



KENYA NATIONAL ADULT LITERACY SURVEY REPORT

Kenya National Bureau of Statistics

March 2007

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ACRONYMS

ACE	Adult and Continuing Education
ASAL	Arid and Semi-Arid Lands
CIDA	Canadian International Development Agency
CBOs	Community-Based Organisations
CDF	Constituency Development Fund
CIDA	Canadian International Development Agency
CSOs	Civil Society Organisations
CSPro	Census and Survey Processing System
DAE	Department of Adult Education
DFID	Department for International Development
DVV	German Adult Education Association
ECDE	Early Childhood Development and Education
EFA	Education For All
FBOs	Faith-Based Organisations
FPE	Free Primary Education
GoK	Government of Kenya
GER	Gross Enrolment Ratio
KESSP	Kenya Education Sector Support Programme
KIHBS	Kenya Integrated and Household Budget Survey
KNALS	Kenya National Adult Literacy Survey
KNBS	Kenya National Bureau of Statistics
KNEC	Kenya National Examinations Council
ICIDH	International Classification of Impairments, Disabilities, and Handicaps
IIEP	International Institute for Educational Planning
MDGs	Millennium Development Goals
MOGSCSS	Ministry of Gender, Sports, Culture and Social Services
SACMEQ	Southern and Eastern Africa Consortium for Monitoring Educational Quality

LATF	Local Authority Transfer Fund
LAMP	Literacy Assessment and Monitoring Programme
NASSEP	National Sample Survey and Evaluation Programme
NER	Net Enrolment Ratio
NGO	Non-governmental Organisation
NQF	National Qualifications Framework
RUMM	Rasch Unidimensional Measurement Model
SE	Standard Error
SPSS	Statistical Package for the Social Sciences
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UIS	UNESCO Institute of Statistics
UPE	Universal Primary Education

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PREFACE

This report presents results of the Kenya National Adult Literacy Survey (KNALS) whose data collection was conducted between June 2006 and August 2006 in all districts of Kenya. The report presents information on school attendance; awareness, participation and attendance in adult education programmes; disability status of the respondents; results of self-assessment of literacy and numeracy skills; construction of test items; field administration and scoring of test items; definition of competency levels and score ranges; literacy and numeracy competency levels; adult literacy and numeracy rates; minimum and mastery desired levels of literacy and numeracy. Also contained are information gathered from adult literacy centres/classes; conclusions and recommendations; and policy implications.

The survey was designed to provide baseline information and data on the status of literacy in Kenya and to assist in the development of indicators that can be used to design and assess progress on the implementation of education-related programmes. Besides, these results would be utilised particularly within the context of Education For All (EFA) goal 1- achieving universal primary education; EFA goal 3- ensuring that learning needs of all young people and adults are met through equitable access to appropriate learning and life skills programme and; EFA goal 4- achieving a 50 per cent improvement in levels of adult literacy by 2015, especially for women, and providing equitable access to basic and continuing education for all adults. The results are also critical in judging the adequacy of current adult literacy programmes, and public and private investments in these programmes.

The survey was guided by three objectives, namely to:

- determine the magnitude, levels and distribution of adult literacy for persons aged 15 years and above;
- obtain comprehensive data and information on adult literacy from literacy providers and stakeholders in both private and public sectors; and
- identify issues of concern which need to be addressed in the promotion of adult literacy in the country.

I would like to acknowledge special roles played by the Kenya National Bureau of Statistics (KNBS) and the Department of Adult Education (DAE) who coordinated the survey, other collaborators, namely, the Ministry of Education and Kenya National Examinations Council (KNEC), and stakeholders who were consulted throughout the process. Secondly, I would like to acknowledge financial support from Government of Kenya (GoK), Department for International Development (DFID), Canadian International Development Agency (CIDA) and UNESCO that made this very important exercise a success.

Lastly, my gratitude goes to the government staff and other survey personnel who participated in various capacities during different phases of the survey, more importantly, to the survey respondents who were interviewed and also took the literacy test. This report, therefore, is a product of concerted efforts by various actors.



**HON. HENRY OBWOCHA, EGH, MP
MINISTER FOR PLANNING AND NATIONAL
DEVELOPMENT**

FOREWORD

The Government of Kenya has demonstrated its commitment to the promotion of education to all its citizens by participating in and signing global policy education frameworks such as the *World Declaration on Education For All* (Jomtien, Thailand, 1990) and the *Dakar Framework for Action, Education For All: Meeting Our Collective Commitments* (Dakar, Senegal, 2000). These forums underscored the importance of education for all children, youth and adults. The Dakar World Education Forum in particular set six specific Education For All (EFA) goals to be achieved by all the 164 countries that participated at the forum. In this regard, Kenya is committed to achieving all six EFA goals, including that of reducing adult illiteracy by 50 per cent by the year 2015.

The government recognises adult and continuing education (ACE) as an important strategy for achieving EFA, as well as an indispensable programme for social progress. This is evident in various government policy documents and pronouncements. Currently, the government has developed a strategy to finance all sub-sectors of education through the Kenya Education Sector Support Programme (KESSP). Adult basic education is one of the sub-sectors receiving funding through this initiative.

Literacy is an essential component of the ACE programme. It is the starting point and the key to education and further learning. Literacy is also a basic requirement for a productive labour force and sustainable development.

According to the *1999 Population and Housing Census*, an estimated 4.2 million adults were illiterate, 60 per cent of them being women. This estimate was based on

respondents who reported to have never attended school. The current survey shows that this figure is an under-estimate, as it reveals that almost eight million Kenyan adults are illiterate. Such a large population of adults lacking basic literacy skills does not augur well with our aspirations for national development considering that adults and particularly women, are producers and custodians of national wealth.

The Kenya National Adult Literacy Survey (KNALS) was undertaken to determine the magnitude, levels and distribution of adult literacy for persons aged 15 years and above and to bring out the challenges faced by the adult literacy programme. The survey was carried out as part of the country's implementation of the United Nations Literacy Decade (UNLD) in line with the United Nations Resolution on the Literacy Decade (Resolution 56/116) adopted by the United Nations General Assembly in December 2001.

My ministry is confident that the survey findings will guide the planning and implementation of adult education and literacy programmes to achieve the set targets in Millennium Development Goals (MDG) and EFA goals. Further, by providing vital indicators, it will be a wake-up call to policy-makers and all stakeholders to devote more resources in promoting adult literacy in this country.



HON. MAINA KAMANDA, MP
MINISTER FOR GENDER, SPORTS,
CULTURE AND SOCIAL SERVICES

ACKNOWLEDGEMENT

Kenya National Adult Literacy Survey (KNALS) was made possible by the contributions of many individuals and organisations. The Department of Adult Education (DAE) in the Ministry of Gender, Sports, Culture and Social Services (MOGSCSS) conceived the idea out of a felt need to know the magnitude and implications of illiteracy among youth and adults. Other organisations played critical roles in making the survey a reality. Although it is not possible to name all those who influenced, supported, and encouraged the Department in this noble endeavour, we would like to give special thanks to those whose contribution and involvement had direct and immense impact on the successful completion of the survey.

First and foremost, we thank the Permanent Secretary, Ministry of Planning and National Development, Dr Edward Sambili, and the Director of Statistics in the same Ministry, Mr A.K.M. Kilele, for enhancing effective collaboration with the Department and making the services of the Kenya National Bureau of Statistics (KNBS) readily available. KNBS provided unreserved technical support and guided the survey process to success. Special thanks also go to the Permanent Secretary in the Ministry of Education, Professor Karega Mutahi, for facilitating the funding of the survey through the Kenya Education Sector Support Programme (KESSP) and providing valuable technical support.

KNALS was a large-scale survey requiring lots of resources. The exercise would have weighed heavily on the government budget if it were not for the intervention of development partners. We are sincerely grateful to the Canadian International Development Agency (CIDA), Britain's Department for International Development (DFID), German Adult Education Association (DVV) and UNESCO Nairobi Office's Education Programme, for their financial support to supplement government efforts in this endeavour.

A critical component of the survey process was the data collection phase for both the pilot and main survey. We would like to recognise the excellent work done by the 26 supervisors and the 99 research assistants who collected invaluable data necessary for this report. We also appreciate the cooperation of household members who provided information during the interviews.

The survey would not have taken off and succeeded without the guidance of the National Steering Committee and the Technical Committee. The Committees drew membership from various organisations, including KNBS, DAE, UNESCO Nairobi Office, Ministry of Education, Kenya National Examinations Council (KNEC), the University of Nairobi and the media. We appreciate the professional guidance they provided through out the survey implementation period.

Finally, we acknowledge the valuable inputs made by Faith-Based Organisations (FBOs) and members of the civil society in general during the consultative forums, which gave direction and relevance to the survey. The survey could not also have succeeded without the technical support of professionals particularly the expertise of Dr Njora Hungi, Southern and Eastern Africa Consortium for Monitoring Educational Quality (SACMEQ), UNESCO-International Institute for Educational Planning (IIEP), and Dr Susan Nkinyangi of UNESCO. It was also well supported by the DAE and KNBS staff. In this regard, special thanks go to the Director of Adult Education, Mrs Joyce Kebathi, and her staff for their tireless efforts and commitment to see the survey through.



RACHEL DZOMBO (MRS)
PERMANENT SECRETARY
MINISTRY OF GENDER, SPORTS, CULTURE
AND SOCIAL SERVICES

EXECUTIVE SUMMARY

The Kenya National Adult Literacy Survey was conducted throughout the country between June 8 to August 8, 2006 by the the Kenya National Bureau of Statistics (KNBS) and the Department of Adult Education (DAE). The purpose was to generate accurate and up-to-date on the status of adult literacy with a view of using that information to expand and strengthen literacy programmes, and also plan for general national development. Underlying this is the fact literacy is fundamental to socio-economic development and poverty alleviation. The specific objectives were:

- Determine the magnitude, levels and distribution of adult literacy for persons aged 15 and above.
- Obtain comprehensive data and information on adult literacy from literacy providers and stakeholders both in the private and public sectors.
- Identify issues of concern, which need to be addressed in the promotion of adult literacy.

About 18,000 households were sampled for the survey and out of that, 15,696 were occupied in 4,782 in urban and 10,914 in rural areas. Out of the occupied households, 15,504 were successfully interviewed, which gave a response rate of 98.8 per cent. In addition, eight adult education centres or classes in each district were sampled and their teachers of managers interviewed to generate information on the perspective of the service providers.

The study used various instruments to collect the data. Four questionnaires were developed for the survey and targeted the following: households, individuals, institutions providing literacy, and literacy (assessment) tests. The survey was con-

ducted in English, Kiswahili and 18 other local languages, which provided the respondents with the opportunity to respond in a language that they were quite comfortable with. Significantly, 70 per cent of the respondents took the literacy assessments tests in either English or Kiswahili. To arrive at the adult literacy levels, two methods were used: self-reporting (one's ability to read and write) and actual testing (assessment of literacy skills) of the population.

Unlike previous surveys that relied on self-confessions, this time round, tests were administered to examine the respondents' mastery levels in literacy and numeracy. The competency levels in either literacy and numeracy were graded on a scale of one to five, with those who attained Levels Four and Five being considered as having the desirable levels of mastery of the skills. Those who attained Levels Three, Four and Five were considered to have attained the minimum mastery level.

One of the major findings of the survey was the national adult literacy rate, which stood at 61.5 per cent and numeracy rate is 64.6 per cent. An even more critical finding was that on average 38.5 per cent of the Kenyan adult population was illiterate, which is a major challenge given the central role literacy plays in national development and empowerment of individuals and communities, determining one's success in life.

Second, the survey established that only 29.6 per cent of the adult population had attained the desired mastery levels, while 61.1 per cent of the population had attained minimum mastery levels. Moreover, the survey established that

38.5 per cent of Kenya's adult population, 7.8 million people, have not acquired minimum literacy level and hence require literacy programmes. For a country that has set a goal of industrialising by 2020 and reaching the status of newly developed state by 2030, a high literacy rate is an imperative.

According to the survey, there were wide disparities in literacy levels in terms of regions and gender. For instance, Nairobi had the highest level of literacy, 87.1 per cent, compared to North Eastern Province, the lowest, at 8.0 per cent.

Based on the performance of the tests, males had higher literacy and numeracy rates of 64.2 per cent and 67.9 per cent compared to females, 58.9 per cent and 61.4 per cent. Interestingly, both males and females recorded higher rates in numeracy compared to literacy, a reflection of the fact that most adults are involved in activities that require them to do computation for their own good.

The survey also revealed that there was high turnover of teachers in the literacy programmes, which hindered access to adult education programmes in various centres. The situation is even worse given that the majority of the teachers are volunteers (63.3 per cent) and paid token allowances.

The study revealed that only 31 per cent of the adult population was aware of existence literacy programmes. This is attributed to low visibility of the programme on the ground due to the sparse distribution of literacy classes - one centre a location. This does not augur well for the literacy programmes because without knowledge about the existence of the centres, it is difficult to get adults to attend them. Another finding of the survey was that 6.2 per cent of the eligible adult population

interviewed stated that they were not interested in adult education, with some indicating they were not confident about the quality of the programme offered.

Other challenges affecting adult literacy programmes also came out during the study. These are: lack of relevant teaching and learning materials; poverty which makes it difficult for the learners to buy teaching and learning materials; and lack of centres within reach of most adults. It was also noted that many learners felt the curriculum and the learning outputs were not relevant to their needs, hence they did not find value in attending the adult literacy programmes.

These findings have profound implications on policy and resource allocation. For that reason, the following recommendations are critical for action:

Strengthening and expanding adult education programmes

Education is a human right and it is the responsibility and the core function of the government to provide it to all its citizens irrespective of age, gender and economic status. The government should therefore provide leadership and direction for the development of adult education programme. The literacy programme has suffered many years of neglect since the National Literacy Campaign fizzled out in the mid-80s. This is evidenced by the lack of teachers and reliance on volunteer teachers. Literacy plays a central role in development and should hence be placed high on development agenda.

- The government should therefore ensure that the DAE is provided with adequate funding and personnel to enable it achieve its mandate.
- Harness existing funding mechanisms like the Constituency Development

Fund (CDF) and Local Authority Transfer Fund (LATF) to support adult and youth literacy programmes. At least a provision should be made requiring that part of the CDF and LATF are used to purchase learning and teaching materials for the adult education and youth training programmes.

