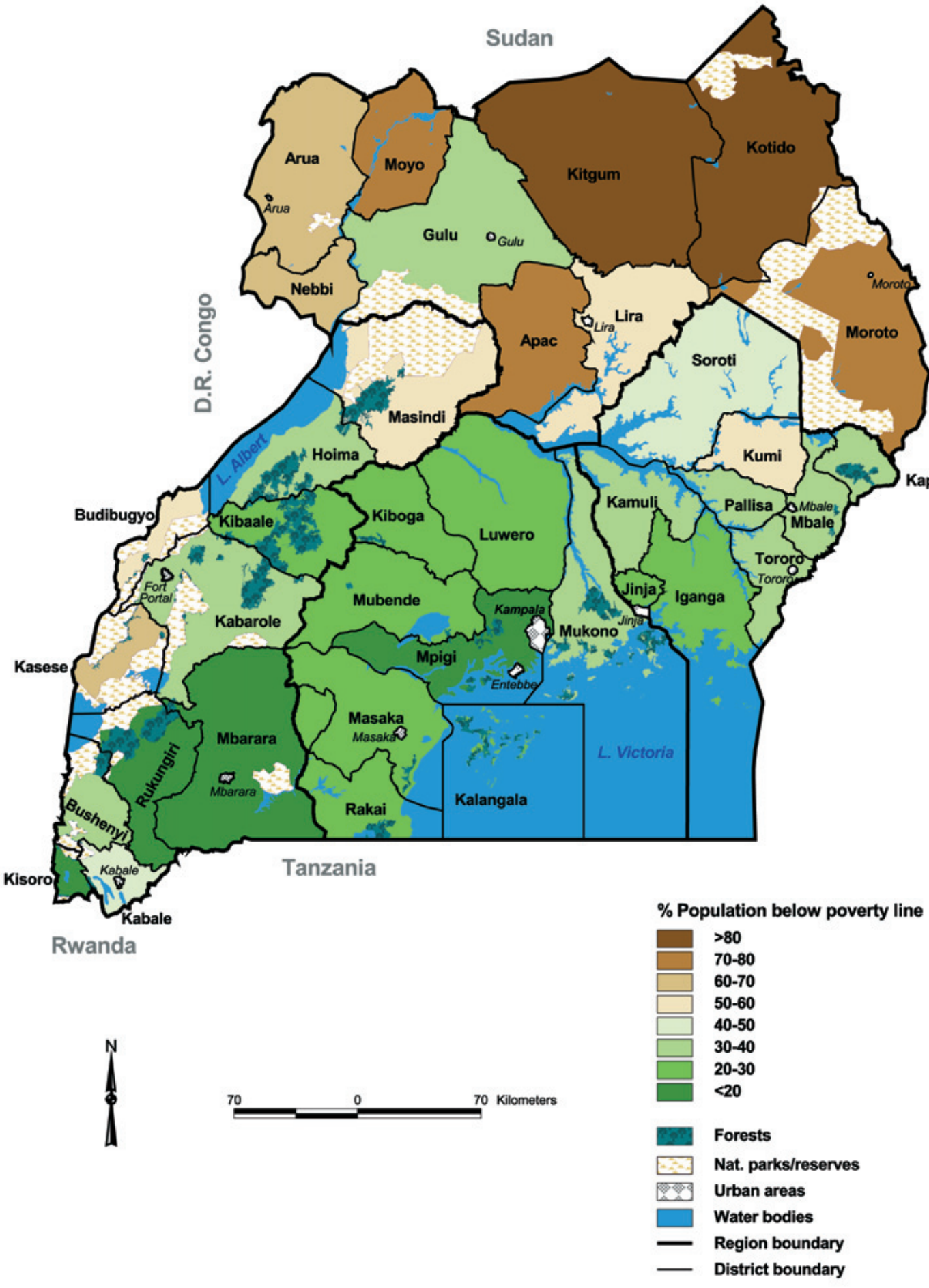
5.2.A Uganda 1999 - District-Level Poverty Incidence:

Percent of Rural Population below the Poverty Line



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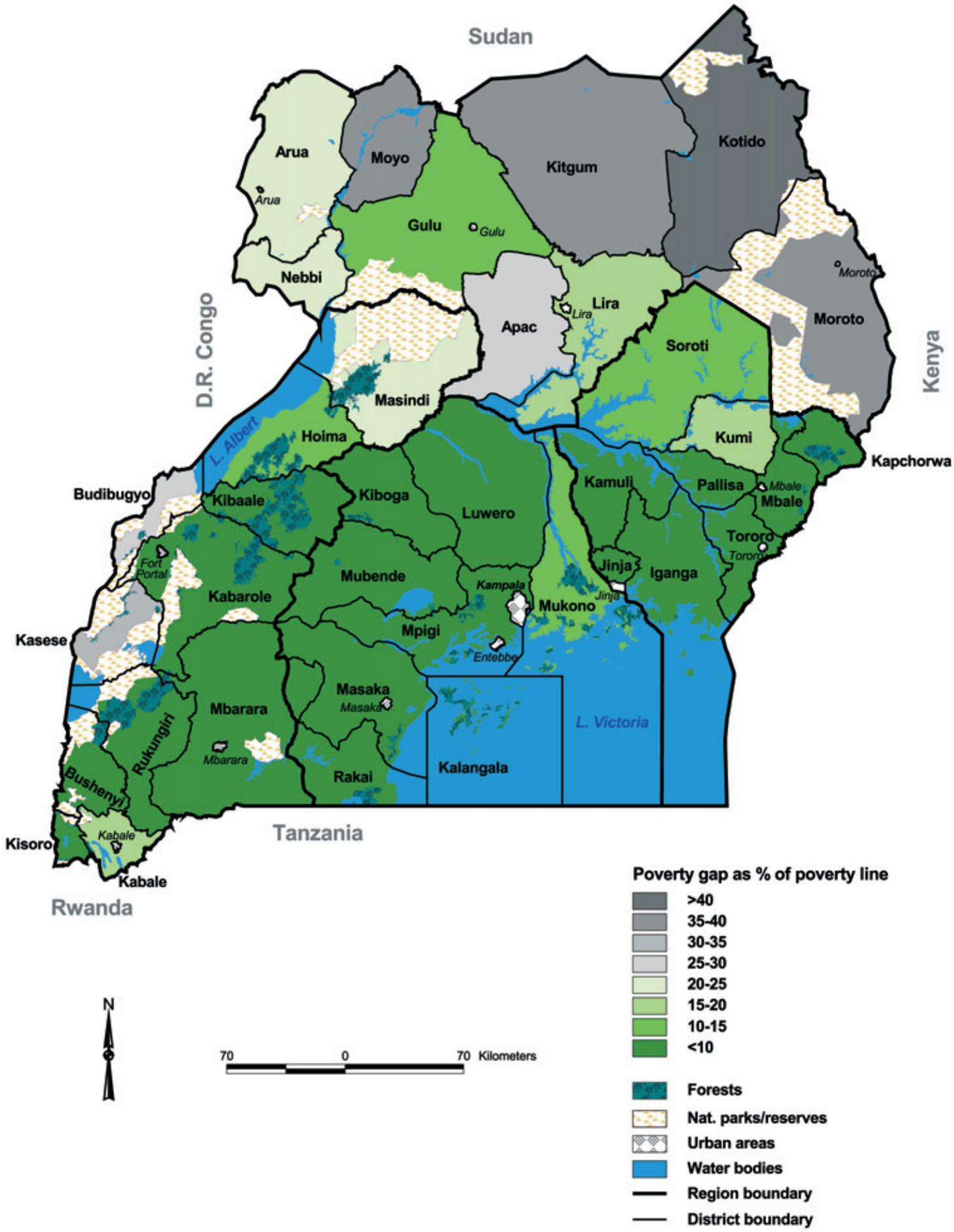
Gap for Rural Poor to reach Poverty Line