Expand access to adult education

The study established that 7.8 million adults are in need of literacy programmes. Moreover, the survey established that 61.5 per cent of the population had attained minimum mastery levels but only 29.8 per cent of the adult population had attained desired mastery levels. Thus, the challenge is to expand access and also check on quality so that those who go through the programmes come out with the desirable skills. To this extent, it is recommended that:

- The government should establish at least four adult education centres in every sub-location and equip them with adequate teaching and learning materials.
- Recruit 25,000 more adult education teachers through a four-year phased-out programme and improve their terms and conditions of service.
- Recruit part-time teachers on contract basis.
- Retain the full-time teachers by paying them at least the equivalent of the minimum wage of a primary school teacher for all the hours worked.

Promote inclusive adult and continuing education

The survey revealed that people with special needs were unable to access adult literacy programmes for various reasons, including long distances to the centres. It

was also noted that the skills offered were not suitable to all adult learners, hence forcing some to drop out. For this reason, it is recommended that:

- The literacy programme should target all the illiterate groups in the country, including those (3.6 per cent) with special needs.
- Link adult and continuing education (ACE) programmes with the broader national development plans and objectives. Specifically, ACE should be designed in such a way that it prepares the learners to be able to adapt and participate in a highly developed and sophisticated society envisioned for 2030.

Quality standards and assurance

Quality of the ACE programme was put to question, with some learners – 29 per cent – reporting to have dropped out due to poor quality of the courses offered. It is imperative, therefore, that quality should be placed at the core of provision of the programmes. To achieve this, the following should be addressed:

- The draft National Qualifications Framework (NQF) needs to be concluded and implemented.
- Adult literacy curricula need to be regularly revised and updated to make them relevant and attractive.
- Learning centres need to be provided with adequate teaching and learning materials.
- In-service training for the adult literacy teachers is needed to equip them with requisite skills and knowledge to offer quality teaching and motivate learners.
- There is need to recruit qualified quality assurance officers to supervise the implementation of quality ACE.

Partnership and resource mobilisation

ACE is a shared responsibility. It calls for the commitment and participation of government, civil society, faith-based organisations (FBOs), private sector, individuals and communities. This partnership should translate into support for ACE programmes through direct funding and resource provision.

Publicity and advocacy

A publicity and advocacy campaign needs to be mounted in collaboration with partners to profile adult education programmes and give them the visibility they deserve.

- Rally the support of the politicians to talk about adult and continuing education programmes during their meetings so that they can interest more people to register.
- Use the FBOs and the civil society to publicise the programmes and where they are involved in service delivery, work with them to get more people to enroll.

Create a learning environment

Sustainable literacy thrives in an environment full of opportunities that support reading. Adult learners need more reading materials to sustain their interest in reading and learning new things. It is therefore recommended that:

- The government and other partners should create community learning resource centres, community libraries and publication of relevant and appropriate reading materials to enhance the reading culture.
- Encourage innovative approaches for material production such as learner-generated materials.

Monitoring and evaluation

The last national literacy survey was done about 20 years ago. It is important that the government invest in on-going feedback and evaluation mechanism, data systematisation and strategic research. Therefore, it is recommended that:

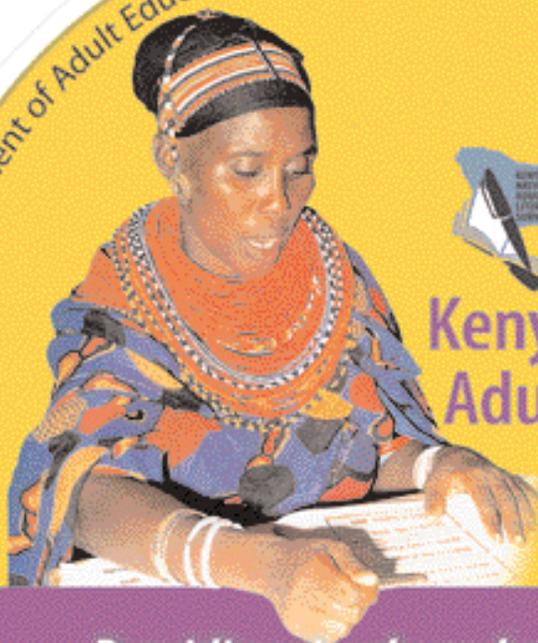
- DAE intensifies inspection services to ensure that the programme runs well and that quality teaching is offered in all the learning centres. The focus of evaluations should be to get regular data for planning as well as on the practical application of what has been learnt and the impact on active citizenship, improved health livelihoods and gender equality.
- The government, through DAE and KNBS, should conduct regular national literacy surveys, at least every five years, to monitor literacy levels and consequently, use the findings to develop education and training programmes to eliminate illiteracy.

Literacy and national development

Literacy is a pillar for national development. It equips citizens with the knowledge and competencies to be able to seek gainful employment or engage in income-generating activities. Further, it empowers citizens to participate in social and political decision-making processes; enjoy their fundamental rights; and enable them to lead a dignified life. Therefore:

- The government should introduce programmes that address the literacy needs of the population that have not met the minimum mastery level as well as those who need to achieve the desired mastery level.
- Promote post-literacy programmes to enable adult learners improve their skills and continue learning.

Department of Adult Education • Central Bureau of Statistics • UNESCO Nairobi



Kenya National Adult Literacy Survey

*Providing timely and accurate
information for improved
literacy programmes*

CHAPTER 1

INTRODUCTION

The Kenya National Adult Literacy Survey (KNALS) was carried out by Kenya National Bureau of Statistics (KNBS) on behalf and in collaboration with the Department of Adult Education (DAE) from June 8 to August 8, 2006 with financial support from the Government of Kenya (GoK). Additional financial support was provided by CIDA, DFID and UNESCO. A technical committee composed of representatives from KNBS, DAE, UNESCO, Ministry of Education, Kenya National Examinations Council (KNEC) and University of Nairobi guided the implementation of the survey. Numerous stakeholder consultations were held starting in early 2004 with wide participation, including FBOs and Civil Society Organisations (CSOs).

Since independence Kenya has placed adult literacy on its development agenda as part of the country's general policy of bringing about accelerated and sustainable socio-economic development. Over the years, Kenya has recognised the important role of adult literacy and education in maximising the human resource potential.

Evidence of the commitment of the government is demonstrated in various policy papers and pronouncements. Among these include: i) *Kenya Education Commission Report* 1964 that saw adult and continuing education (ACE) as an important ingredient of any programme for social progress; ii) *Sessional Paper No.10 of 1965* which promised a carefully planned attack on poverty, disease and ignorance to achieve social justice, human dignity, and econom-

ic welfare for all; iii) *National Conference on Education and Rural Development* 1966 (Kericho Report) that recommended enhancing rural development through strengthening education services to adults¹; iv) *Presidential Directive of 1978* that called for reinvigoration of the struggle against illiteracy and the creation of a full-fledged Department of Adult Education (DAE) to spearhead the mass Adult Literacy Campaign that was launched in 1978; v) *Sessional Paper No.6 of 1988* that enunciated the objectives of ACE and called for renewed commitment to the eradication of illiteracy; vi) recommendations of the *National Conference on Education and Training 2003*; and vii) *Sessional Paper No. 1 of 2005 on a Policy Framework for Education, Training and Research* that calls for integration of ACE into a National Qualifications Framework (NQF).

Kenya has been signatory to international conventions on education including that of the World Declaration on Education For All (EFA) (Jomtien, Thailand, 1990) and the EFA Framework for Action adopted at the World Education Forum (Dakar, Senegal, 2000). In its *Poverty Reduction Strategy Paper* (PRSP), the government has acknowledged the importance of empowering people through education to improve their well-being and contribute towards the realisation of a newly-industrialised country status.

In 1999, the *Population and Housing*

¹ Following this conference the Board of Adult Education (BAE) was established through an Act of Parliament in 1966 with the mandate to coordinate, regulate, and advise on the promotion of adult literacy and continuing education in the country.

Census estimated that some 4.2 million adults were illiterate with 60 per cent of these adults being women. However, this estimation was based on individuals who said that they had never attended school and it was believed that the level of illiteracy is actually much higher. It is generally acknowledged that many illiterates are too stigmatised and embarrassed to reveal their true literacy status. There is need for more accurate data to ensure that adult education programmes are targeted, gender-sensitive and tailored to needs and expectations.

There have been further indications that the numbers of illiterate adults appears to be growing annually. Factors contributing to this rise in illiteracy rates have included poor achievement levels in primary schools and low transition rates from primary to secondary levels of education.² Furthermore, participation in adult literacy programmes has been on the decline due to the limited capacity of the DAE and other service providers to cater for the illiterate population.

The KNALS was undertaken to determine literacy rates among adults aged 15 years and above across the country. The survey used a nationally representative sample of approximately 18,000 households spread throughout the country.³ All persons aged 15 years and above⁴ in these households

were eligible to be interviewed. In addition, institutions providing adult education programmes across all 70 districts of the country were sampled and their managers interviewed.

The KNALS used expertise learnt through Kenya's participation in the Southern and Eastern Africa Consortium for Monitoring Educational Quality (SACMEQ)⁵ and the Literacy Assessment and Monitoring Programme (LAMP) of the UNESCO Institute of Statistics (UIS).⁶ Kenya's first hand experience with both SACMEQ and LAMP helped to shape the methodology that was adopted for KNALS and tailored specifically to the Kenyan culture and context.

The objectives of KNALS were to:

- Determine the magnitude, levels, and distribution of adult literacy for persons aged 15 years and above.
- Obtain comprehensive data and information on adult literacy from literacy providers and stakeholders in both private and public sectors.
- Identify issues of concern which need to be addressed in the promotion of adult literacy.

This report presents the results of key indicators of the KNALS.

² Educational Statistical Booklet, 1999-2006.

³ According to KNBS a sample size of 18,000 is scientifically sufficient at the province and district level in Kenya.

⁴ While there are varying definitions of an 'adult' population, most census surveys define the adult population as persons 15 years of age and older (UNESCO, 2005).

⁵ SACMEQ research project is a consortium of 15 Ministries of Education, namely Botswana, Kenya, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania (Mainland and Zanzibar), Uganda, Zambia, and Zimbabwe. The main objective of this programme is to develop the capacity of Ministries of Education to undertake scientific studies of the quality and equity of their education systems. UNESCO-IIEP's cooperation with SACMEQ has provided extensive training opportunities by which educational planners and researchers have learned (in a "learning-by-doing" mode) how to design, implement and report cross-national studies on the quality of education.

⁶ LAMP is a cross-national literacy assessment methodology based on the assumption that a common literacy assessment instrument can be applied across cultures. It is a methodology for assessing literacy skills based on direct assessment and is designed to provide valid, and comparable measures of proficiency in literacy and numeracy. It employs an established methodology used in other international literacy assessments for providing quality data in developing countries on the distribution of literacy skills of adults and young people. UIS organised a number of technical meetings between 2004 and 2006 as part of the elaboration of LAMP. Countries from different regions of the world, namely El Salvador, Kenya, Mongolia, Morocco and Niger, were selected to participate.

CHAPTER 2

SURVEY METHODOLOGY

2.1. Sample design

Kenya is divided into eight provinces namely; Central, Coast, Eastern, Nairobi, North Eastern, Nyanza, Rift Valley and Western. The sample for the KNALS covered the population residing in households across the country. A probability sample of about 18,000 households was selected for the survey to allow for separate estimates for key indicators for each of the provinces and districts in the country and for urban and rural areas separately.

The survey utilised a two-stage sample design. The first stage involved selecting clusters from the national master sample maintained by the KNBS.⁷ A total of 1,200 clusters comprising 377 urban and 823 rural were selected from this master frame. The second stage of selection involved the systematic sampling of households from a list of all households. Fifteen households were sampled from each of the sampled clusters. The household listing was updated recently while preparing for the *Kenya Integrated and Household Budget Survey* (KIHBS). Selection of clusters and households for the survey was done by KNBS experts in Nairobi and the sample lists were given to survey supervisors. All members of the household selected aged 15 years and above were eligible for inclusion in the literacy survey. However, only one eligible member from each household was selected during the administration of individual questionnaire and test items. This selection was done through a random process using a person-selection grid developed for the survey.

2.2. Survey instruments

Various instruments were developed for the literacy survey at the household and institutional levels. These included: a household questionnaire, an individual questionnaire, a literacy assessment instrument and an institutional questionnaire. In consultation with a broad spectrum of stakeholders including relevant government departments, KNEC, FBOs, CSOs, University of Nairobi, and UNESCO, these instruments were modeled to reflect relevant issues in adult literacy.

A number of questionnaire design meetings and retreats were organised by the DAE to finalise the survey instruments. The literacy assessment items were translated from English into 19 languages/dialects, namely: Luo, Maragoli, Bukusu, Wanga, Kalenjin (Nandi), Pokot, Turkana, Teso, Maasai, Kikuyu, Borana, Meru, Kamba, Embu, Somali, Kiswahili, Giriama, Kisii, and Taita. The questionnaires were further refined after the pilot survey and training of the field staff. The languages/dialects used for the test instruments were guided by the experiences from the pilot survey. About 70 per cent of respondents took the assessment tests in either English or Kiswahili and only less than 2 per cent of them were not able to get their preferred languages/dialects for the assessment test.

Two translators for every language/dialect were engaged for translating the test items. Each translation was followed by a reverse translation: a common procedure used to assess the understandability of a

⁷ Ref: Fourth National Sample Survey and Evaluation Programme (NASSEP IV) and the 1999 Enumeration Areas (EAs) that constituted the frame for the sample selection..

assessment test were administered. The household questionnaire, therefore, collected information relating to the following aspects: gender, age, marital status, religion, tribe, school/centre attendance, educational attainment, disability and employment for all household members aged five years and above.