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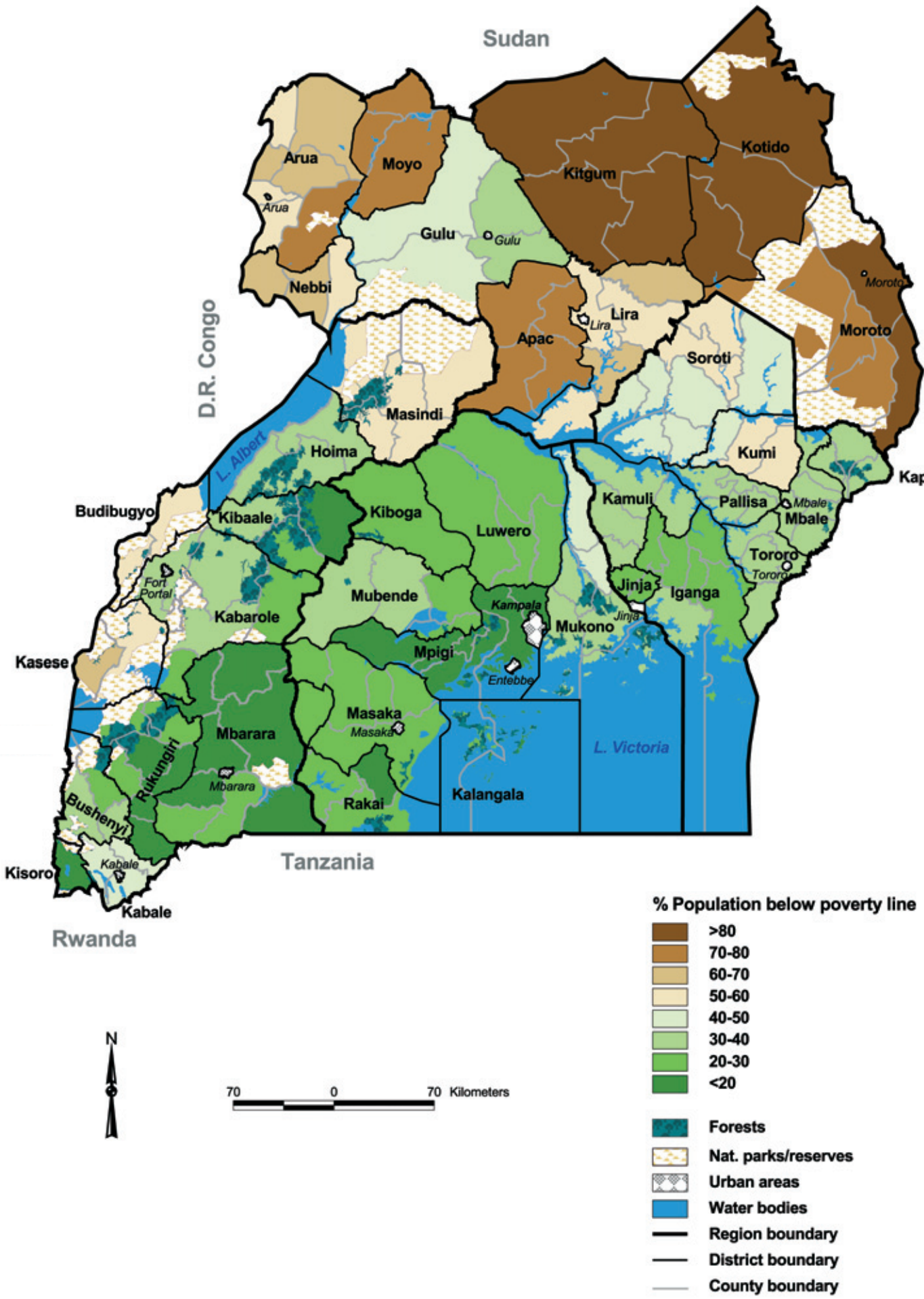
5.3.A Uganda 1999 - County-Level Poverty Incidence:

Percent of Rural Population below the Poverty Line



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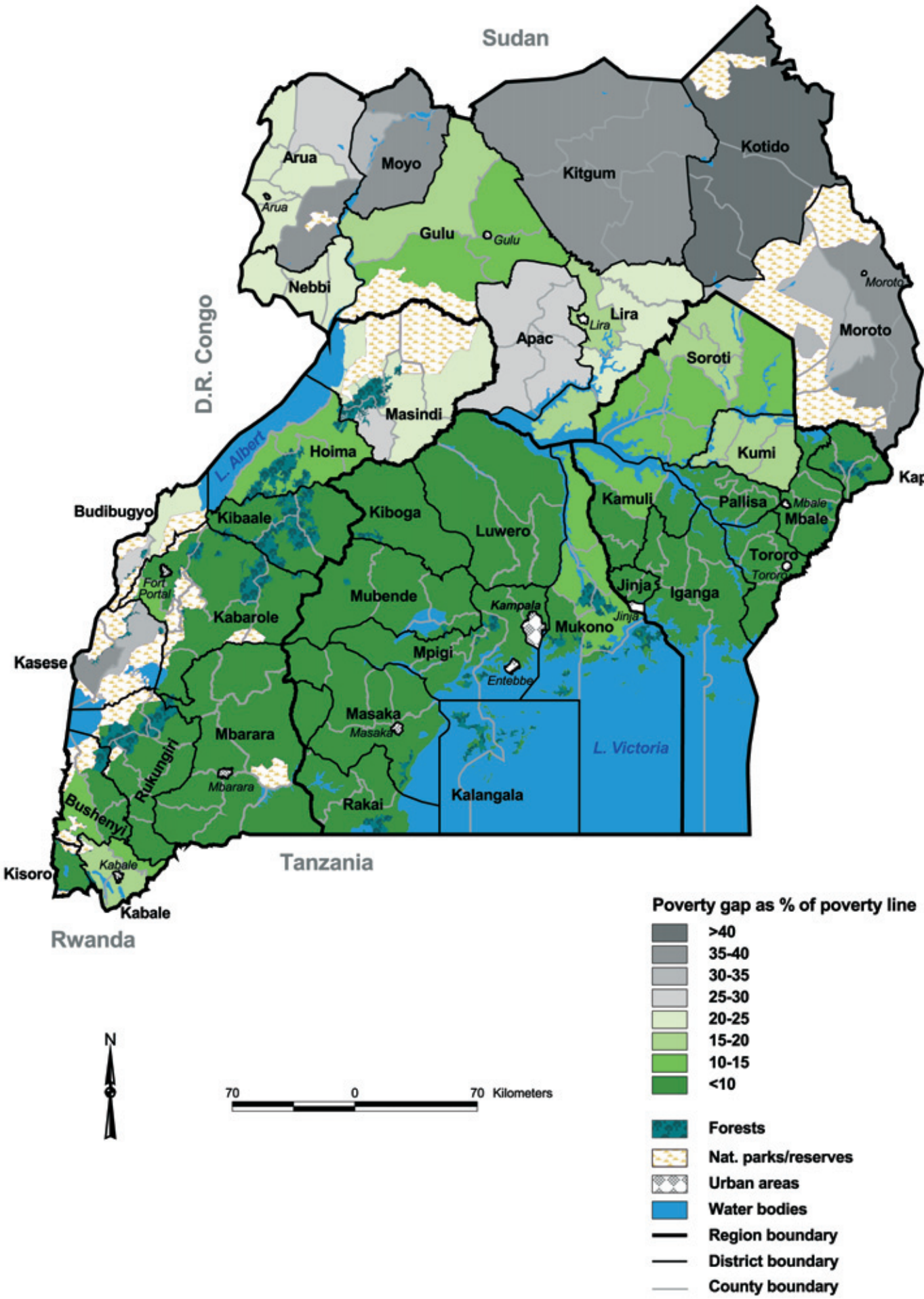
5.3.B Uganda 1999 - County-Level Poverty Gap:

Gap for Rural Poor to reach Poverty Line



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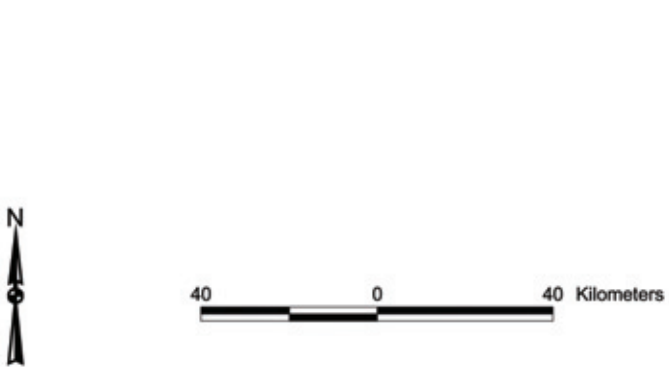
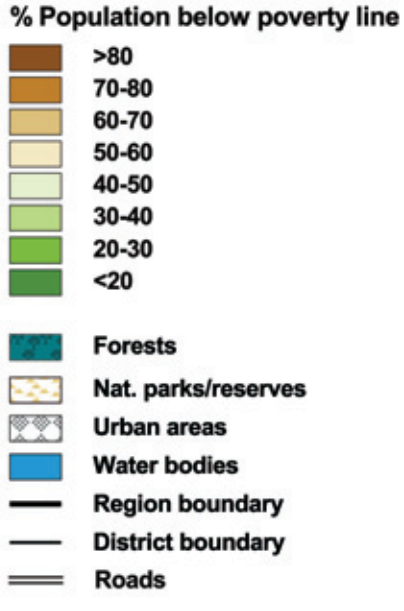
5.4.A Central Region 1999 - District-Level Poverty Incidence:

Percent of Rural Population below the Poverty Line





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5.4.B Central Region 1999 - District-Level Poverty Gap:

Gap for Rural Poor to reach Poverty Line

5.5.A Central Region 1999 - County-Level Poverty Incidence:

Percent of Rural Population below the Poverty Line

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5.5.B Central Region 1999 - County-Level Poverty Gap:

Gap for Rural Poor to reach Poverty Line

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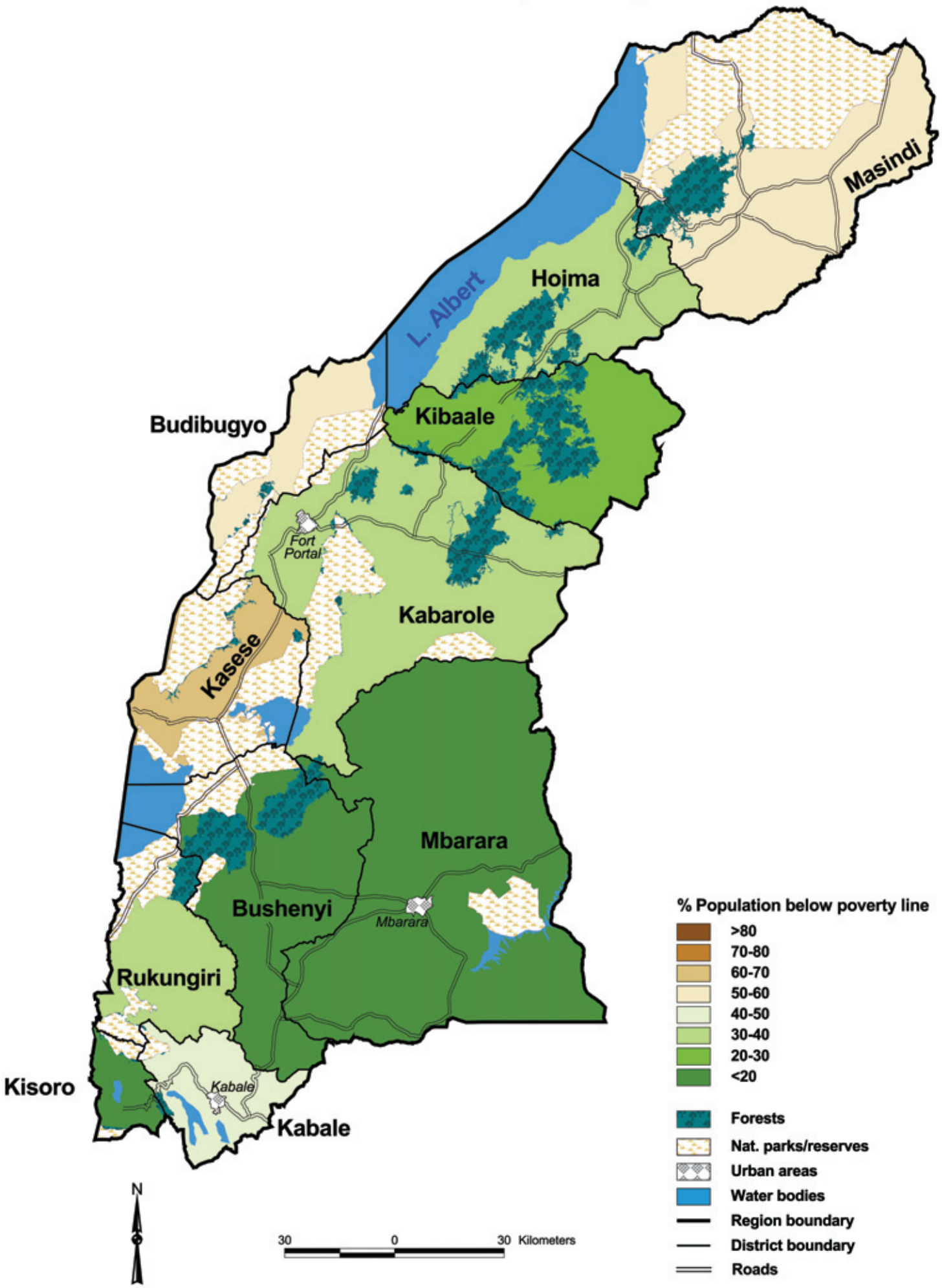
5.6.A Western Region 1999 - District-Level Poverty Incidence:

Percent of Rural Population below the Poverty Line



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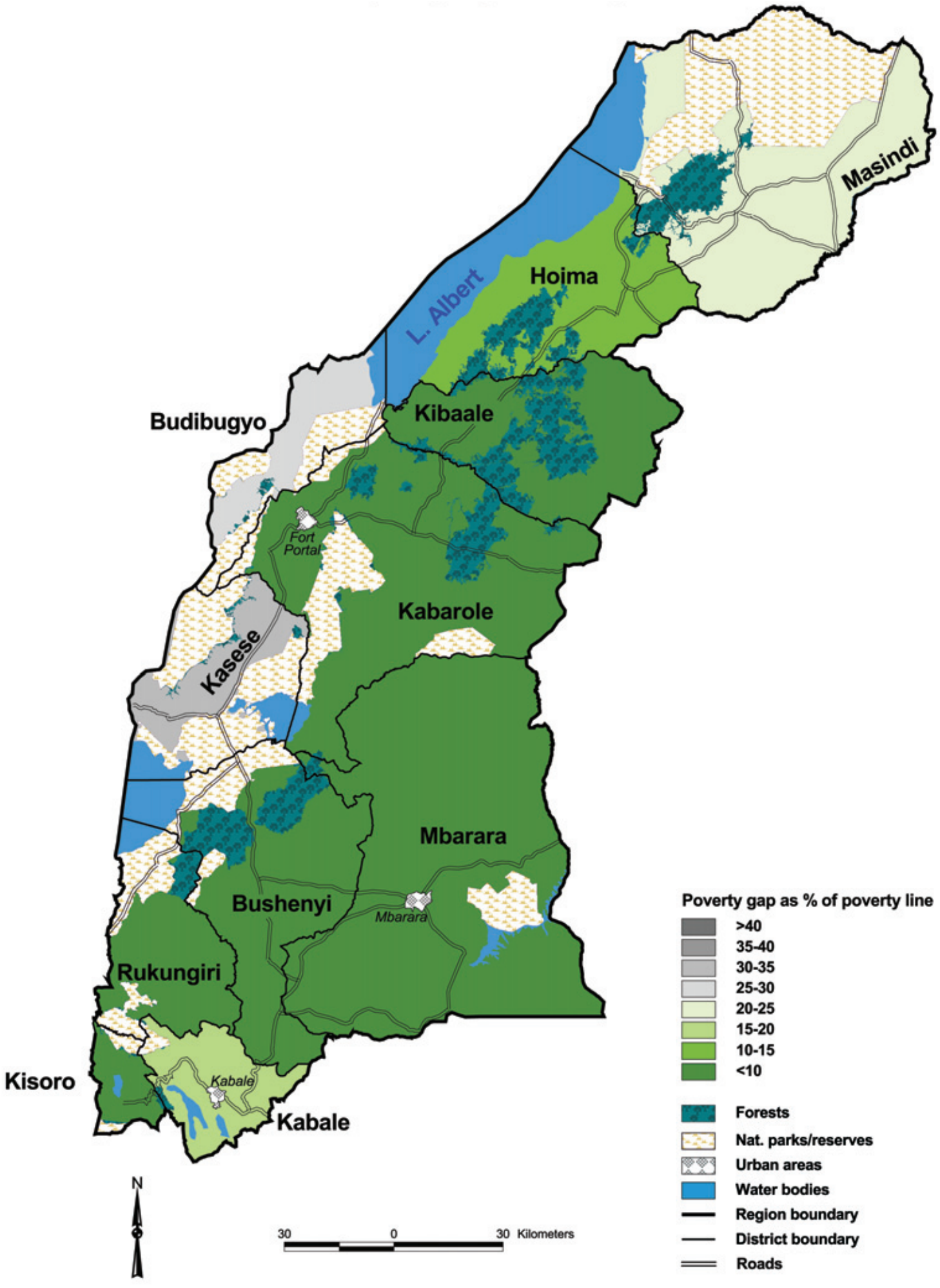
5.6.B Western Region 1999 - District-Level Poverty Gap:

Gap for Rural Poor to reach Poverty Line



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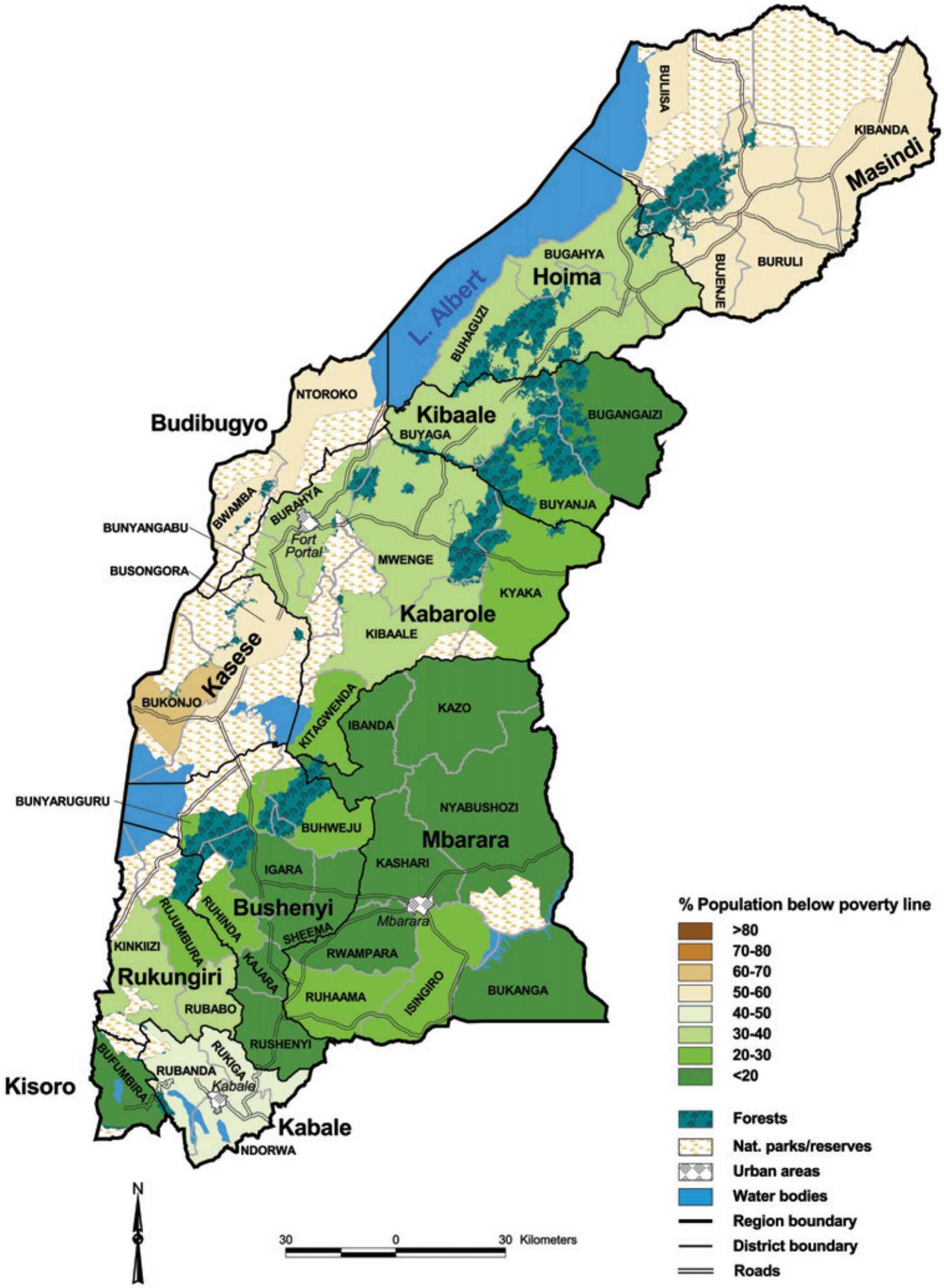
5.7.A Western Region 1999 - County-Level Poverty Incidence:

Percent of Rural Population below the Poverty Line



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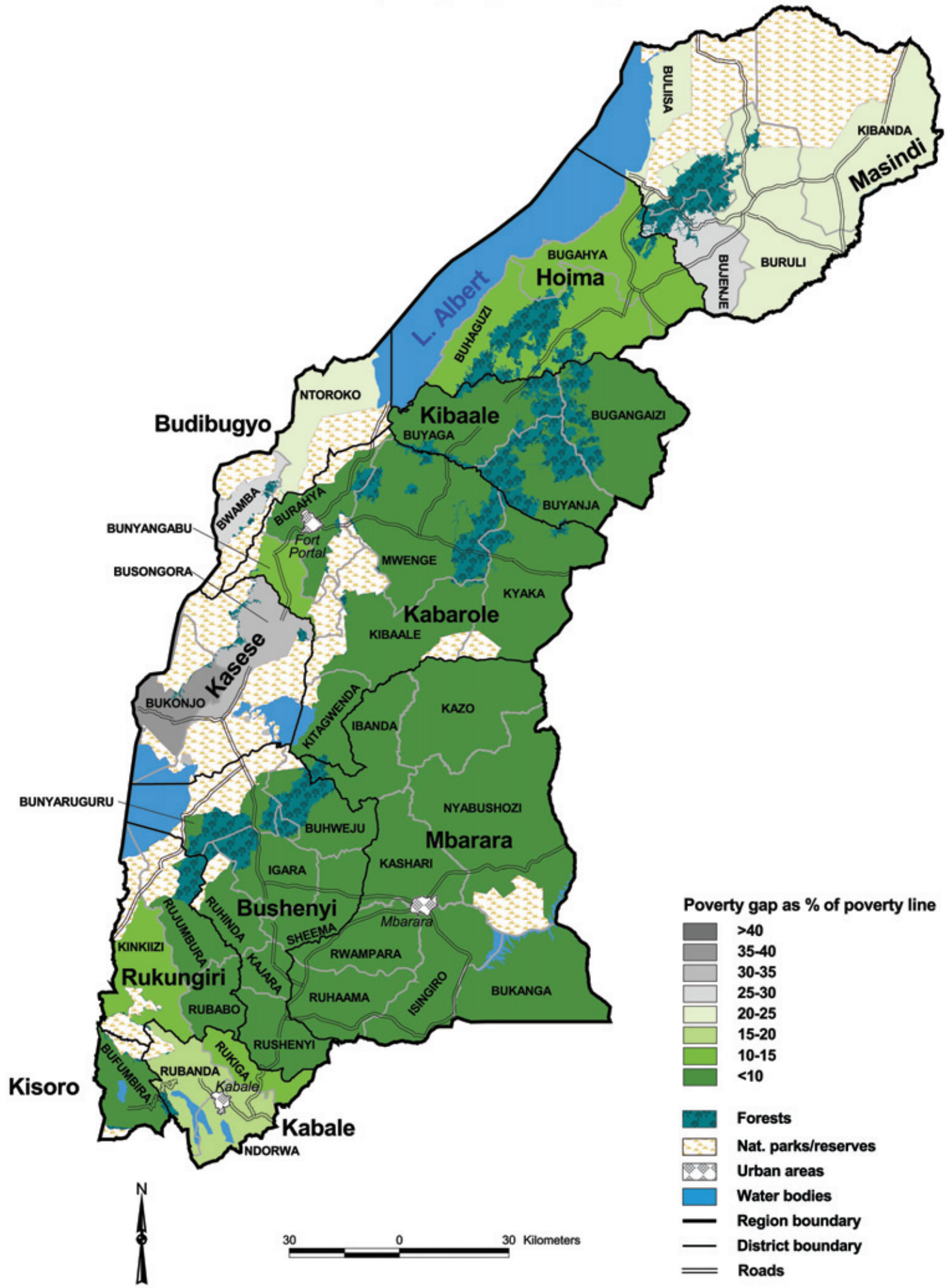
5.7.B Western Region 1999 - County-Level Poverty Gap:

Gap for Rural Poor to reach Poverty Line



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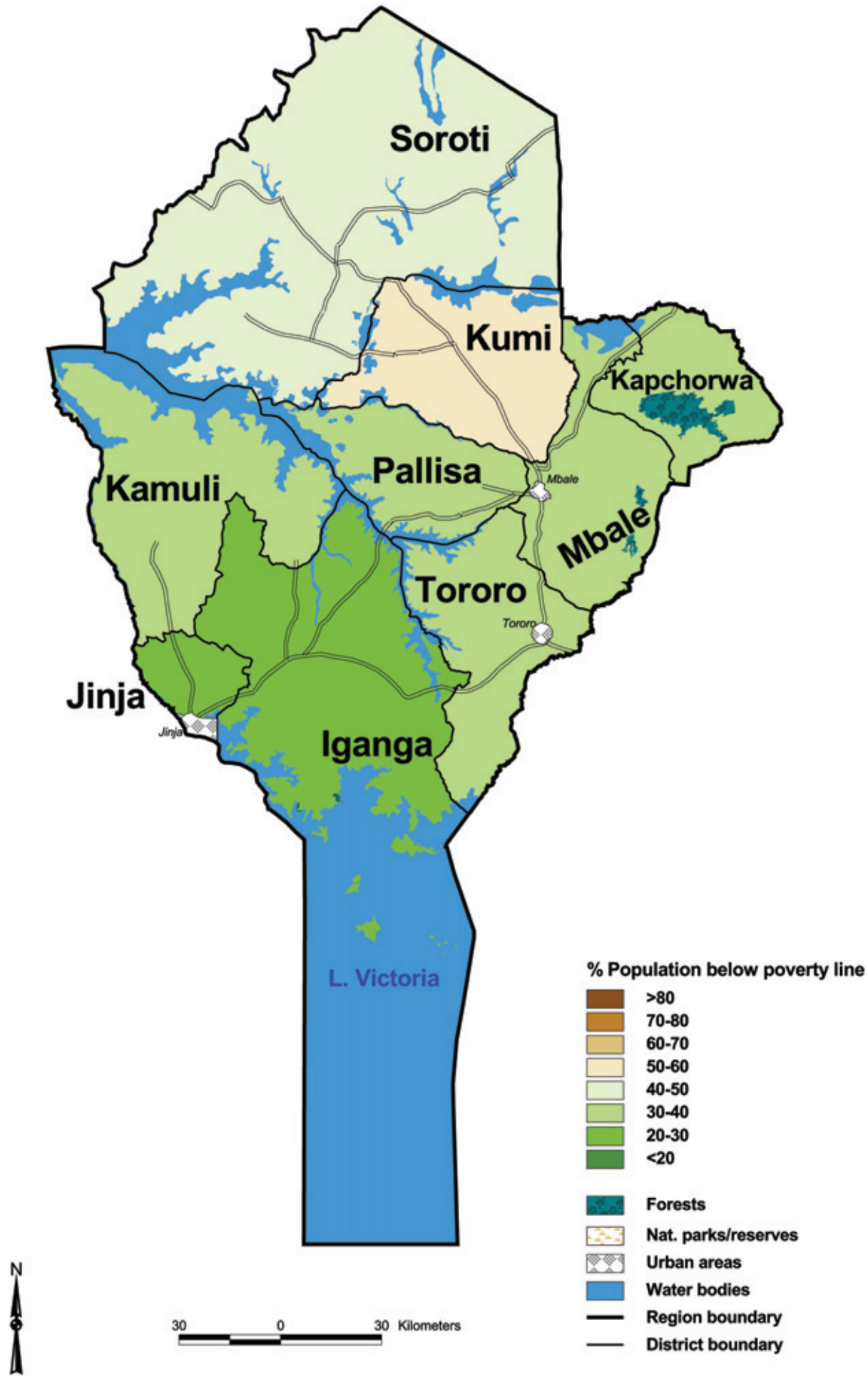
5.8.A Eastern Region 1999 - District-Level Poverty Incidence:

Percent of Rural Population below the Poverty Line



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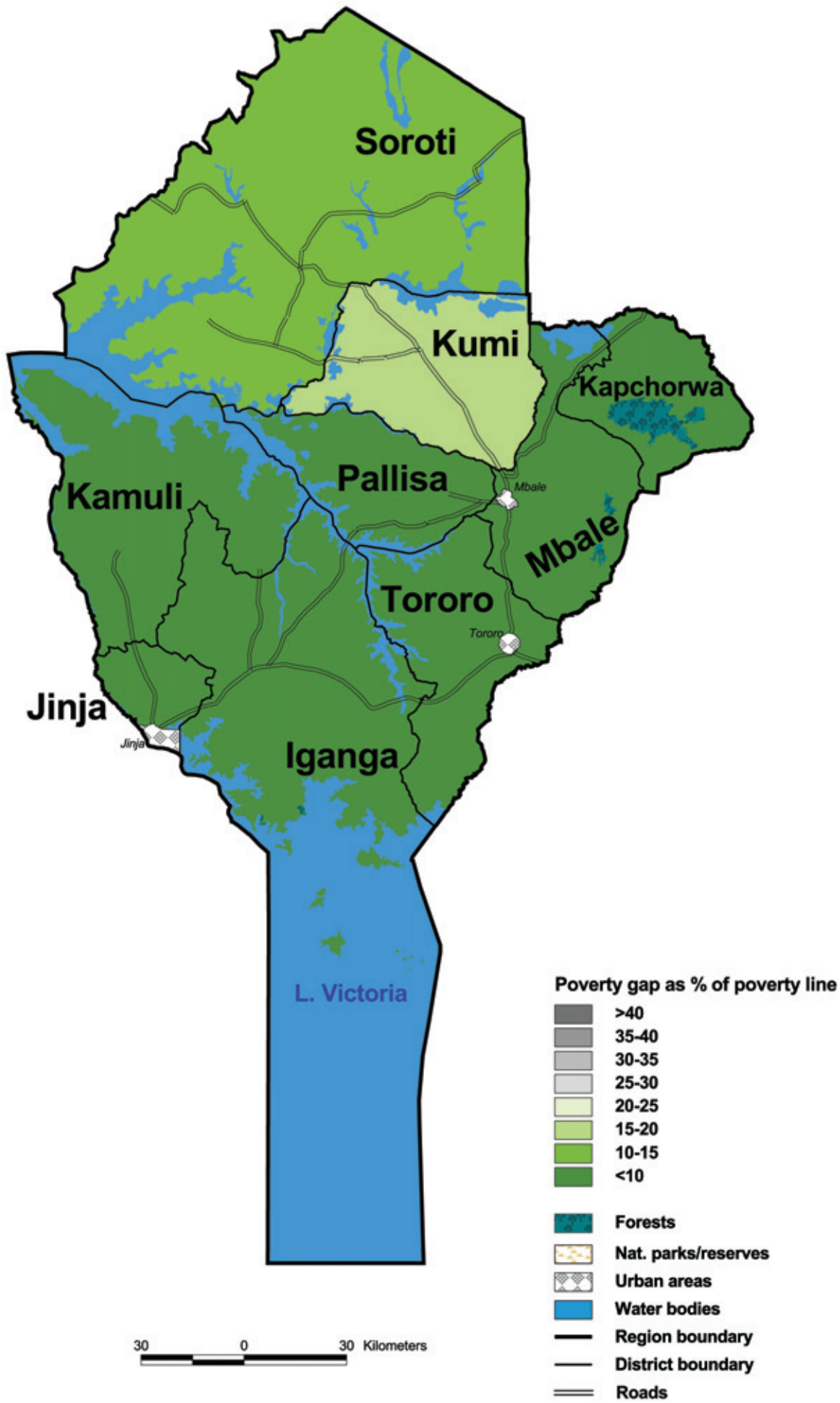
5.8.B Eastern Region 1999 - District-Level Poverty Gap:

Gap for Rural Poor to reach Poverty Line



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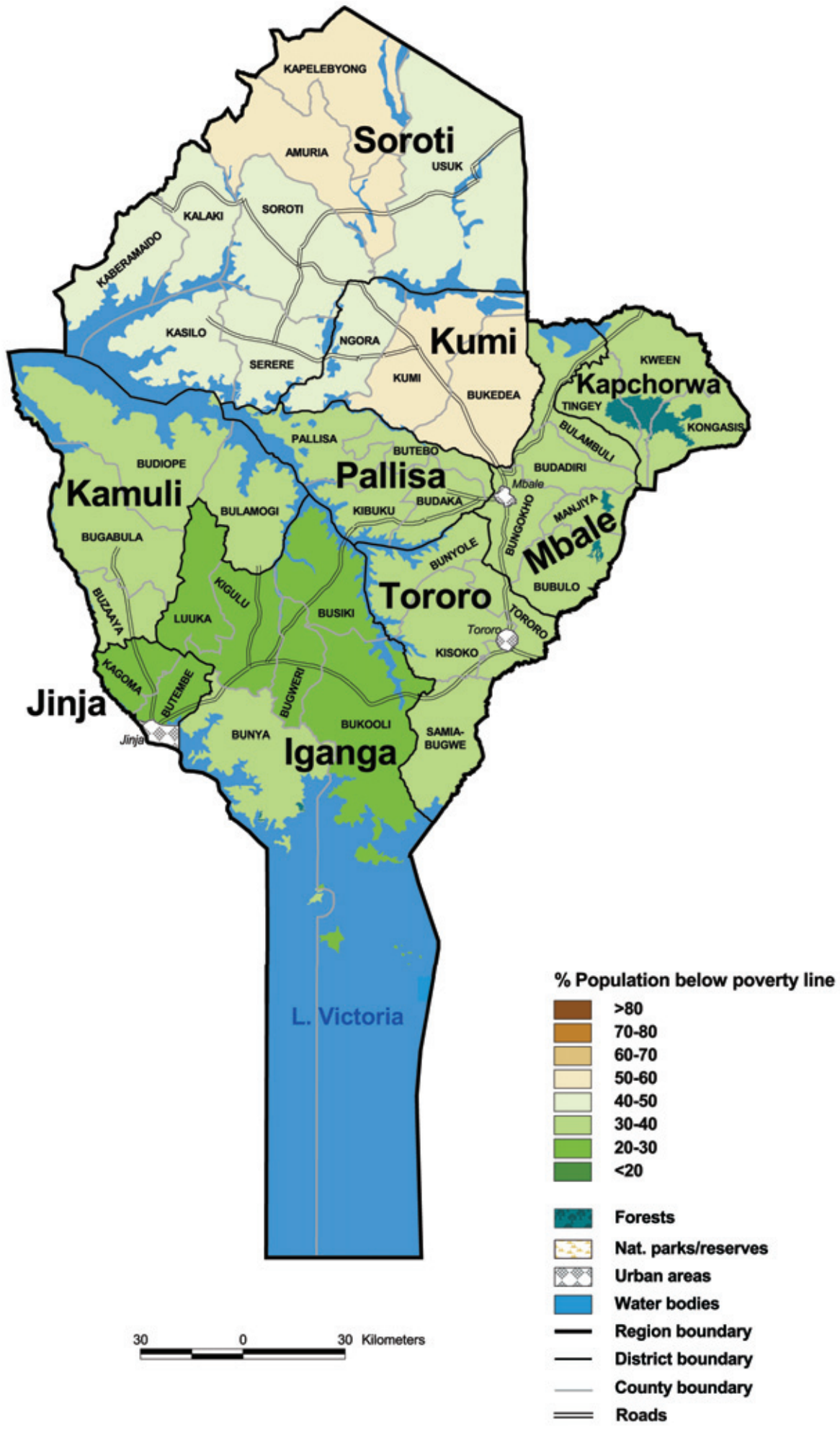
5.9.A Eastern Region 1999 - County-Level Poverty Incidence:

Percent of Rural Population below the Poverty Line



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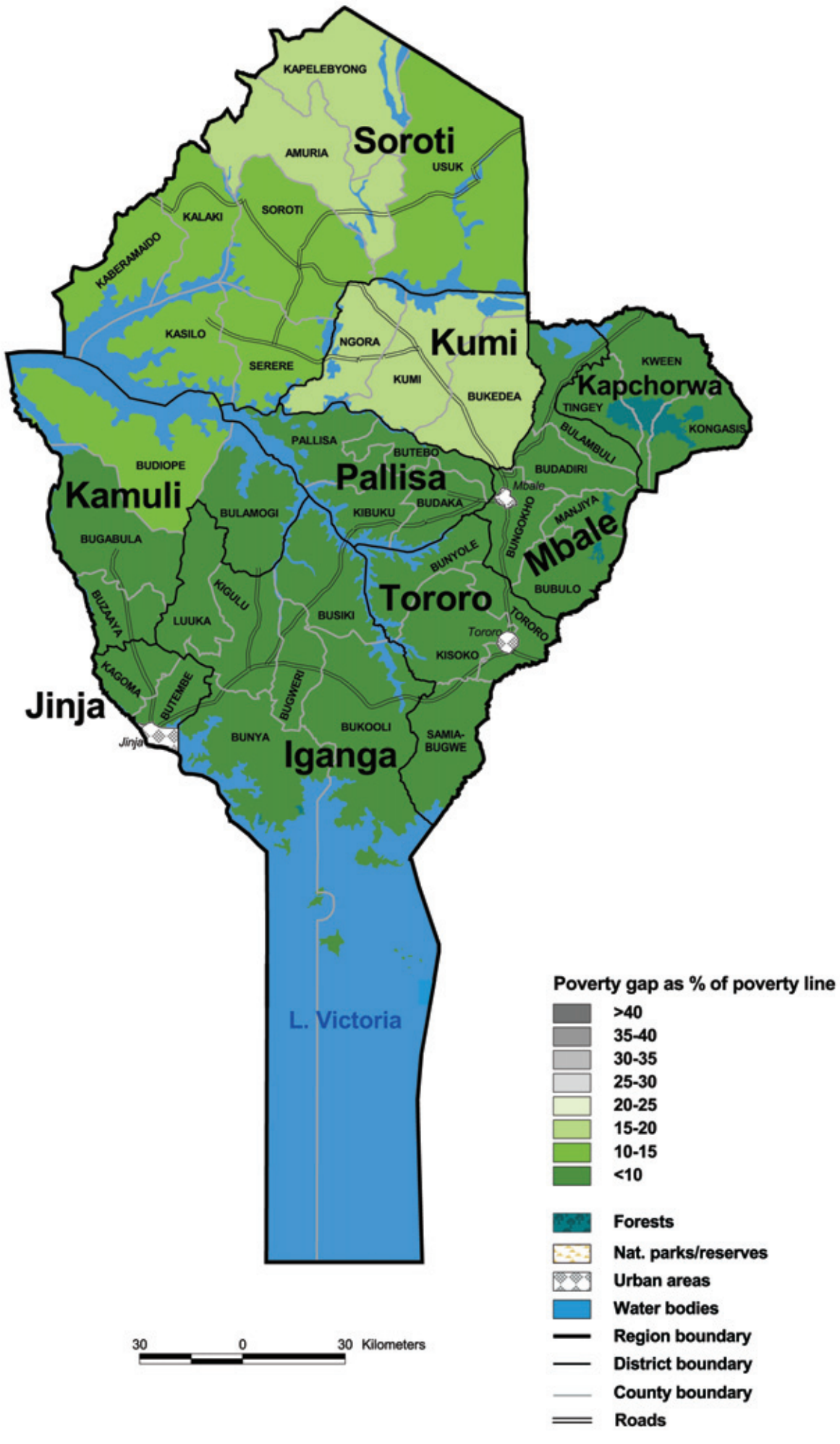
5.9.B Eastern Region 1999 - County-Level Poverty Gap:

Gap for Rural Poor to reach Poverty Line



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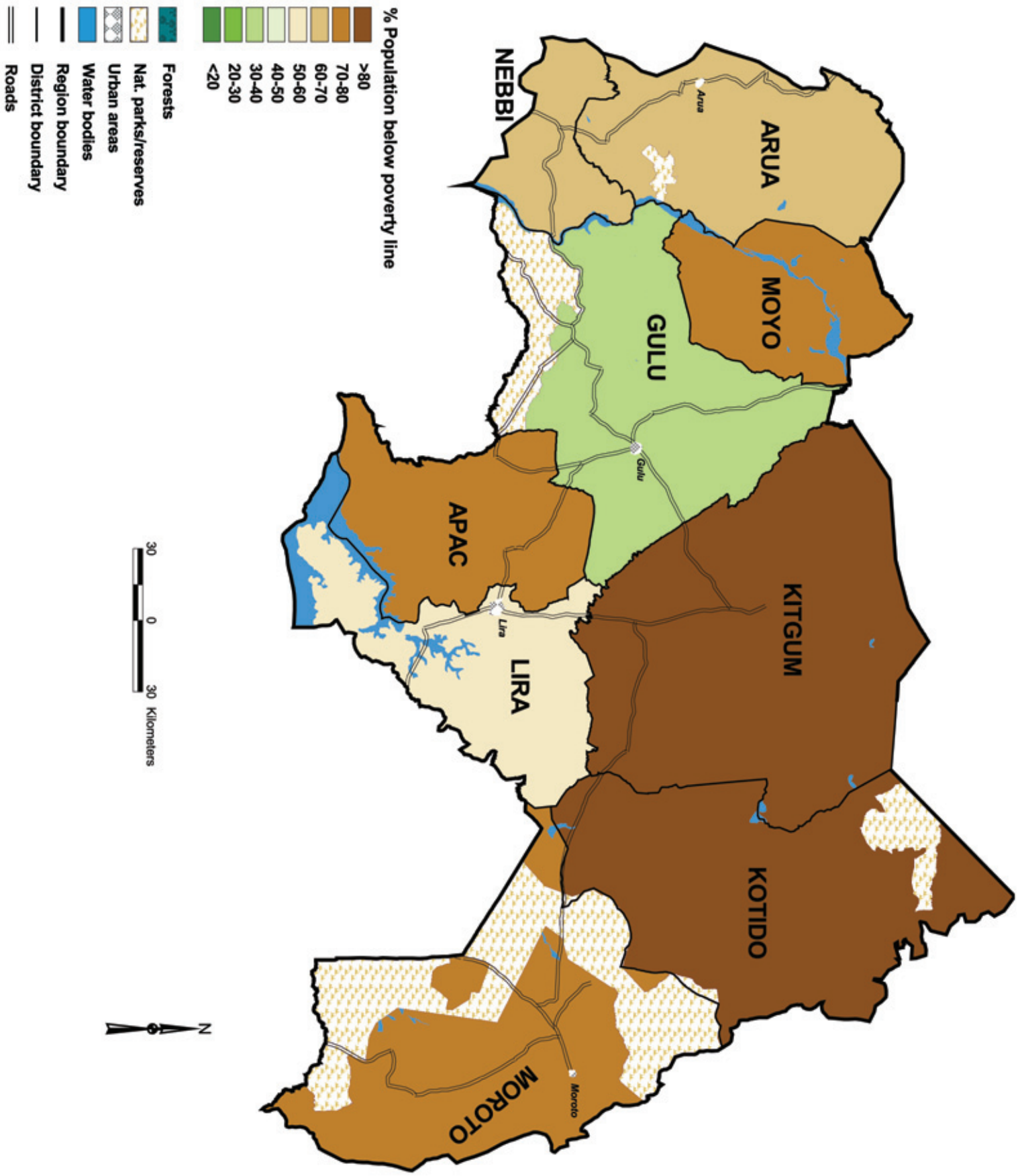
5.10.A Northern Region 1999 - District-Level Poverty Incidence:

Percent of Rural Population below the Poverty Line



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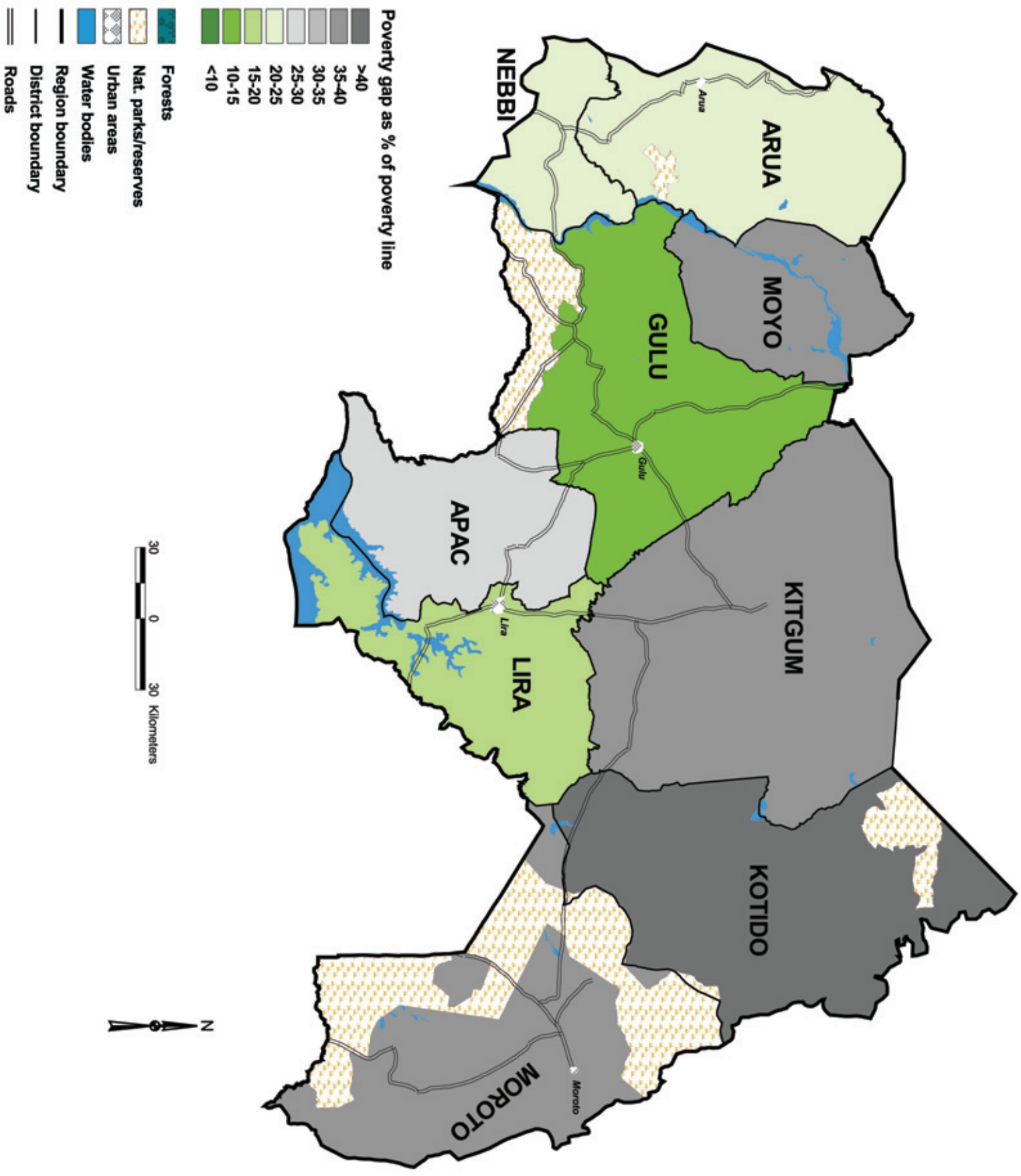
5.10.B Northern Region 1999 - District-Level Poverty Gap:

Gap for Rural Poor to reach Poverty Line



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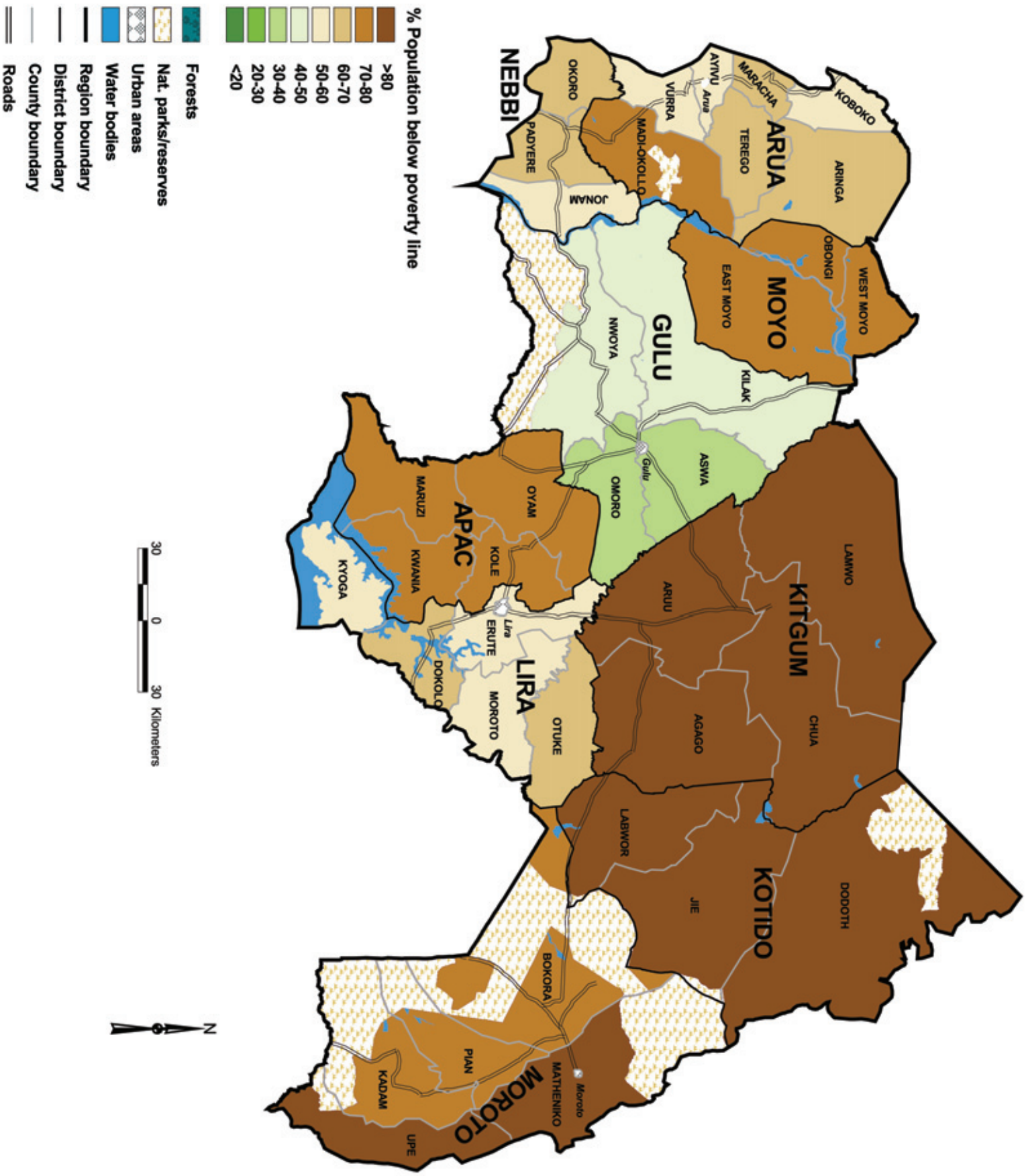
5.11.A Northern Region 1999 - County-Level Poverty Incidence:

Percent of Rural Population below the Poverty Line



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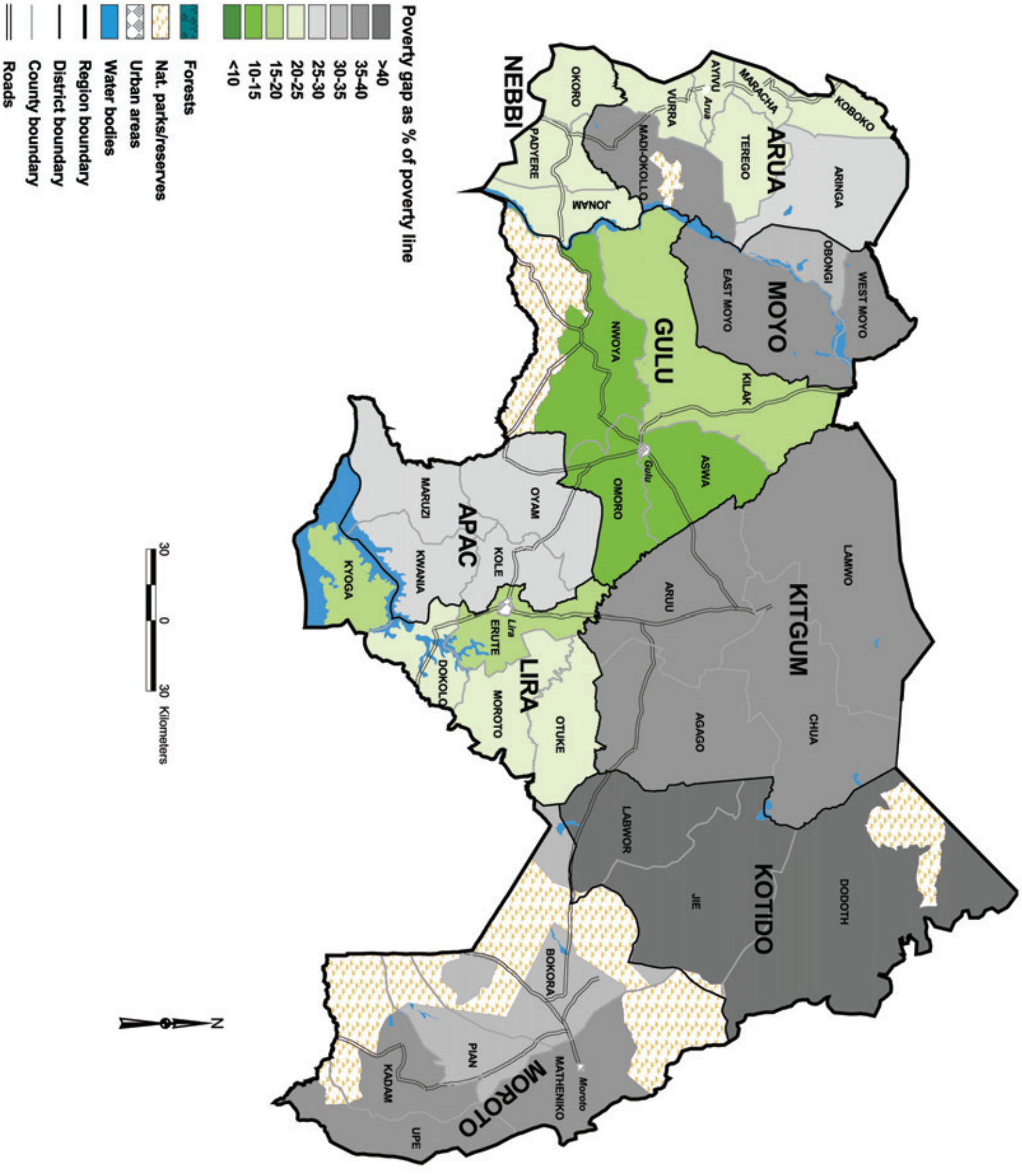
5.11.B Northern Region 1999 - County-Level Poverty Gap:

Gap for Rural Poor to reach Poverty Line



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References

Appleton, S. 2001. "Changes in poverty in Uganda, 1992-1997". In: Collier, P. and Reinnikka, R. (eds) *Firms, |Households and Government in Uganda s Recovery*. World Bank, Washington, DC.

Appleton, S., Emwanu, T., Kagugube, J. and Muwonge, J. 1999. *Changes in poverty in Uganda,* 1992-1997. Centre for the Study of African Economies, Working Paper Series 99.22. University of Oxford, Oxford, UK. 43 pp. (Available at: www.csae.ox.ac.uk/workingpapers/wps-list).

Alderman, H., Babita, M,. Demombynes, G., Makhatha, N. and Özler, B. 2002. "How Low Can You Go? Combining Census and Survey Data for Poverty Mapping in South Africa", *Journal of African Economies* 11(2): 169-200.

Central Bureau of Statistics, 2003. *Geographic Dimensions of Well-Being in Kenya. Vol. 1: Where are the Poor? From Districts to Locations*. Government of Kenya, Ministry of Planning and National Development, Central Bureau of Statistics (CBS) in collaboration with International Livestock Research Institute (ILRI). CBS and ILRI, Nairobi, Kenya. 164 pp.

Deininger, K. and Okidi, J. 2002. *Growth and Poverty Reduction in Uganda, 1992-2000.* Panel data evidence. World Bank, Washington, DC and Economic Policy Research Council, Kampala. Mimeo. 33 pp.

Demombynes, G., Elbers, Lanjouw, J. O., Lanjouw, P., Mistiaen, J. A. and Özler, B. 2003. "Producing an Improved Geographic Profile of Poverty," in Rolph van der Hoeven and Anthony Shorrocks (eds.) *Growth, Inequality and Poverty*. Oxford University Press.