The individual questionnaire was administered to the selected household members aged 15 years and above in all the households and collected the following information:

- Awareness of, participation and attendance in, adult education programmes
- Self-assessment of literacy and numeracy skills
- Purposes for reading, writing and computational skills
- Sustainability of literacy skills, reading attitudes, and work requirements
- Employment and occupation
- Language and migration status

The institutional questionnaire, administered to sampled adult education centres, collected information on issues relating to the provision of adult education. The questions covered the following aspects:

- Enrolment by gender for the past five years
- Number of instructors by gender for the past five years
- Institution's background information
- Policies and programmes
- Assessment of learners
- Views of teachers
- Teaching staff remuneration and welfare
- Institutional infrastructure

- Special learning needs
- Language of instruction
- Monitoring and evaluation systems

2.3. Literacy assessment

The KNALS, apart from collecting information leading to establishing literacy levels on self-assessment, also administered a literacy assessment test to all selected respondents.⁸ The literacy levels obtained, therefore, provided information about literacy such as whether the respondents could read and understand instructions or read and make use of the information provided. Unlike past literacy surveys where respondents who had attended school up to a particular level were assumed to be literate, in this survey all respondents irrespective of their attained educational levels were subjected to the same literacy test. The KNALS thus measured literacy through direct assessment of men and women aged 15 years and above which focused on three skills: reading, writing and computation (numeracy).

2.4 Survey organisation and management

A Steering Committee composed of permanent secretaries (Ministry of Planning and Ministry of Gender, Sports, Culture and Social Services) and directors of relevant departments and representatives of development partners served for policy guidance and resource mobilisation. A Technical Committee comprising representatives of the KNBS, DAE, UNESCO, Ministry of Education, KNEC, University of Nairobi and KIE served to manage and implement the survey.

There were coordinators at national and

⁸ Self-assessment of literacy as used in census surveys is an indirect measurement and as such can provide inaccurate and incomplete descriptions of literacy and over-estimate literacy rates. Direct assessment of literacy as used in the KNALS provides a more accurate and realistic representation of literacy levels (UNESCO, 2005).

regional levels, who were responsible for ensuring the implementation of the survey in their respective areas including quality assurance. Twenty-six (26) field supervisors were in charge of data collection teams, assigning work, liaising with the District Statistical Officers and the District Adult Education Officers. Ninety-nine (99) research assistants were expected to identify the selected households, undertake household and individual interviews and administer, mark, score and record the results of the literacy assessment tests.

2.5 Recruitment and training

Members of the survey secretariat developed recruitment criteria and the minimum requirements for those who were to participate in the survey. Recruitment of research assistants was carried out in May 2006 through interviews. Five panels consisting of officers from the two departments (KNBS and DAE) were constituted to conduct the interviews. Research assistants were recruited from the communities where they would be working to ensure they were knowledgeable of the local languages/dialects and familiar with geography of the areas and traditions/culture of the communities.

Training of the field supervisors and research assistants was carried out between May 28 to June 3, 2006 at Tom Mboya Labour College in Kisumu, Nyanza Province. The same training was given to both the field supervisors and the research assistants. Topics covered during training included the background and objectives of the survey, key concepts and definitions used in the survey, use of cluster maps, role of research assistants, interviewing techniques, completion of questionnaires and

summary forms, field procedures and all aspects of undertaking a survey. The trainees were thereafter taken through all the questionnaires covering contents of each item to be tested. Practical exercises were also undertaken in and outside training sessions. Because of the number involved, the trainees were divided into four groups of about 30 each. Mock interviews and field tests were also conducted during the period of training to ensure that quality data was collected from the field.

Trainers were drawn from KNBS, DAE, MOE and MOGSCSS Headquarters. These were officers who had participated in the development of the survey instruments. In addition to the above trainers, others were also drawn from KNEC and the University of Nairobi. Supervisors were drawn from experienced officers in both the DAE and KNBS.

2.6 Data collection

A total of 26 interviewing teams carried out the data collection during the main survey. Each team was composed of one supervisor, an average of four research assistants and one driver except for the Teso, Maragoli, Turkana and Pokot teams that had only two research assistants per team. Data was collected over a two-month period from June 8 to August 8, 2006.

The supervisors were expected to liaise with the district statistical officers to get access to cluster files and to liaise with district adult education officers to identify and fill in the institutional questionnaire, edit all questionnaires and moderate the tests through remarking a sample of the literacy assessment instruments to ensure quality.

2.7 Data processing

Data processing involved recording of all questionnaires received by cluster number, data entry and verification. Complete field-edited questionnaires were sent to KNBS offices at the Nyayo House (Nairobi) for data capture and further editing. Data processing thus consisted of re-editing, re-coding particularly the labour module, data entry, verification and data cleaning. After

cleaning, the data was weighted to conform to the known population parameters. A team of 14 data entry clerks and two supervisors was engaged for 60 days. The following data processing programmes were used: CPro (Census and Survey Processing System), SPSS (Statistical Package for the Social Sciences)⁹ and RUMM software for analysing assessment and attitude questionnaire data based on Rasch analysis technique.¹⁰

⁹ SPSS is a data management and analysis product produced by SPSS, Inc. in Chicago, Illinois. Ref: <http://www.utexas.edu/cc/stat/software/spss/>

¹⁰ Rasch analysis can be applied to assessments in a wide range of disciplines including education. It can be used with a well defined group of people responding to a set of items for assessment as in the case of KNALS literacy assessment test. Generally, the responses are scored according to a number of categories to indicate increasing levels of a response. These responses are then added across items to give each person a total score. This total score summaries the responses to all the items, and a person with a higher total score than another one is deemed to show more of the variable assessed. Summing the scores of the items to give a single score for a person implies that the items are intended to measure a single variable, often referred to as a unidimensional variable. The Rasch model is the only item response theory (IRT) model in which the total score across items characterizes a person totally. It is also the simplest of such models having the minimum of parameters for the person (just one) and just one parameter corresponding to each category of an item. This item parameter is generically referred to as a threshold. There is just one in the case of a dichotomous item, two in the case of three ordered categories. [See more: <http://www.rasch-analysis.com/rasch-analysis.htm>]

CHAPTER 3

RESULTS OF SURVEY INTERVIEWS

3.1 Response rate

The response rates for the household and individual interviews and assessment tests are presented in [Table 3.1](#). A total of 17,892 households were sampled of which 15,695 (4,781 urban and 10,914 rural) were occupied at the time of the survey and therefore eligible for interviews. Some of the sampled households could not be accessed because they were no longer inhabited thus contributing to a large extent to the recorded shortfall. Out of a total of 15,695 households occupied at the time of the survey, 15,504 were successfully interviewed yielding a response rate of 98.8 per cent. Rural households realised a 99.7 per cent

response rate compared to a response rate of 96.6 per cent in urban areas.

Members of households aged 15 years and above were eligible for the individual interviews. Of the total 15,695 respondents identified, 15,473 were successfully interviewed, giving an individual response rate of 98.6 per cent. Response rates are higher in rural areas compared to the response rates in urban areas. Response rates for the literacy assessment test were lower than those for the individual interviews. Out of 15,695 eligible respondents, 14,761 took the literacy test giving a response rate of 94.0 per cent (91.3 per cent urban and 95.3 per cent rural)

Table 3.1: Results of the household and individual inter-

Results	Residence		
	Urban	Rural	Total
Household interviews			
Household selected	5,563	12,329	17,892
Households occupied	4,781	10,914	15,695
Households interviewed	4,619	10,885	15,504
Household response rates (%)	96.6	99.7	98.8
Individual interviews			
Number of eligible respondents	4,781	10,914	15,695
Number of eligible respondents interviewed	4,611	10,862	15,473
Eligible respondents response rate (%)	96.4	99.5	98.6
Literacy assessment test			
Number of eligible respondents	4,781	10,914	15,695
Number of eligible respondents assessed	4,364	10,397	14,761
Eligible respondents response rate (%)	91.3	95.3	94.0

3.2 School attendance

School attendance is defined as regular attendance at any regular accredited educational institution or programme, public or private, for organised learning at any level of education. [Table 3.2](#) provides information on school attendance by age of the respondent. School attendance was categorised into three groups: at school, left school and never attended school. A total of 37.3 per cent of the population aged 6 years and above reported to be attending school at the time of the survey compared to 35.0 per cent reported in the *1999 Population and Housing Census*. The results show that 39.9 per cent of males and 34.7 per cent of the female population aged six years and above were attending school at the time of the survey. For the respondents between 6 to 14 years, the proportion of males and females attending school were at par. Disparities are observed from age 15 years and above in favour of male respondents. Among the 20 to 24 year age group, 16.2 per cent of males were attending learning institutions compared to only 9.3 per cent of their female counterparts.

With increased socio-economic development, the ratio of the population with no schooling would be expected to decline. The results in [Table 3.2](#) indicate that 10.6

per cent males and 17.3 per cent of females had never attended school at the time of the survey. Among the respondents aged 30 years and above, 16.7 per cent males and 31.7 per cent females never attended school compared to 4.7 per cent males and 5.0 per cent females in 10 to 14 year age group.

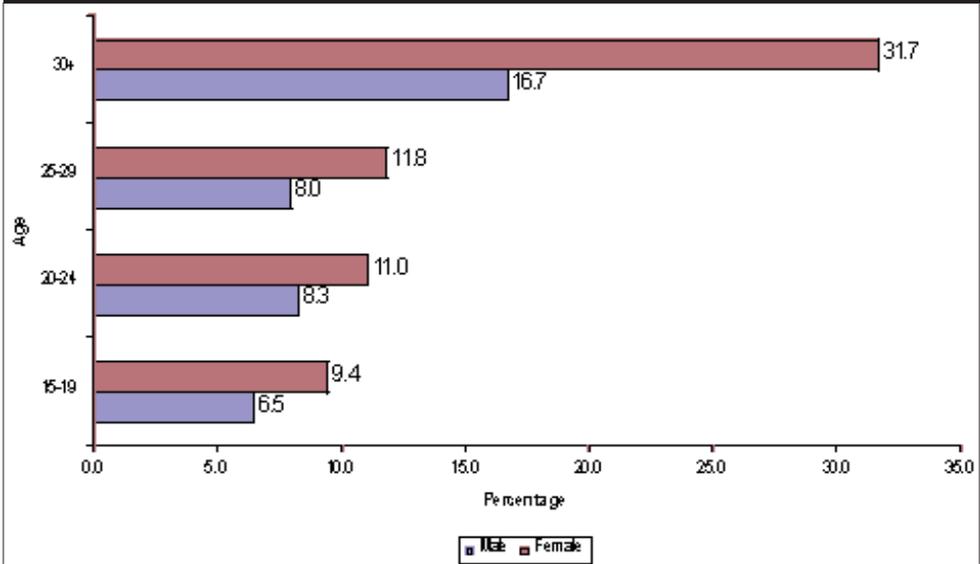
Figure 3.1 presents the same results on percentage of adults who never attended school by age. It is clear that more females than males in all age groups report to have never attended school.

The official primary school-going age is between 6 and 13 years. Population at school is a good measure of school enrolment, particularly when primary schooling age is considered in view of the government's initiative of Free Primary Education (FPE) that was introduced in 2003. The implementation of FPE aimed at achieving universal primary education (UPE) in the country, saw a significant increase in pupil enrolment in the first year of its implementation. It is expected that these efforts would slowly translate into the reduction of the number of out-of-school children of primary school age and eventually to those who reach adulthood while still illiterate. However, this is a long-term consideration. Urgent steps need to be taken to take care

Table 3.2: Percentage of the population aged six years and above

Age Group	At school		No longer attendance		Never attended	
	Male	Female	Male	Female	Male	Female
6-9	90.4	90.2	0.8	1.0	8.8	8.8
10-14	91.4	91.8	3.8	3.2	4.7	5.0
15 -19	65.1	52.4	28.4	38.2	6.5	9.4
20-24	16.2	9.3	75.5	79.8	8.3	11.0
25-29	3.4	2.5	88.6	85.7	8.0	11.8
30+	1.2	1.1	82.0	67.2	16.7	31.7
Total	39.9	34.7	49.6	48.0	10.6	17.3

Fig. 3.1 Percentage of adults who never attended school



of the many youth who should be but are not in school and also those over 15 years of age who left or never attended school.

Table 3.3 illustrates the population of primary school-going ages (6 to 13 years) by three different categories of school attendance at the provincial level. Overall, 91.4 per cent, 1.6 per cent and 7.0 per cent of the population in this age group reported to be at school, had left school or had never been to school, respectively. In 2006, these results imply that 8.6 per cent of the eligible children were out of school.

To ensure that Kenya has no adults illiterate in the future, there is need to work toward 100 per cent primary school enrolment rates especially in those areas with prevailing low enrolments. Regional differentials indicate that Central Province has the highest percentage enrolled (97.0 per cent) and North Eastern has the lowest at 65.1 per cent. Apart from Rift Valley Province (88.2 per cent) and

North Eastern Province (65.1 per cent), all the other provinces have achieved over 90 per cent enrollment of their population in these age groups. None of the country's eight provinces has achieved the desired net enrolment of 100 per cent. An assessment of the population in the same age group who report to have never attended school shows that Central Province has the lowest proportion at 1.7 per cent while North Eastern has the highest proportion at 34.5 per cent.

3.3 Disability

According to the International Classification of Impairments, Disabilities, and Handicaps (ICIDH), disability is defined as any restriction or lack (resulting from an impairment) of ability to perform an activity in the manner or within the range considered normal for a human being. Knowing that an individual has an activity limitation is an important first step in being able to determine if there are any interventions that could be undertaken to alleviate or

Table 3.3: Percentage of primary school age (6 to 13 years) school

Province	At school	Left school	Never attended	Total
Nairobi	95.2	1.6	3.2	100
Central	97.0	1.3	1.7	100
Coast	90.5	1.5	8.0	100
Eastern	93.2	2.0	4.8	100
North Eastern	65.1	0.4	34.5	100
Nyanza	96.1	1.8	2.1	100
Rift Valley	88.2	1.8	10.0	100
Western	94.5	1.4	4.2	100
Total	91.4	1.6	7.0	100

reduce the limitation. Some limitations have a great impact on an individual's learning ability¹¹, hence the inclusion of a few questions on disability in the KNALS. It is important therefore not to ignore the multiple disadvantages faced by many of the potential learners such as those with different forms of disability. All respondents were asked to self-assess the level of difficulty, if any, they experience in undertaking the defined six core activities of life. [Table](#)

[3.4a](#) and [Table 3.4b](#) show the different types of activity limitation (disability) for the sample population by level of difficulty.

As shown in [Table 3.4a](#), about 92 per cent of respondents reported that they did not have difficulties in seeing, walking, or remembering while about 97 per cent said that they did not have difficulties in hearing. Eighty-six per cent reported to have no difficulty with self-care. It is important to

Table 3.4a: Percentage distribution of persons with activity limitations by type, 2006

ACTIVITY	Total	No, no difficulty	Yes, some difficulty	Yes, a lot of difficulty	Cannot do at all
Seeing	100	92.5	5.4	1.7	0.4
Hearing	100	96.7	2.2	0.6	0.5
Walking, or climbing steps	100	92.1	3.1	1.6	3.2
Remembering or concentrating	100	91.9	3.3	1.3	3.5
Self-care	100	86.0	2.4	1.6	10.0
Communicating	100	92.9	1.9	1.2	4.0

¹¹ Data on literacy rates among those with disabilities is limited. It is reported that about 35% of out-of-school children have disabilities and that further than 90% of children with a disability are enrolled in school (DAA, 2001). Existing data also suggests that gender disparities in literacy rates are greater for people with disabilities (DAA, 1994).

note from what was reported that disability is prevalent in Kenya and ranges between 14 per cent for self-care and 3.2 per cent for hearing. For adult respondents 15 years and above, 88.9 per cent and 96.6 per cent reported that they had no difficulty with seeing and hearing, respectively (Table 3.4b).

Although these figures may appear low, they still represent an important cost to the education system in terms of providing the teaching and learning support required.

3.4 Awareness of, participation and attendance in adult education programmes

Kenya has made some effort to improve literacy levels through the development and improvement of adult literacy programmes and other non-formal education (NFE) programmes. However, over the years resource allocations and investment in literacy and adult education programmes have been on the decline. Moreover, the shortage of literacy and adult education teachers has worsened in the past two decades as shown in the Table 3.4c below. According to Table 3.4c, the number of adult literacy teachers reduced by nearly half in 27 years, from 3,000 in 1979 to

1,792 in 2006. A persistent high rate of teachers' loss was particularly recorded from 1988 due to restructuring in the entire public sector, which saw many public sector workers retrenched or asked to take early retirement, while new recruitment was frozen. The acute shortage of adult education teachers has seriously undermined the ability of the DAE to effectively promote literacy and adult education in the country.

The KNALS was designed to determine whether adults (defined here as household members age 15 years or older) had ever heard of and participated in adult education programmes. Questions on awareness of such programmes, participation and attendance in these programmes among adults were, therefore, included in the survey.

Table 3.5a and Table 3.5b illustrate levels of awareness, participation and attendance by age group. Overall, about 31.0 per cent of adults (31.7 per cent male and 30.2 per cent female) reported to be aware of literacy programmes in their community. Level of awareness is therefore almost the same for both the male and female respondents. The results also showed that only 3.5 per cent male adults and 5.5 per cent female

Table 3.4 a: Percentage distribution of persons with activity

Age Group	At school		No longer attendance		Never attended	
	Male	Female	Male	Female	Male	Female
6-9	90.4	90.2	0.8	1.0	8.8	8.8
10-14	91.4	91.8	3.8	3.2	4.7	5.0
15 -19	65.1	52.4	28.4	38.2	6.5	9.4
20-24	16.2	9.3	75.5	79.8	8.3	11.0
25-29	3.4	2.5	88.6	85.7	8.0	11.8
30+	1.2	1.1	82.0	67.2	16.7	31.7
Total	39.9	34.7	49.6	48.0	10.6	17.3

adults reported to have ever participated in literacy programmes in the country. However, an interesting finding was that attendance in literacy programmes over the past 12 months before the survey indicated a higher proportion of attendance among male adults (19.9 per cent) than females (15.1 per cent). Respondents who reported to have attended a literacy programme in the last 12 months were also asked whether they were currently attending. The results showed that 12.3 per cent male adults and 7.3 per cent female adults were still attending the programme.

Table 3.6a and Table 3.6b present awareness of available programmes, participation and attendance of adult literacy programmes at the provincial level and by urban and rural residence. Compared to other provinces, North Eastern Province shows a higher level of awareness among males (43.2 per cent) while Central Province shows a higher level of awareness among females (40.6 per cent). Lowest awareness levels were in Nairobi Province with 18.6 per cent of male adult respondents and 15.0 per cent of female adult respondents reporting to be aware of literacy programmes. In Coast Province, 34.3 per cent male respondents and 37.5 per cent female respondents reported to be aware of literacy programmes.

For respondents at the provincial level who reported to have ever participated in literacy programmes, Coast Province (8.4 per cent for males and 9.0 per cent for females) had the highest participation rate among adults aged 15 years and above while Nairobi Province had the lowest participa-

tion of about one per cent. North Eastern Province had 20.0 per cent males and 9.4 per cent females who attended literacy programmes in the last 12 months reporting to be currently attending. Differentials by residence showed that 25.2 per cent and 34.0 per cent males and 25.0 per cent and 32.0 per cent females in urban and rural areas, respectively, were aware of literacy programmes. On the other hand 2.2 per cent and 4.0 per cent males and 3.3 per cent and 6.2 per cent females in urban and rural areas report to have ever participated in literacy programmes.

Table 3.7 presents information on respondents who had participated in adult literacy programmes but had since left, by province, and the reasons for leaving, while Table 3.8 has information on non-participants and their reasons for having never participated. Various reasons were given for having participated and left and also for having never participated.

At the national level, most of those who had participated in literacy programmes and dropped out cited issues relating to access and quality of provision such as "no centre nearby" and "lack of teachers". The same pattern is also observed in most provinces. Other reasons given include: "too old to attend", "busy", and already "completed school". People are seeking learning opportunities through adult education programmes but many appear to be dropping out due to lack of readily accessible centres and inadequate numbers of teachers. The high turnover of teachers is a definite impediment to the effective delivery of these programmes.

Table 3.4c: Number of full-time adult education teachers,

1979	1988	1997	2006
3,000	2,924	2,305	1,792

For non-participants, the reasons given include; already literate or completed school (41.3 per cent), no centre nearby (29.7 per cent), and busy (10.7 per cent). 'No centre nearby' was given as the main reason for having never attended by most of the respondents in North Eastern Province (46.2 per cent), Nyanza Province (37.9 per cent), Rift Valley Province (35.5 per cent) and Western Province (33.9 per cent). More than half of the respondents in Nairobi (54.0 per cent) and Central Province (60.7 per cent) reported that they were already literate or had completed school. Reasons given for either having dropped out of literacy programmes or having never participated in them need to be addressed to improve on both retention and participation of adult learners in the programmes. Reasons for non-attendance

Table 3.5a: Percentage of persons 15 years and above who said they were aware of

Age	Aware of literacy programme		Aware and ever participated	
	Male	Female	Male	Female
15-19	32.2	26.5	1.3	1.4
20-24	27.4	28.5	1.7	2.0
25-29	30.4	29.8	2.0	2.8
30-34	32.1	32.4	3.4	4.3
35-39	38.3	33.3	3.2	4.2
40-44	39.0	32.2	6.7	5.7
45-49	35.0	34.0	4.8	11.4
50-54	26.5	33.9	5.2	18.0
55-59	42.8	33.1	9.7	21.1
60-64	24.4	27.4	7.5	16.8
65-69	37.6	43.1	14.3	19.6
70+	31.8	28.3	13.0	15.4
Total	31.7	30.2	3.5	5.5

include lack of centres within easy reach of learners, lack of teachers, lack of interest in types of programme offered, high costs associated with participating in programmes and old age. For example, the issue of being "too old to attend" should be addressed through advocacy through which all Kenyans are made to understand that there is no age limit to learning. Indeed, this is reason to promote learning within the EFA context, as it provides for life-long and inclusive education.

Table 3.5b: Percentage of persons aged 15 years and above, who said they attended literacy programme in past 12 months and

Age	Attended literacy programme in past 12 months		Currently attending	
	Male	Female	Male	Female
15-19	52.0	5.9	26.1	5.9
20-24	47.1	47.2	21.9	11.8
25-29	33.3	32.2	28.5	13.6
30-34	15.3	25.0	6.3	19.2
35-39	0.0	30.4	0.0	13.1
40-44	20.8	14.2	18.8	1.2
45-49	36.1	1.4	30.5	1.4
50-54	7.8	14.1	1.9	11.0
55-59	17.5	7.7	2.3	1.9
60-64	0.0	2.0	0.0	2.0
65-69	6.5	8.4	6.5	5.5
70+	2.2	5.3	2.2	2.4
Total	19.9	15.1	12.3	7.3

3.5 Results of individuals' self-assessment of literacy and numeracy skills

This module, which was included in the survey to estimate literacy levels, is based

Table 3.6a: Percentage of persons aged 15 years and above who said they were aware of literacy programmes and

Province	Aware of literacy programmes		Aware and ever participated	
	Male	Female	Male	Female
Nairobi	18.6	15.0	1.1	0.8
Central	38.1	40.6	1.2	5.4
Coast	34.3	37.5	8.4	9.0
Eastern	34.3	32.1	2.8	5.4
North Eastern	43.2	31.1	7.8	4.4
Nyanza	22.4	18.7	4.9	7.4
Rift Valley	36.3	34.6	3.0	4.8
Western	28.8	29.5	3.1	6.2
Residence				
Urban	25.2	25.0	2.2	3.3
Rural	34.0	32.0	4.0	6.2
Total	31.8	30.2	3.5	5.5

on an individual's assessment of his/her literacy skills. If responses appear to correspond closely with literacy levels, then the questions would be used in future censuses/surveys to supplement information collected from adult literacy surveys.¹² Results of self-assessment on reading, writing and computation are presented in [Table 3.9](#).

The abilities to read, write and compute vary with age and the results indicate that fewer respondents in the older age groups reported to be able to read, write or compute compared to those in the younger ages for both sexes. More than 80 per cent of the male respondents between 15 and 39 years of age reported to be able to read or write and less than 60 per cent of respondents aged 60 years and above reported to be

able to read or write. Almost the same proportion of female respondents, as the males, in the 15- to 24-year age group, is able to read or write. The proportion of female respondents aged 30 years and above reporting to be able to read or write is less compared to their male counterparts. A higher proportion of respondents reported to be able to make simple calculations compared to those in the same age group who reported to be able to write or read. Overall, 79.3 per cent, 78.7 per cent and 83.3 per cent of male respondents and 71.6 per cent, 71.1 per cent

and 77.0 per cent of female respondents report to be able to read, write or compute, respectively. Results for the three literacy skills show that 75.5 per cent of males and 68.6 per cent of females said that they were able to read, write and compute.

Table 3.6b: Percentage of persons aged 15 years and above who said they attended literacy programmes in past 12 months and were attending

Province	Attended literacy programme in the last 12 months		Currently attending	
	Male	Female	Male	Female
Nairobi	39.7	0.0	39.7	< 1
Central	22.8	8.2	< 1	6.5
Coast	12.0	15.3	5.9	6.2
Eastern	32.0	19.9	27.9	10.9
North Eastern	32.3	18.8	20.0	9.4
Nyanza	17.3	9.2	4.9	5.2
Rift Valley	21.9	18.2	15.4	11.9
Western	5.5	19.4	2.6	< 1
Urban				
Urban	19.1	8.4	11.4	7.7
Rural				
Rural	20.1	16.4	16.7	5.4
Total	19.9	15.1	12.9	7.9

¹² Self-assessment of literacy has generally not proven to demonstrate true literacy abilities. An individual's self-assessment can provide inaccurate and incomplete measures of literacy levels leading to an over-estimation of literacy levels (UNESCO, 2005).

Table 3.7: Percentage of respondents who report to have participated

Reasons why they left	Province								Total
	Nairobi	Central	Coast	Eastern	North Eastern	Nyanza	Rift Valley	Western	
No centre nearby	22.3	13.1	7.6	25.9	21.5	19.9	19.6	21.4	17.9
Lack of teachers	0.0	15.9	23.0	31.4	34.3	31.5	24.4	41.4	28.1
Not interested		1.7	7.8	2.7	11.5	4.4	4.8	3.9	4.8
Costly	0.0	0.0	4.7	1.5	14.4	1.0	1.9	0.6	2.4
Too old to attend	39.3	2.8	1.1	3.7	0.0	5.8	0.8	0.0	2.9
Busy	19.9	22.6	22.8	14.7	14.3	14.8	23.2	12.0	18.4
Illness/disability	0.0	17.0	0.7	5.7	0.0	4.5	4.3	4.0	4.5
Others	13.0	25.7	14.1	9.9	4.0	11.8	11.8	15.5	13.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 3.10 provides results of individuals' self-assessment on reading, writing and computation by region and gender. In Nairobi Province, the results show that a slightly higher proportion of females say that they are able to read, write and compute compared to males. For all the other provinces, the proportion of males reporting to be able to be read, write and compute is higher than what is reported by female respondents. Nairobi Province is ranked first (91.7 per cent males and 92.0 per cent females) followed by Central Province (89.5 per cent male and 83.9 per cent female) and Nyanza Province in third position with 82.9 per cent males and 76.2

per cent females reporting to be able to read, write and compute. North Eastern Province is ranked last with lowest proportion of males (17.9 per cent) and females (7.5 per cent) reporting to be able to read, write and compute. Based on the self-assessment results, more than one quarter (28 per cent) of Kenyan adults say that they are illiterate. Results for the self-assessments for districts in the country are provided in the District Statistical Tables of Annex 4.

3.6 Use and application of literacy and numeracy skills

People perceive literacy and numeracy skills for a variety of uses and applications.