Demombynes, G., Elbers, Lanjouw, J. O., Lanjouw, P., Mistiaen, J. A. and Özler, B. 2002. *Producing an Improved Geographic Profile of Poverty: Methodology and Evidence from Three Developing Countries*. WIDER Discussion Paper #39: United Nations University. (http://econ.worldbank.org/view.php?type=5&id=21888).

Elbers, C., Lanjouw J. O. and Lanjouw, P. 2003. "Micro-Level Estimation of Poverty and Inequality," *Econometrica* 71(1): 355-64.

Elbers, C., Lanjouw J. O. and Lanjouw, P. 2002. *Micro-Level Estimation of Welfare*. Policy Research Working Paper #2911: The World Bank, Washington, D.C. (http://econ.worldbank.org/programs/poverty/topic/14460/library/doc?id=21889).

Elbers, C., Lanjouw, P., Mistiaen, J. A., Özler B.and Kenneth Simler. 2003. *Are Neighbors Equal? Estimating Local Inequality in Three Developing Countries*. FCND Discussion Paper #147: IFPRI, Washington, D.C.

Ellis, F. and Bahiigwa, G. 2003. "Livelihoods and Rural Poverty Reduction in Uganda". *World Development* Vol. 31, No. 6: 997-1013.

Foster, J., Greer, J. and Thorbecke, E. 1984. "A Class of Decomposable Poverty Measures". *Econometrica,* 52:761-6.

Henninger, N. and Snel, S. 2002. *Where are the Poor? Experiences with the Development and Use of Poverty Maps*. World Resources Institute: Washington, D.C. (http://population.wri.org).

Hentschel, J. and Lanjouw, P. 1996. "Poverty Profile" pp. 53-91. In: *Ecuador Poverty Report*. Washington DC: The World Bank.

Hentschel, J., Lanjouw, J. O., Lanjouw, P. and Poggi, J. 1998. *Combining Census and Survey Data to Study Spatial Dimensions of Poverty*. Policy Research Working Paper #1928. Washington, DC: The World Bank.

Hentschel, J., Lanjouw, J. O., Lanjouw, P. and Poggi, J. 2000. "Combining Census and survey Data to Trace the Spatial Dimensions of Poverty: A Case Study of Ecuador," *The World Bank Economic Review* 14(1): 147-65.

Hoogeveen, J.G., Emwanu, T. and Okwi, P. O. 2003. *Updating Small Area Welfare Indicators in the Absence of a New Census*. World Bank and UBOS working paper.

Mistiaen, J. A., Özler, B., Razafimanantena, T. and Razafindravonona, J. 2002. *Putting Welfare on the Map in Madagascar.* Africa Region Working Paper Series #34: The World Bank, Washington, D.C. (http://www.worldbank.org/afr/wps/index.htm).

Okwi, P.O., Emwanu, T. and Hoogeveen, J.G. 2003. *Poverty and Inequality in Uganda: Evidence from Small Area Estimation Techniques*. World Bank and UBOS working paper.

Ravallion, M. 1994. *Poverty Comparisons*. Hardwood Academic Publishers: Switzerland.

Schipper, Y. and Hoogeveen J.G. 2003. *Growth and inequality: an analysis of small area welfare estimates for Uganda. Unpublished draft.*

Statistics South Africa. 2000. *Measuring Poverty in South Africa*. Pretoria: Statistics South Africa.

Uganda. 2000. *Plan for Modernization of Agriculture (PMA): Eradicating Poverty in Uganda*. Kampala: Ministry of Agriculture, Animal Industry and Fisheries & Ministry of Finance Planning and Economic Development.

Uganda. 2001. *Poverty Eradication Action Plan (PEAP), 2000-2003*. Kampala: Ministry of Finance Planning and Economic Development.

Appendix 1 Expenditure-based Small Area Estimation

The poverty mapping analysis undertaken was based upon a statistical technique, sometimes referred to as small area estimation. This combines household welfare survey and Census data (both collected at approximately the same time) to estimate welfare or other indicators for disaggregated geographic units such as communities. Researchers at the World Bank initiated this approach in 1996 (Hentschel and Lanjouw, 1996). Refining the techniques continues with many collaborators. There is now considerable reference material, some available on the Internet, for readers interested in the details of this methodology (e.g. Hentschel et al. 1998, Hentschel et al. 2000, Statistics SA 2000, Alderman et al. 2002, Elbers et al. 2002, Elbers et al. 2003a and 2003b, Demombynes et al., 2002, Demombynes et al., 2003 and Mistiaen et al. 2002). Here, we give a relatively brief and non-technical summary of the approach[1].

The approach begins with the national representative household welfare survey to acquire a reliable estimate of household expenditure (y). This enables calculation of more specific poverty measures linked to a poverty line. Log-linear regressions model per capita expenditure using a set of explanatory variables (x) that are common to both the integrated household survey and the Census (e.g. household size, education, housing and infrastructure characteristics and demographic variables). These first-stage regression models are represented at the lowest geographical level for which the integrated household survey data is representative (Region), and a different first-stage model is estimated for each stratum (e.g. Region, urban, rural). Next, the estimated coefficients from these regressions (including the estimated error terms associated with those coefficients) are used to predict log per capita expenditure for every household in the Census. The household-unit data is then aggregated to small statistical areas, such as Counties, to obtain more robust estimates of the percentage of households living below the poverty line. These poverty rates may produce a poverty map showing the spatial distribution of poverty at the County level, in the case of Uganda, which represents a significantly higher level of resolution than the Region-level measures obtainable from using the integrated household survey alone.

In the first Uganda stage, variables within the Census and welfare monitoring surveys were examined in detail. The objective of this stage was to determine whether the variables were statistically similarly distributed over households in the population Census and in the household sample survey. For example, there are questions in both the population Census and in the HIS survey about household size, level of education of the household head, and type of housing. However, the exact questions and manner in which the answers are recorded differ in some cases e.g. the exact number of years of schooling for the household head was asked and recorded in the survey, while whether they have an education at a primary, secondary, or higher level is what was recorded in the Census. In many cases, there were also discrepancies between identically defined variables due to Regional variation in interpretation, rendering certain variables comparable in some Regions and not in others.

The next step was to investigate whether these common variables were statistically similarly distributed over households in the population and those sampled by the survey. This assessment was based on the following statistics for each variable obtained from both the survey and the Census for each stratum: (i) the mean, (ii) the standard error, (iii) and the values for the 1st, 5th, 10th, 25th, 50th, 75th, 90th, 95th and 99th percentiles. First, the Census mean for a particular variable was tested to see if it lay within the 95 percent confidence interval around the household survey mean for the same variable. Second, for dummy variables, means were checked to ensure they were not smaller than three percent and not larger than 97 percent, so that the variables constructed contain some variation across households. Okwi et al., 2003 shows the results of the comparison of variable means for the Census and survey, by Region and for Urban and Rural areas. In general, there are between 23 and 33 variables sufficiently comparable to be included in the analysis.

The modelling steps of the analysis involved developing eight models, four rural and four urban (representing the four Regions), using the integrated household survey data in a regression analysis. The variable we were trying to explain in each model was per capita household expenditure for a household in a particular location. The independent or explanatory variables for the model were those observable household characteristics found as comparable variables in both the survey and the Census, as described above.

Combing the estimated first stage parameters with the observable characteristics of each household in the Census generated predicted per capita household expenditures (including an error estimate) for every household in the Census. For each model estimated, a stepwise regression procedure in SAS was used to select the subset of variables from the set of "comparable" variables that provided the best explanatory power for log per capita expenditure. A significance level criterion was chosen with no ceiling on the number of variables selected. All household survey variables that were significant at the five percent level were selected for the regression. The results of the regression analysis show that the models were quite successful at explaining the variation in household expenditures in both urban and rural areas. The adjusted R^2 ranged from .56 to .63 in urban areas, and from .31 to .44 in rural areas (with location means included). Despite not being very high, particularly in the rural areas, the explanatory power of the models is comparable to those attained elsewhere in Africa[2].

In general, in our specification, the following variables: household size, level of education, age of head of household, housing characteristics and district dummies plus interaction terms with certain household level variables, turned out to be key variables chosen in most regressions. As expected, household size had a negative correlation with household per capita expenditure. The housing variables showed mixed results depending on

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the strata. However, since these regressions are association models, the parameter estimates of the dependent variables cannot be interpreted as causal effects, but simply provide information on the direction of relationship.

From the first stage results, the relatively low R^2s in the rural areas may be attributed to at least two reasons. First, the number of variables in the Census' short forms is limited to mostly household composition, education and ethnic origin[3]. Though this information is correlated to e.g. family labour or ability to understand extension information other variables of obvious importance to rural households are not available such as: plot size, presence of livestock, soil quality or access to markets. Second, household composition and education only change slowly over time. The returns to agriculture are variables much dependent on rainfall, illness of family labourers, incidence of pests and diseases and prices. Again some of this variation may be captured, for instance the age of the head of household and proneness to disease are correlated, but much of the cross sectional variation attributable to any of these sources will remain unexplained and gets subsumed in the error term.

1 This section comes from CBS, 2003, with permission from the authors.

2 In comparison, the adjusted R2 ranges from 0.32 to 0.49 in urban areas and from 0.31 to 0.49 in rural areas of Kenya (CBS, 2003), from 0.27 to 0.55 in Mozambique, 0.45 to 0.77 in Ecuador, and from 0.445 to 0.638 in urban areas and 0.239 to 0.460 in rural areas in Madagascar (Mistiaen et al., 2002).

3 Inclusion of all the variables from the short form raised the R2 but not to the urban strata levels implying we still needed to use more information such as access to roads and markets to improve them.

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