Table 3.8: Percentage of respondents who never participated by province

Reasons	Province								Total
	Nairobi	Central	Coast	Eastern	North Eastern	Nyanza	Rift Valley	Western	
Already literate/completed	54.0	60.7	42.5	46.7	8.2	29.5	40.4	29.7	41.3
No centre nearby	28.6	13.2	19.1	24.8	46.2	37.9	35.5	39.9	29.7
Lack of teachers	0.0	0.6	1.5	0.9	2.4	0.8	1.4	1.6	1.1
Not interested	5.4	5.9	6.0	9.5	7.0	4.3	5.3	7.2	6.2
Costly	0.4	0.8	5.5	0.4	0.5	0.4	0.5	0.3	0.9
Too old to attend	1.6	1.1	2.4	1.7	2.6	1.6	2.2	1.6	1.8
Busy	9.0	8.2	11.3	12.4	30.7	8.8	9.1	11.4	10.7
Illness/disability	0.2	1.1	0.5	0.6	1.0	1.0	0.5	0.7	0.7
Others	0.9	8.7	11.1	3.1	1.4	15.7	5.1	13.4	7.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Table 3.9: Percentage of persons aged 15 years and above who

Age group	Male				Female			
	Say are able to read	Say are able to write	Say are able to compute	Say are able to read, write and compute	Say are able to read	Say are able to write	Say are able to compute	Say are able to read, write and compute
15-19	84.2	84.5	87.4	81.0	84.2	83.9	86.5	80.3
20-24	81.4	80.9	85.0	77.7	80.3	80.8	84.2	78.1
25-29	84.2	84.1	87.2	80.7	82.0	81.7	84.9	79.4
30-34	83.3	83.1	87.9	79.8	76.7	76.6	81.6	74.4
35-39	84.6	83.8	88.1	80.4	75.3	74.4	79.0	72.4
40-44	79.0	79.1	83.9	75.2	66.0	63.6	72.8	60.5
45-49	79.8	78.8	84.2	78.0	56.8	55.3	68.9	54.1
50-54	68.1	66.2	73.5	63.1	46.3	45.7	59.1	44.0
55-59	61.8	59.5	72.1	56.5	45.2	43.0	54.0	40.2
60-64	55.4	54.2	61.2	49.8	32.2	31.0	46.1	29.0
65-69	58.2	55.4	62.7	54.7	23.8	21.5	37.2	21.0
70+	38.8	35.7	49.1	33.9	18.1	16.0	31.2	15.2
Total	79.3	78.7	83.3	75.5	71.6	71.1	77.0	68.6

This survey intended to determine whether respondents use a variety of literacy (reading and writing) and numeracy skills and for what purpose. Use of literacy skills is directly related to one's ability to maintain or improve upon existing literacy levels. [Table 3.11](#) provides insights on adult learners perceived use of reading skills and this is useful information for service providers.

Responses were categorised according to use and application of literacy skills for school, community, religion, personal, leisure, work and others. The results show that about one quarter (26.9 per cent) of male respondents report that they use reading skills for school compared to less than one quarter (23.4 per cent) of female respondents. The reported use of reading skills among the younger age groups (15 to 19 years of age) is higher for both sexes (66.0 per cent for males and 51.6 per cent for females). Similarly, one quarter (26.6 per cent) of male respondents and 38.5 per cent of female respondents reported that they use reading skills for community/religion purposes. Some 65.4 per cent of male

respondents and 63.6 per cent of their female counterparts reported that they use reading skills for personal/leisure reasons. Fewer adults (24.1 per cent male and 17.4 per cent female) say they use reading skills for work.

Literacy is complex and dynamic and not easily captured by one indicator. The traditional definition of literacy is considered to be the ability to read and write with understanding, simple short statement in everyday life. UNESCO¹³ broadens the definition of literacy as: *"The ability to identify, understand, interpret, create, communicate and compute, using printed and written materials associated with varying contexts."* The most common understanding of literacy is that "it is a set of tangible skills particularly cognitive skills of reading and writing that are independent of the context in which they are acquired and the background of the people who acquire them." Numeracy is usually understood as a supplement of skills encompassed by literacy or as a component of literacy itself.

¹³ See: Global Monitoring Report: Literacy for Life, Paris: UNESCO, 2005.

Literacy is internationally acknowledged as a fundamental human right that is protected by various conventions and protocols, including the 1948 Universal Declaration of Human Rights and EFA. According to UNESCO (2005): "Literacy is a right. It is implicit in the right to education. It is recognised as right, explicitly for both children and adults, in certain international conventions."

Out of the six EFA goals; three put emphasis on literacy. Goal 3: ensuring that the learning needs of all young people and adults are met through equitable access to appropriate learning and life-skills programmes. Goal 4: achieving a 50 per cent improvement in the levels of adult literacy by 2015, especially for women, and equitable access to basic and continuing education for all adults. Goal 6: improving all aspects of the quality of education and ensuring excellence of all so that recognised and measurable learning outcomes are achieved by all, especially in literacy, numeracy and essential life skills.

Further, literacy rates are a crucial measure of a country's human capital since literate people can be trained less expensively, generally have a higher socio-economic status

Table 3.10: Percentage of persons who say they are

Province	Male	Female	Total
Nairobi	91.7	92.2	92.0
Central	89.5	83.9	86.7
Coast	78.0	56.7	67.4
Eastern	72.8	67.0	69.9
North Eastern	17.9	7.5	12.7
Nyanza	82.9	75.2	79.6
Rift Valley	68.7	62.6	65.7
Western	79.3	68.6	71.0
Total	75.5	68.6	72.1

and enjoy better health and employment prospects. Literacy is therefore an indispensable means for effective social and economic participation, contributing to human development and poverty reduction (UNESCO, 2000).

Literacy involves a continuum of learning to enable an individual to achieve his or her goals, to develop his or her knowledge and potential, and to participate fully in the wider society. According to Stromquist (2005): "Literacy skills are fundamental to informed decision-making, personal empowerment, active and passive participation in local and global social community." To illustrate this fundamental principle, analysis in Chapter 4 provides the status of the literacy achievements of the Kenyan adult population.

Table 3.11: Use and application of reading skills

Age group	Male					Female				
	For school work	Community/religion	Personal/leisure	Work	Others	For school work	Community/religion	Personal/leisure	Work	Others
15-19	86.0	18.4	52.1	7.7	1.7	51.6	30.2	55.7	9.7	1.4
20-24	23.6	22.6	73.0	20.7	3.3	15.5	34.5	70.1	12.8	2.7
25-29	12.4	28.2	72.2	28.2	2.2	12.3	36.9	68.8	18.7	3.6
30-34	10.7	28.5	69.7	32.1	2.4	14.8	44.0	65.0	22.8	2.9
35-39	11.0	28.0	66.5	34.7	2.3	12.5	48.4	62.9	25.7	5.5
40-44	12.3	32.4	65.8	38.7	3.0	14.2	47.1	61.6	28.6	3.9
45-49	12.2	37.7	64.6	34.9	1.7	12.5	48.4	60.6	19.9	2.8
50-54	15.5	33.0	64.6	39.5	2.1	13.3	47.2	64.9	32.2	3.9
55-59	11.1	38.1	70.0	23.8	0.9	14.4	48.1	60.7	20.3	3.2
60-64	12.4	42.7	68.5	21.5	1.3	20.6	57.4	64.2	24.4	0.6
65-69	11.5	36.7	74.3	26.4	0.6	2.4	40.7	74.0	7.6	0.0
70+	10.3	44.2	59.1	17.3	11.1	4.6	69.3	61.9	16.2	6.5
Total	26.9	28.6	65.4	24.1	2.4	23.4	38.5	63.6	17.4	2.8

CHAPTER 4

LITERACY AND NUMERACY ASSESSMENT

4.1 Introduction

The chapter elicits discussion on the cognitive outcomes of the adult population when looking at its reading and numeracy abilities, which are essential for a rapidly changing society. These skills have the potential to meet an individual's need so as to stimulate social, cultural, political and economic participation for meaningful development of the society. Besides, they are integral for continuous and life-long learning or further education.

Kenya's education system takes cognisance of the important role of mother tongue in the early stages of literacy acquisition. Thus, it has a policy that provides for the use of the language of the catchment area as a medium of instruction in the early years of schooling. The same policy applies to adult literacy programmes. For this reason, therefore, the KNALS literacy assessment tests were conducted in Kiswahili and 18 other local languages/dialects to ensure that every respondent was able to take the test in a language that he/she felt comfortable with. Therefore, the results represent the respondent's own cognitive ability without language bias.

A detailed description is provided on the construction of test items, assessment administration and derivation of competency levels based on Rasch analysis techniques.¹⁴ The results provide an analysis of the situation of the literacy and numeracy attainment of the adult population in terms of the competency levels and variation within provinces, population subgroups that includes gender, urban versus rural and education.

4.2 Construction of test items

In the construction of the test items for the adult population, the principles of adult literacy tasks are taken into consideration. The tasks relate to a school context versus

non-school context materials and also include aspects of reading exercises that incorporate visual aids and directions. Since the adult literacy level is dependent on both reading and computation skills, two sets of test items were considered for construction of the reading test and the numeracy test.

■ Reading test items

Literacy is about understanding written texts. It consists of two related processes: word recognition and comprehension. Word recognition refers to the process of perceiving how written symbols correspond to one's spoken language. Comprehension is the process of making sense of words, sentences and connected text.

One of the quotes on reading states that: "If we think of reading primarily as word recognition, we will drill on the basic sight vocabulary and word recognition skills....If we think of reading as a thinking process, we shall be concerned with the reader's skill in making interpretations and generalisation, in drawing inferences and conclusions" (Indrisano and Chall, 1995, 64).

The construction of the test items for reading in the adult literacy survey was based on three main domains. The domains are:

- Narrative prose - considered as continuous text that aims to tell a story-whether fact or fiction;
- Expository prose - considered as continuous text that aims to describe, explain, or otherwise convey factual information or opinion to the reader; and
- Documents - considered as structured information organised in such a way that the reader is required to search,

¹⁴ See: <http://www.rasch-analysis.com/rasch-analysis.htm>

locate, and process selected facts rather than read every word of a continuous text.

The characteristic of the literacy assessment process takes into consideration the adult contexts/content based on materials that represent a variety of context and contents. The tasks construction for the assessment is drawn from materials selected from a broad range of both prose and document text types. The tasks identified reflect the process strategy based on specific questions that are directed to the respondents. A common framework or blue print for the respondents reading test was developed based on skills domain and level of competency as shown in [Table 4.1](#). A panel of test item experts developed 44 reading items based on the reading skills: verbatim recall, paraphrase concept, finds main idea, infer from text, locate information, locate and process and apply rules in the three domains. The developed items were also based on adult literacy programme themes: consumer economics, leisure, banking, health and safety and work. After several trials with a sampled population, 18 items were selected for the KNALS literacy assessment.

During the development of the test items, the skills identified were based on five competency levels. The levels depended on item difficulty from the easiest in Level 1 to the most difficult in Level 5. The hierarchy of the reading skills described in [Figure 4.1](#) below explains the expected task ability of the population that is embedded on the cognitive skills.¹⁵

■ Numeracy test items

Numeracy is the knowledge and skills required to effectively compute and

Table 4.1: Reading test skills domain

Reading skills	Reading domain			Total items
	Narrative	Expository	Documents	
Verbatim recall	1	0	0	1
Paraphrase concept	0	2	0	2
Find main idea	0	2	2	4
Infer from text	1	1	2	4
Locate information	1	0	3	4
Locate and process	0	0	2	2
Apply rules	0	0	1	1
Total Items	3	5	10	18

respond to demands of diverse situations. This involves solving problems in daily life, work, and interpreting graphs, tables and diagrams. The numeracy items are divided into three main domains, that is:

- Number - Operations and number line, square roots, rounding and place value, significant figures, fractions, percentages, and ratios;
- Measurement - Measurements related to distance, length, area, capacity, money, and time; and
- Space-data - Geometric shapes, charts (bar, pie, and line), and tables of data.

A common framework or blue print for the numeracy test was developed based on skills domain and level of competency as indicated in [Table 4.2](#). A panel of test item experts developed 76 numeracy items based on the numeracy skills: knowing, problem-solving, performing routine procedure, and performing complex procedure in the three domains. After several trials, 18 items were selected for the numeracy assessment.

The hierarchy of numeracy skills is described indicating the tasks required by the population to perform in the items selected within the five levels of competency. These levels are explained in [Figure 4.2](#) below.¹⁶

^{15/16} Adapted from SACMEQ II Research Project, Kenya: Hierarchy of Reading Skills in Test Construction.

Figure 4.1: KNALS competency skills levels for reading test

Level 1: Respondents at this level should be able to link words and pictures where the pictures depict common objects of a "concrete" nature.

Level 2: Respondents at this level should be able to link words to more abstract concepts such as propositions of place and direction, and, perhaps, ideas and concepts such as comparatives and superlatives (happiest, biggest, below etc.).

Level 3: Respondents at this level should be able to link words (such as a phrase or short sentence) from one setting to words in another setting where there is a word match between the two settings.

Level 4: Respondents at this level should be able to deal with longer passages of text that contain a sequence of ideas and content, and that require understanding derived from an accumulation of information gathered by reading forward.

Level 5: Respondents at this level should be able to read forwards or backwards through a text in order to: confirm understanding, or link new information with a piece of information encountered previously, or link ideas from separate parts of a text, or demonstrate the capacity to infer an author's intention.

4.3 Field administration and scoring of test items

The reading and numeracy tests had a total of 36 items (each 18 items) that were administered to the eligible household member. The respondent was to undertake the test in the language that he/she was comfortable with and hence had the option of choosing to take the test in one out of 20

languages, including English and Kiswahili. Research assistants were trained to mark the scripts and were also provided with a marking guide with score codes for each item. The scores were also pre-coded with the following response codes: 1 = correct response; 2 = partially correct response; 3 = incorrect response; and 4 = not attempted. The marking and coding of the responses for the scripts was done at the end of each

Figure 4.2: KNALS competency skills levels for numeracy

Level 1: Respondents at this level should be able to identify simple shapes and link simple patterns and shapes to simple digits, to recognise units of measurement, to name basic shapes, and to undertake simple single operations using up to two digit numbers.

Level 2: Respondents at this level should be able to recognise simple fractions in both numerical and graphical forms, to identify data presented in tables, to make basic calculations using simple measurement units, and to understand numeration with simple computations.

Level 3: Respondents at this level should be able to extend and complete number patterns, to translate shapes and patterns, and to convert measurement units when making simple single step calculations.

Level 4: Respondents at this level should be able to combine operations in order to link information from tables and charts in performing calculations, to apply two or three step number operations applied to measurement and conversion problems, and to identify and use appropriate information in the subsequent steps of a calculation.

Level 5: Respondents at this level should be able to make calculations and interpretations linking data from tables and graphs, and to make computations involving several steps and a mixture of operations using fractions, decimals, and whole numbers.

Table 4.3: Literacy competency score levels

	RASCH SCORE RANGE	INDICATIVE SKILLS	EXAMPLE OF TEST ITEM DESCRIPTION
Level 0	Not applicable	◆ Cannot read and write	Not applicable
Level 1	≤ -2.581	◆ Can recognise symbols or pictures ◆ Can link words and pictures	Match word to picture
Level 2	-2.580 to ≤ -1.645	◆ Can link words to more abstract concepts such as propositions of place and direction	Match words and simple phrases
Level 3	-1.644 to ≤ 0.648	◆ Can link words such as a phrase or short sentences	Use sentences as units of meaning
Level 4	0.649 to ≤ 1.360	◆ Can deal with longer passages of text that contain a sequence of ideas and content and able to read forward	Interpret sentences and match phrases
Level 5	≥ 1.361	◆ Can read forward and backward through a text in order to confirm understanding	Locate, interpret and read forward and backwards so as to make judgment on the content

day. Supervisors were assigned the role of moderating the marks, and periodically sampled 10 per cent of the marked scripts. They worked out a deviation upon which a decision was made to either accept or order remarking. A deviation of -2 or +2 was acceptable, however beyond that the research assistant was asked to remark the scripts. Details of how the test were administered and scored are provided in the data collector's manual.

4.4 Defining competency levels and score ranges

During the analysis the codes for the responses of the test items were recoded as; 0 = incorrect responses and 1 = correct response for both reading and numeracy with the partial responses merged with correct response. The assessment items were scaled using Rasch analysis procedures¹⁷ to form two scales; one for reading

Table 4.2: Numeracy test skills domain

Numeracy skills	Numeracy domain			Total items
	Number	Measurement	Space-data	
Knowing	1	1	2	4
Performing routine procedure	2	1	1	4
Performing complex procedures	2	1	3	6
Problem-solving	-	-	4	4
Total items	5	3	10	18

¹⁷ Ref: <http://www.rasch-analysis.com/rasch-analysis.htm>

Table 4.4: Numeracy competency score levels

	RASCH SCORE RANGE	INDICATIVE SKILLS	EXAMPLE OF TEST ITEM DESCRIPTION
Level 0	Not applicable	◆ Cannot read or write	Not applicable
Level 1	≤ -2.527	◆ Can identify simple shapes and link simple patterns and shapes to simple digits	Recognise simple shape or number
Level 2	-2.526 to ≤ -0.522	◆ Can recognise simple fractions in both numerical and graphical forms.	Apply two step addition or subtraction
Level 3	-0.521 to ≤ 0.064	◆ Can convert measurement units when making simple single step calculations	Interpret place value of whole numbers and every day measurement units
Level 4	0.065 to ≤ 0.798	◆ Can combine operations in order to link information from tables and charts	Use multiple different arithmetic operations of numbers, fractions
Level 5	≥0.799	◆ Can make calculations and interpretations linking data from tables and graphs	Solve a problem based on verbal, graph or tabular information

and the other for numeracy. In order to derive the levels of competencies, the items in each test were arranged according to the level of difficulty, and examined item-by-item to describe specific skills required for correct responses. Items of specific skills were grouped together such that items in each group had similar diffi-

culty values and shared a common idea with respect to the underlying competencies required to provide correct responses. Using this process the items in the reading and numeracy tests were linked to the five levels of competencies that were proposed in the test blue print.

The competency levels are described in

Table 4.5: Percentage of persons in various literacy competency

Province	Level 0	Level 1		Level 2		Level 3		Level 4		Level 5	
		%	SE	%	SE	%	SE	%	SE	%	SE
Nairobi	8.0	0.6	1.4	4.3	0.8	24.7	2.3	14.0	1.6	48.4	2.4
Central	13.3	4.1	1.1	9.3	0.9	43.4	1.6	12.1	1.0	17.7	1.3
Coast	30.6	4.5	1.8	7.8	1.1	33.6	1.9	14.2	1.4	17.3	1.4
Eastern	30.1	6.8	1.5	8.4	0.8	33.2	1.5	9.5	0.9	11.9	1.0
North Eastern	87.3	4.0	1.4	0.6	0.4	3.6	1.0	1.4	0.7	3.0	0.7
Nyanza	20.4	5.0	1.2	8.6	0.8	36.3	1.5	11.7	1.0	17.9	1.1
Rift Valley	34.3	3.1	1.0	6.1	0.5	28.8	1.0	12.2	0.8	15.6	0.8
Western	29.0	6.5	1.7	7.6	1.0	33.5	1.7	10.0	1.1	13.4	1.2
Total	27.9	3.5	0.5	7.1	0.3	31.9	0.6	11.4	0.4	18.2	0.5

Table 4.6: Percentage of persons aged 15 years and above numeracy

Province	Level 0	Level 1		Level 2		Level 3		Level 4		Level 5	
		%	SE	%	SE	%	SE	%	SE	%	SE
Nairobi	8.0	1.5	1.3	6.8	1.5	4.1	0.9	3.5	0.8	79.0	2.1
Central	13.3	1.6	0.9	9.3	0.9	4.6	0.6	7.5	0.8	66.8	1.4
Coast	30.6	6.8	1.7	7.3	1.0	6.2	1.0	5.2	0.9	57.5	2.0
Eastern	30.1	0.6	0.4	10.3	1.0	4.3	0.5	5.1	0.7	48.0	1.5
North Eastern	87.3	2.6	1.6	1.0	0.7	0.4	0.4	0.9	0.5	7.8	1.4
Nyunza	20.4	2.3	1.0	11.8	0.9	7.4	0.8	6.6	0.7	56.0	1.4
Rift Valley	34.3	0.8	0.9	6.0	0.5	4.4	0.5	5.1	0.5	51.0	1.1
Western	29.0	0.2	1.6	10.9	1.2	3.9	0.7	4.6	0.7	49.4	1.8
Total	27.9	1.0	0.5	8.5	0.3	4.8	0.2	5.2	0.3	54.6	0.6

Tables 4.3 and Table 4.4 for reading and numeracy, respectively. Also included, is Level 0 with no items linked, representing the population that could not read and write. The two tables also present the Rasch score range, indicative skills and examples of items linked to each of the five competency levels.

4.5 Literacy and numeracy competency levels

This section describes the literacy and numeracy levels of the Kenyan population as defined in Table 4.3 and Table 4.4 above.

■ Literacy competency levels

The results in Table 4.5 shows the percentage of persons aged 15 years and above at various literacy competency levels by province. From this table it can be observed that the percentages of the population that were in Levels 1 to 5 were; 3.5, 7.1, 31.9, 11.4 and 18.2, respectively. It is important to note that the percentage in Level 0 is the population which could not read or write as defined in Table 4.3 above. In addition, Table 4.5 shows that North Eastern was the province that had the highest percentage at Level 0 and 1 (91.3) and the province

with the highest percentage at Level 5 was Nairobi (48.4).

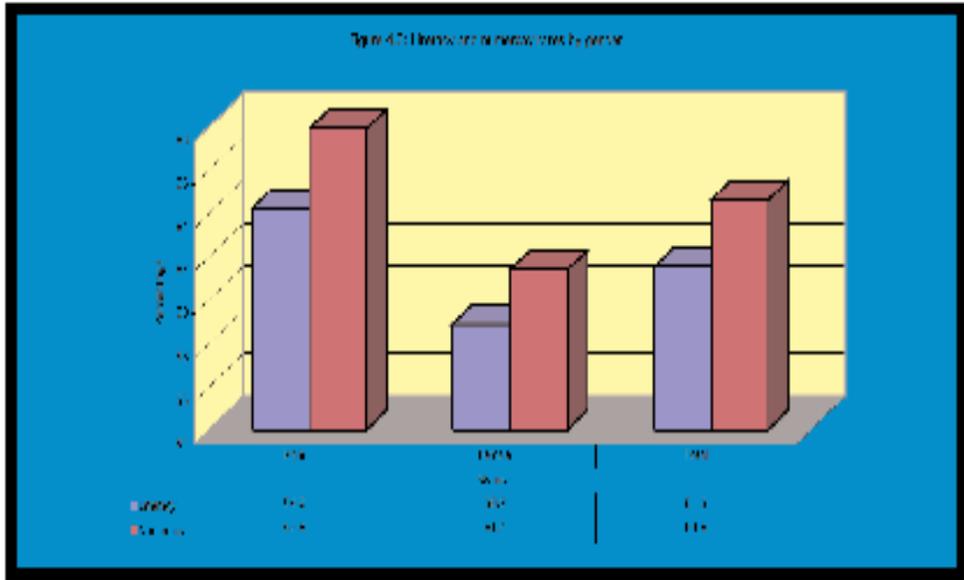
■ Numeracy competency level

Table 4.6 shows the percentage of persons aged 15 years and above at various numeracy competency levels by province. Thus, the percentages of the Kenyan population that were in Levels 1 to 5 were; 1.0, 8.5, 4.8, 5.2 and 54.6, respectively. It is important to note that the percentage in level 0 is the population which could not read or write.¹⁸ The table shows that North Eastern Province had the highest percentage at Level 0 and 1 (89.9) and while Nairobi had highest percentage at Level 5 (79.0). This was similar to what was observed for literacy assessment.

4.6 Adult literacy and numeracy rates

Over the years, literacy rates in Kenya have been computed indirectly from self-reporting of the population. Individuals were asked whether they were able to read and write. This time, however, the survey had comparative results from the direct literacy measurements of the population based on cognitive skills outcome. Based on the iden-

¹⁸ As defined in Table 4.4.



tified skills and competency, a respondent is considered literate or numerate if he or she attains a score equivalent to at least competency Level 3. At this level, a person is deemed to have acquired essential basic knowledge and skills of reading and numeracy. The literacy rate and numeracy rates are presented by gender in [Figure 4.3](#). Based on the identified benchmark on liter-

acy levels, the results show that the national adult literacy rate is 61.5 per cent and the numeracy rate is 64.6 per cent. The male population recorded a higher literacy rate than the female population at 64.2 per cent and 58.9 per cent respectively. Similarly the male numeracy rate was higher at 67.9 per cent as compared to that of females, 61.4 per cent.

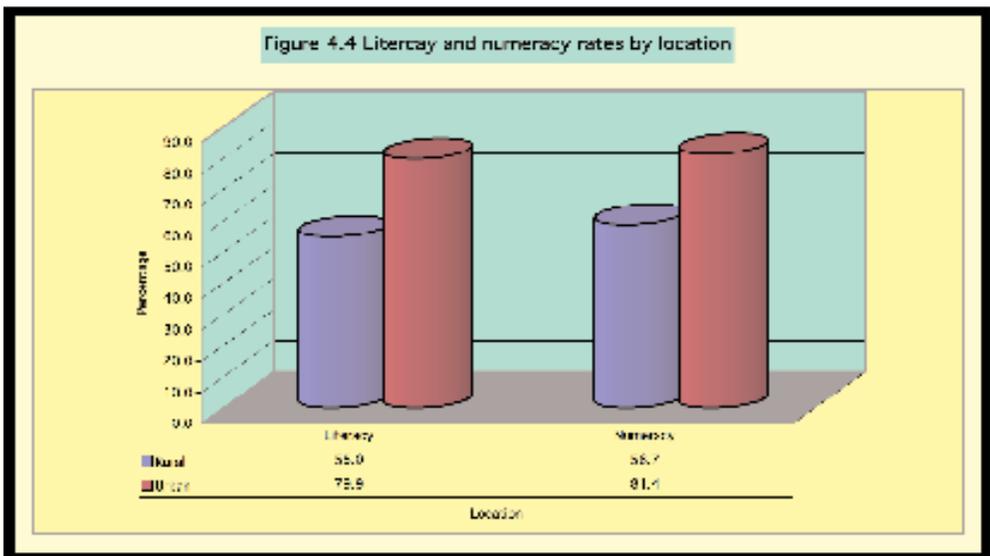


Figure 4.5: Literacy and numeracy rates by province

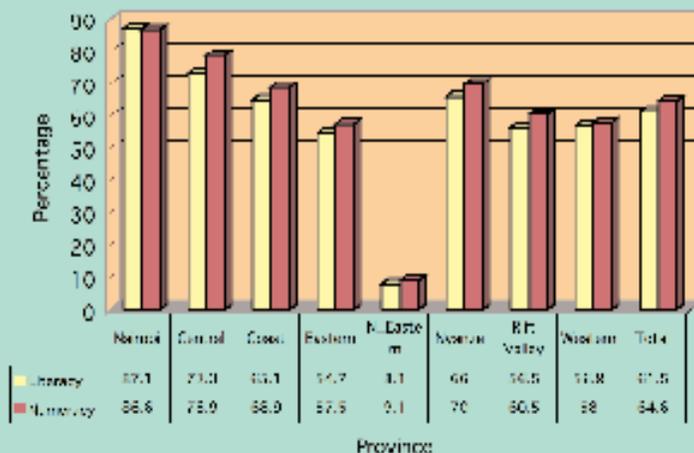


Figure 4.4, shows that the proportion of urban population which is literate is higher, 79.9 per cent, compared to 55.0 per cent for the rural areas. Also, only 58.7 per cent of the rural population is numerate as compared to 81.4 per cent of the urban population. These results imply that 38.5 per cent of the Kenyan population is illiterate and thus, appropriate programme interven-

tions must be put in place to equip them with the desirable literacy skills. It can also be concluded that the Kenyan population attained a higher numeracy rate than literacy, a fact that can be explained because of the adult responsibilities that are inclined to consumer economics, banking and related activities..

Table 4.7: Literacy and numeracy rates by

Province	Literacy						Numeracy					
	Male		Female		Total		Male		Female		Total	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Nairobi	87.1	2.1	86.9	2.4	87.1	1.6	89.3	2.1	84.1	3.1	86.6	1.9
Central	75.7	2.0	71.0	1.8	73.3	1.3	81.7	1.7	76.2	1.6	78.9	1.2
Coast	72.2	2.9	57.5	2.5	65.1	1.9	76.4	2.8	60.9	2.5	68.9	1.9
Eastern	54.1	2.5	55.3	1.9	54.7	1.5	56.8	2.5	58.1	1.8	57.5	1.5
North Eastern	12.3	2.6	4.3	1.2	8.1	1.4	13.7	2.7	5.0	1.5	9.1	1.5
Nyanza	68.6	2.0	62.4	1.8	66	1.3	75.2	1.9	65.0	1.7	70.0	1.3
Rift Valley	60.0	1.6	53.1	1.4	56.5	1	65.2	1.5	55.9	1.4	60.5	1.0
Western	58.5	2.7	55.5	2.3	56.9	1.8	58.0	2.7	58.0	2.3	58.0	1.8
Total	64.3	0.5	59.9	0.7	61.5	0.5	67.9	0.8	61.4	0.7	64.6	0.5

The data presented in Figure 4.5 depicts the percentage of the adult population which is literate and numerate within the provinces. Nairobi Province has the highest percentage of adult population that is literate at 87.1 per cent followed by Central Province, 73.3 per cent and Nyanza Province, 66 per cent. North Eastern Province had the highest proportion of illiterate population at 91.9 per cent followed by Eastern Province, 45.3 per cent,

Rift Valley Province, 43.5 per cent and Western Province, 43.1 per cent. The high proportion of illiterate population in North Eastern Province compares with the low rate of primary school enrolment (Net Enrolment Rate \leq 18 per cent) and the highest population recorded of not having attended school.

Table 4.7 provides information on the literacy and numeracy rates for the provinces by gender. Nairobi Province has a literacy rate of 87.1 per cent for the males as compared to 86.9 per cent for females, while North Eastern Province had 12.3 percent and 4.3 per cent respectively. The provinces with the highest difference in literacy rates between the male and the female are Coast with 14.7 percentage points, followed by North Eastern, 8 percentage points, Nyanza, 7.2 percentage points and Rift Valley, 6.9 percentage points. On the other hand, numeracy rates recorded for Nairobi and North Eastern provinces are 89.3 per cent and 13.7 per cent for males compared to 84.1 per cent and 5 per cent, among the females, respectively. The

provinces with the highest difference in numeracy rates between males and females are the same as those for literacy.

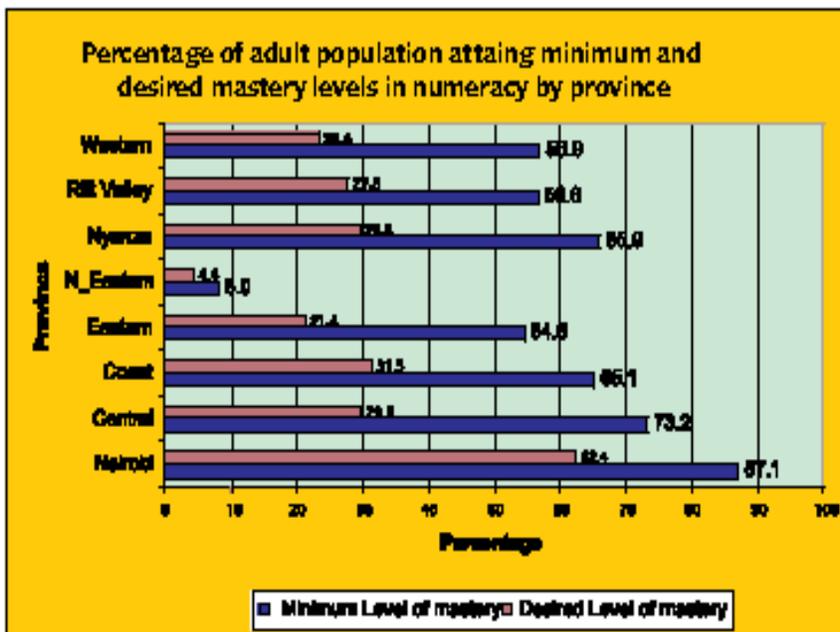
4.7 Minimum and desired mastery levels

In defining literacy levels of the adult population, the survey focused on cognitive outcomes within the hierarchy of skills of literacy and numeracy as illustrated in Figure 4.1 and 4.2 above. The phenomena in the existence of a continuum of literacy or numeracy levels takes into account the range of functional skills on matters of ability that are described in the proposed competency skill levels. The results were generalised and the performance of the population derived based on Rasch scores indicating the level of attainment in the literacy and numeracy tasks.

The assessment survey result has also been subjected to categorisation of the population indicating those who attained the minimum mastery and desired mastery levels in literacy and numeracy. The minimum mastery level has been placed as the

Table 4.8: Percentage of persons attaining minimum and desired literacy

Standard Errors (SE) by gender and province												
Province	Percentage attaining minimum level of mastery						Percentage attaining desired level of mastery					
	Male		Females		Total		Male		Females		Total	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Nairobi	87.3	3.0	86.9	2.9	87.1	2.1	64.0	3.0	60.8	2.1	62.4	2.0
Central	75.7	2.0	71.0	1.7	73.2	1.3	34.5	1.8	25.4	1.5	29.8	1.2
Coast	72.2	2.4	37.5	2.0	69.1	1.6	34.6	2.2	28.1	1.8	31.5	1.4
Eastern	54.1	1.8	55.3	1.4	54.6	1.1	23.0	1.6	20.0	1.2	21.4	1.0
North Eastern	12.3	1.5	4.4	0.7	8.0	0.8	6.6	1.2	2.6	0.7	4.4	0.7
Nyanza	69.6	1.8	62.3	1.5	65.9	1.2	32.7	1.7	26.6	1.3	29.6	1.1
Rift Valley	60.1	1.3	35.1	1.1	36.6	0.9	30.9	1.2	24.8	1.1	27.8	0.8
Western	58.5	2.0	55.5	1.8	56.9	1.3	25.2	1.7	21.7	1.5	23.4	1.2
Total	64.1	0.7	58.9	0.6	61.5	0.5	32.3	0.7	27.9	0.6	29.6	0.5



benchmark for reporting the country's adult literacy and numeracy rate. At this level, the literacy practices are associated with a wide range of cognitive skills and knowledge, in as many domains as possible of people's lives. On the other hand, the population is also considered to have attained the desired mastery level if the literacy skills acquired are functionally sustainable. In this case, the means to ensure the sustainability of literacy skills is derived from the factors associated with cognitive performance that is integrated into the society development activities.

In reference to the competency levels, then it can be said that the population that has attained a Rasch score of Level 3 and above has the requisite skills required for minimum mastery level in literacy and numeracy. Similarly, given the tasks at Level 4 competencies, it is considered that a more complex cycle of cognitive growth with continuous literacy assimilation has been attained. Thus, the population that has achieved a Rasch score of Level 4 and above has the requisite skills required for

desired mastery level in literacy and numeracy.

This section discusses the attainment of minimum and desired mastery levels of both literacy and numeracy. The minimum mastery level is where one is considered to be at competency Level 3 and above. The population that has attained competency Levels 4 and 5 are considered as having attained the desired mastery level.

Adult population attaining the literacy mastery levels

Figure 4.6 illustrates the proportion of the population that has attained the minimum and desired mastery levels in literacy within the provinces. Nationally, 29.6 per cent of the population had attained desired mastery literacy competency as compared to the 61.5 per cent attaining the minimum mastery level. Only Nairobi Province had more than half of the population attaining the desired mastery level in literacy at 62.4 per cent. Other provinces had quite a small population reaching the desired mastery

Table 4.9: Percentage of persons attaining minimum and desired mastery numeracy competences

Province	Percentage attaining minimum level of mastery						Percentage attaining desired level of mastery					
	Male		Female		Total		Male		Female		Total	
	%	SE	%	SE	%	SE	%	SE	%	SE	%	SE
Nairobi	89.3	1.7	84.1	1.8	86.6	1.3	85.1	1.9	79.8	2.2	82.5	1.5
Central	81.8	1.3	76.2	1.4	78.9	0.9	78.0	1.6	70.8	1.6	74.9	1.1
Coast	76.4	1.9	69.9	1.8	68.9	1.3	70.9	2.2	53.9	2.0	62.7	1.5
Eastern	56.7	1.4	58.0	1.3	57.4	0.9	52.9	1.7	53.3	1.6	53.1	1.1
North Eastern	13.7	1.3	5.0	0.7	9.1	0.8	12.8	1.6	5.0	1.0	8.7	1.0
Nyanza	75.2	1.5	64.9	1.2	70.0	1.0	66.6	1.6	58.7	1.4	62.6	1.1
Rift Valley	85.2	1.8	56.0	1.0	60.5	0.7	81.0	1.2	51.4	1.1	66.1	0.8
Western	58.0	1.5	57.9	1.4	57.9		55.6	1.9	52.6	1.6	54.0	1.3

level with Coast having 31.5 per cent, Central, 29.8 per cent, Nyanza, 29.6 per cent while North Eastern had dismal achievement of 4.4 per cent.

Information on gender disparity on adult population attaining minimum and desired mastery levels in literacy are presented in Table 4.8. Fewer women attained the minimum and desired mastery levels at 58.9 per cent and 27.0 per cent as compared to the male population, 64.1 per cent and 32.3 per cent respectively. In Central Province, 75.7

per cent and 34.5 per cent of the male attained the minimum and desired mastery levels as compared to 71.0 per cent and 25.4 per cent of the females respectively.

Population reaching the numeracy mastery levels

Figure 4.7 presents the percentage of the population that has attained the minimum and desired mastery level in numeracy within the provinces. At national level, 59.8 per cent of the population reached the desired mastery level in numeracy as compared to the 64.6 per cent reaching the minimum mastery level. All the provinces

had more than half the population reaching the desired mastery level in numeracy except for North Eastern with only 8.7 per cent. Just like literacy levels, Nairobi Province had the highest proportion of population attaining the desired mastery level, 82.5 per cent followed by Central, 74.3 per cent, Coast, 62.7 per cent and Nyanza 62.6 per cent. The provinces (excluding North Eastern) with a relatively higher population not reaching desired mastery level in numeracy are; Eastern,

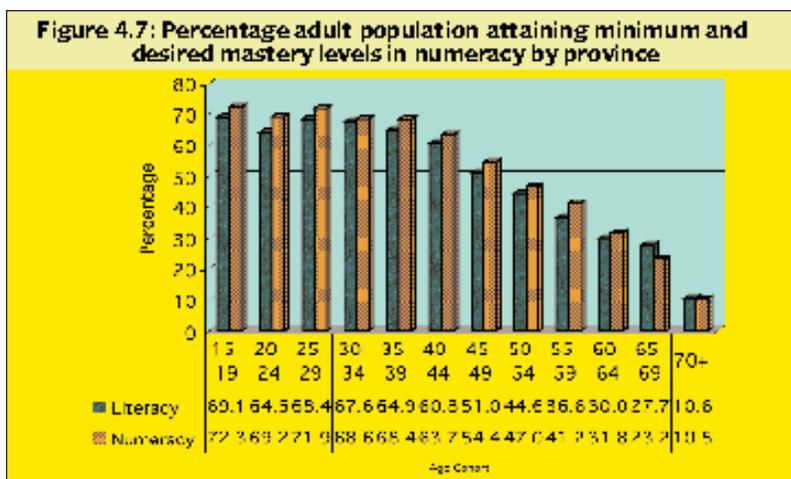


Table 4.10: Percentage of adult population with minimum mastery

Province	Nairobi	Central	Coast	Eastern	North Eastern	Nyanza	Rift Valley	Western	Total
15-19	93.0	77.8	72.9	56.3	11.6	79.7	63.8	69.1	69.0
20-24	83.9	76.0	56.5	66.7	11.6	65.8	61.6	64.1	64.5
25-29	90.7	80.2	79.3	60.1	7.1	68.5	67.4	63.8	68.4
30-34	87.9	78.7	75.0	59.8	7.6	75.4	62.3	65.8	67.6
35-39	81.3	83.6	62.4	59.6	9.6	70.7	60.8	60.1	64.8
40-44	94.2	75.1	60.2	55.0	8.5	64.7	53.6	52.9	60.8
45-49	86.6	63.7	79.7	38.9	0.0	47.6	45.7	32.0	51.0
50-54	81.5	56.5	60.8	45.6	0.0	39.5	33.7	33.8	44.6
55-59	78.2	58.0	28.1	35.1	0.0	36.1	22.1	30.2	36.6
60-64	80.3	36.0	21.4	24.3	0.0	30.1	19.2	11.7	29.9
65-69	93.0	35.5	7.4	25.0	0.0	28.4	10.4	8.8	27.7
70+	57.7	6.2	8.3	3.1	0.0	10.5	3.1	10.5	10.6

Western and Rift Valley. In general, the population is performing better in numeracy than literacy as illustrated by the high percentage, which has reached both the minimum and desired mastery levels.

Table 4.9 illustrates the percentage of adult population attaining minimum and desired mastery levels in numeracy. Majority of the population (more than half) attained the minimum and desired mastery levels in numeracy with males recording 67.9 per cent and 63.4 per cent and females, 61.3 per cent and 56.3 per cent, respectively. Rift Valley Province had 65.2 per cent of the male attaining the minimum mastery level as compared to the female, 56.0 per cent,

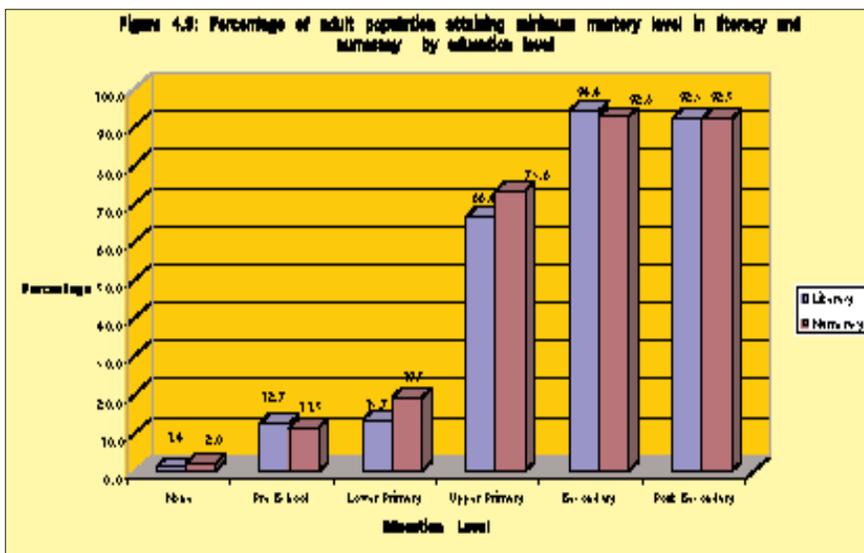
while the desired mastery level was 61.0 per cent compared to 51.4 per cent, respectively.

4.8 Analysis of minimum literacy and numeracy mastery levels by sub-groups

The minimum mastery levels for literacy and numeracy for the various age cohorts are shown in Figure 4.8, with the data presented showing that the proportion declines with an older age group, especially after 34 years. The population that was in the age cohort 15 to 19 years had a literacy rate of 69.1 per cent as compared to those in the 45

Table 4.11: Percentage of adult population attaining minimum mastery level in numeracy by age cohort and

Province	Nairobi	Central	Coast	Eastern	N. Eastern	Nyanza	Rift Valley	Western	Total
15-19	90.7	85.9	76.1	62.1	15.1	82.8	67.0	69.0	72.4
20-24	91.7	78.1	65.8	68.9	13.1	69.9	68.2	66.1	69.3
25-29	90.7	85.1	79.1	61.6	6.6	76.3	71.4	68.5	71.9
30-34	81.7	85.8	78.0	60.1	7.2	76.5	65.4	62.3	68.6
35-39	87.2	88.8	65.9	62.0	9.6	79.2	64.1	57.7	68.5
40-44	91.3	79.6	64.0	57.2	8.6	67.4	56.9	59.8	63.7
45-49	91.7	77.3	75.6	45.5	1.4	48.8	49.3	28.2	54.3
50-54	90.8	57.1	58.6	49.8	0.0	40.9	34.6	37.2	47.0
55-59	71.3	60.9	47.2	36.5	0.0	36.4	30.1	37.9	41.2
60-64	90.2	36.1	17.1	22.4	0.0	36.6	21.5	8.9	31.8
65-69	35.0	40.8	7.4	22.8	0.0	31.4	18.3	14.3	23.2
70+	31.0	18.2	24.2	3.5	0.0	13.1	2.3	11.3	10.4



to 49 years age bracket, which was at 51.0 per cent. The population at 70 years of age and above had the lowest literacy and numeracy rate at 10.6 per cent and 10.5 per cent, respectively.

Table 4.10 provides information on the literacy rates within provinces for the various age cohorts. Nairobi Province had more than half the population at all ages being literate, with highest percentage recorded at age bracket of 40 to 44 years (94.2 per cent) followed by 15 to 19 years old (93.0 per cent).

The highest proportion of population that was literate in Central Province was

between 25 to 29 years of age (80.2 per cent) and the lowest was those aged 70 years and above (6.2 per cent). In Nyanza and Western provinces the age cohorts that had less than half the population literate were those 45 years and above.

Youth literacy among the population aged 15-24 is another indicator towards EFA and the MDG. In the 15 to 19 age cohort 69.0 per cent and 72.4 per cent of the youth attained the minimum mastery level in literacy and numeracy respectively. For the age cohort of 20 to 24 year olds, 64.5 per cent and 69.3 per cent of the youths attained minimum mastery level in literacy and

Table 4.12: percentage of persons aged 15 years and above with minimum

Education level	Nairobi	Central	Coast	Eastern	North Eastern	Nyanza	Rift Valley	Western	Total
Pre-school	<1	<1	1.0	8.9	<1	17.5	20.6	34.5	12.7
Lower primary	29.2	15.6	21.0	15.2	1.6	11.4	12.7	8.4	13.7
Upper primary	77.3	68.7	72.8	62.0	64.8	65.5	66.7	62.1	66.4
Secondary	97.3	97.1	97.9	93.9	92.2	88.5	94.2	94.0	94.4
Post Secondary	97.2	97.8	93.1	97.8	85.2	95.5	79.3	62.1	92.3
None	24.8	0.9	0.5	0.9		1.7	1.4	<1	1.4
Others	<1	39.4	100.0	47.3	<1	100.0	83.5	100.0	70.3
Not Stated	40.3	70.3	<1	1.8	<1	16.5	27.8	61.1	13.5

Table 4.13: Minimum mastery level in numeracy by education attainment and province

Education Level	Nairobi	Central	Coast	Eastern	North Eastern	Nyanza	Rift Valley	Western	Total
Pre-school	<1	<1	1.0	4.5	<1	17.5	20.6	34.5	11.5
Lower primary	41.5	26.2	34.7	21.4	1.6	21.3	15.0	9.0	19.5
Upper primary	86.2	78.8	80.4	67.4	79.7	71.1	76.4	64.8	73.6
Secondary	91.5	96.2	95.3	91.8	91.0	89.5	93.9	92.0	92.8
Post-secondary	95.3	100.1	93.1	95.7	85.2	96.6	80.5	97.2	92.5
None	24.8	<1	1.1	<1	<1	3.7	2.2	<1	2.0
Others	<1	70.2	100.0	47.3	<1	100.0	72.7	83.6	71.2
Not Stated	35.7	77.0	<1	1.8	<1	23.4	27.9	61.1	13.8

numeracy respectively. Analysis of [Table 4.11](#) shows the achievements in numeracy for the various age cohorts. Nairobi Province had more than half the population at all the age levels being literate with highest percentage recorded among those in 40 to 44 years age cohort (91.3 per cent) followed by 15 to 19 years old (90.7 per cent). The cohort with the highest proportion of population that was numerate for Central Province was the 35 to 39 year olds (88.8 per cent) and the lowest were those aged 70 years and above (18.2 per cent).

Minimum mastery level in literacy and numeracy by education

It is evident that the population that progressed beyond lower primary education is likely to be literate (over 66 per cent) and numerate (over 73 per cent) as shown in [Figure 4.9](#). For those who had attained the level of pre-school education, the analysis shows that only 12.7 per cent and 11.5 per cent were literate and numerate, respectively. It is likely that this group could have participated in literacy programmes. At upper primary school level (Grades Five to Eight), secondary and post-secondary, the illiterate population was 33.6 per cent, 5.6 per cent and 7.7 per cent, respectively. Those reporting to have attained secondary

and post-secondary levels of education and who did not meet the minimum mastery level may have misreported their formal educational attainment. The minimum mastery levels in literacy and numeracy by districts are provided in the District Statistical Tables in Annex 4.

[Table 4.12](#) presents information on the literacy rates attained within the provinces for the various education levels. The percentage of adults in Eastern, Nyanza, Rift Valley and Western provinces recorded to have at least pre-school education are: 8.9, 17.5, 20.6 and 34.5, accordingly. In general, all the provinces reflected the similar trend, having majority of the literate population having attained education levels beyond lower primary education (Grades One to Four) and hence, had attained minimum mastery level in literacy.¹⁹

Also, analysis of [Table 4.13](#) provides the trend in numeracy rate within the provinces given the education attainment of the population. Central Province reported that the population, which had secondary education was numerate. Any population that was considered to be having only pre-school education was likely not to be numerate in Nairobi, Central, Coast, Eastern and North Eastern Provinces.

¹⁹ It is documented that literacy rates increase significantly with more years of completed schooling. (UNESCO, 2005). However, establishing the schooling threshold for mastery literacy levels warrants further research.

CHAPTER 5

INSTITUTIONS PROVIDING ADULT LITERACY

5.1 Introduction

Adult literacy programmes are provided by diverse institutions and providers in public and private sectors. The government, through the Department of Adult Education, is the main provider of adult literacy. Other providers are non-governmental organisations (NGOs), including the FBOs, NGOs and CBOs.

As the principal player, DAE's mission is to eradicate illiteracy and promote lifelong learning among adults and out-of-school youth to enable them make informed decisions, and become self-reliant so as to improve their livelihood, with a view to creating a functionally literate, learning and empowered society. The DAE offers the following programmes: basic literacy, post-literacy, and non-formal education.

The basic literacy programme aims at imparting basic literacy, numeracy, and communication skills, and is critical in equipping the adults with knowledge and life skills necessary for improved and effective work performance. The post-literacy programme is aimed at assisting new literates to engage in productive learning activities, which help them to retain, improve, and apply their literacy, numeracy and communication skills. It is meant to assist learners to acquire sustainable literacy. The non-formal education programme targets youth who have had no access to the formal primary school education or those who dropped out of school before acquiring sustainable literacy levels. The programme,

therefore, offers another chance to out-of-school youth and adults to continue with education to their desired levels.

The DAE has 4,881 adult education teachers, of whom 1,792 are full-time government employees, while 3,089 are part-timers. Full-time teachers are government employees who are permanent and pensionable while the part-time teachers are volunteers who are paid token allowance (*honorarium*) for their services. The part-time teachers are used as a stop-gap measure to address the shortage of full-time teachers. Learning programmes take place in adult education centres, which may have one or more literacy classes. Similarly, each teacher has at least one class but full-time teachers operate more than one class. The part-time staffers work for six hours a week. In total, the DAE has 6,889 adult literacy classes but the exact number of literacy classes operated by other providers has not been determined. For purposes of this survey, a literacy centre/class is regarded as a 'learning institution'.

5.2 Results from adult education centres/classes

A questionnaire was designed to solicit information from centres/classes providing adult literacy programmes in the country and administered in the sampled institutions. Eight classes were sampled from every district by the field supervisor with the assistance of the district adult education officer. [Table 5.1](#) shows the number of adult learners enrolled in all the sampled

Table 5.1: Enrolment trends by gender

Year	Male	Female	Total	Percent (%) female
2001	2,333	6,489	8,822	74
2002	2,714	6,775	9,489	71
2003	2,683	6,851	9,534	72
2004	3,054	8,009	11,063	72
2005	4,066	9,888	13,954	71
2006	4,025	9,173	13,198	70

centres from 2001 to 2006. The trend shows that the number of learners in the sampled centres increased from 8,822 in 2001 to 13,198 in 2006, representing a 49.6 per cent rise. This information is important in assessing the level of enrolment in literacy programmes across the country. The results show that at least 70 per cent of adult learners are females.

Teachers/instructors have the strongest influence on learning in adult centres in the country. They are the ones in charge of the

centres, provide guidance to the learners, recruit new learners and are expected to motivate them to stay on and complete the programme. The number of full-time and part-time adult education teachers between 2004 and 2006 in all adult education centres/classes in the country are presented in Table 5.2. At its inception in 1979, the DAE had 3,000 full-time teachers, but this figure had gone down to 1,792 in 2006, indicating a 40 per cent decline. To improve on enrolment in the adult education centres, the DAE has been recruiting teachers on a part-time basis. As of 2006, the number of teachers recruited on part-time basis was 3,089.

Availability of facilities for learning is an important input to the adult learning process in the country. To increase participation in adult learning programmes, it is

critical that facilities are conducive and appropriate to adult learning and provided in all parts of the country. Table 5.3 shows ownership of adult learners' facilities by different organisations. Majority (41.0 per cent) of the facilities are owned by the government, followed by FBOs (31.3 per cent) and communities (19.1 per cent). There has been a deliberate effort by government to involve FBOs and communities and this is also reflected in the table 5.3.

In this survey, the main sponsor for a centre was regarded as the organisation that had the greatest support in run-

Table 5.2: Number of teachers/instructors

	2004	2005	2006
Full-time teachers	1,811	1,802	1,792
Part-time teachers	4,817	4,655	3,089
TOTAL	6,628	6,457	4,881

Table 5.3: Ownership of the adult learners' facilities

Ownership of facilities	Frequency	Percentage
Government	195	41.0
FBOs	149	31.3
Community	91	19.1
Privately rented	20	4.2
NGOs	6	1.3
Others	15	3.2
Total	476	100.0

ning the institution. The sponsors include: government, FBOs, NGOs, individuals and the community. The government plays a major role as it sponsors 73.5 per cent of all the adult learning centres as shown in [Table 5.5](#). FBOs supplement the government's efforts by sponsoring 15.3 per cent of the centres. It is noted that this is an area where NGOs and individuals have not taken keen interest as they only cater for 2.5 per cent of the centres each. As the policy on literacy provision shifts towards partnership, NGOs, private sector and community will have to play a more significant role in the adult learning programmes.

Government policy requires that all adult education learning centres must have class committees consisting of learners and community members, with the teacher being the secretary. The roles of these committees are to:

- ensure that the centres adhere to the laid down requirements;
- manage income-generating projects

Table 5.4: Type of structure where learning takes place

Type of structure	Frequency	Percent
Some permanent	212	44.5
Permanent	234	49.2
Make-shift	16	2.1
Under a tree	17	3.6
Others	3	0.6
Total	476	100.0

(where they exist);

- assist in mobilisation of the community for potential learners;
- create awareness on existence of centre
- deal with disciplinary matters.

Those literacy centres operated by NGOs and others have their own arrangements for the committees. [Table 5.6](#) and [Table 5.7](#) present information on the class committees and the reasons for their existence or non-existence. [Table 5.6](#) indicates that only 69.3 per cent of centres have class committees to run them. In the centres that do not have these committees, 37.4 per cent do not understand the need for them while 16.5 per cent of them report lack of personnel as the main reason for their absence.

Table 5.5: Main sponsor of the learn-

Sponsor of the centre	Frequency	Percent
Government	350	73.5
FBOs	73	15.3
NGOs	12	2.5
Individuals	12	2.5
Others	29	6.1
Total	476	100.0

Table 5.6: Existence of class commit-

Existence of class committees	Frequency	Percent
Yes	330	69.3
No	146	30.7
Total	476	100.0

Regular assessment of learners is critical to improving learning achievement and assuring quality. Assessment of learners therefore provides a good measure of how well learners are mastering literacy and numeracy skills. Through the DAE, adult learners sit literacy proficiency tests every year to determine whether they have acquired basic literacy skills in reading, writing and numeracy. The tests are

administered in Kiswahili in urban centres and vernacular in rural areas. Those who pass the test are awarded Literacy Proficiency Certificates to confirm their new literacy status and can thereafter move to the post-literacy programmes.

Table 5.8a and Table 5.8b look at the assessment of such learners and the number assessed between 2003 and 2006. The results in Table 5.8a indicate that majority (55.5 per cent) of the centres assess learners monthly while 16.2 per cent of the centres assess learners yearly. Some of the centres (1.9 per cent) never assess their learners. Table 5.8b shows the number of adult learners by province and gender who sat and passed the literacy proficiency tests over a three-year period. In total, 56,132 adults sat the literacy proficiency test between 2003 and 2006 and were duly certified to have passed, meaning they achieved literacy status. Quite significantly,

Table 5.7: Reasons for non-existence of

Reasons for non-existent of board/committee	Percent
No understanding of the committee	37.4
Lack of personnel	16.5
Lack of proper leadership	7.9
Others ²⁰	38.1
Total	100.0

Table 5.8a: Assessment of adult learn-

Period of assessment of learners	Frequency	Percent
Monthly	264	55.5
More than 3 times a year	65	13.7
3 times a year	53	11.1
2 times a year	8	1.7
Yearly	77	16.2
Never	9	1.9
Total	476	100.0

the bulk of them, 59.3 per cent, were women underscoring the fact more females than males enrol for adult literacy programmes.

Table 5.8b: Literacy proficiency test passes by province and gender, 2003 – 2006

PROVINCE	2003			2004			2005			2006		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	T
Nairobi	55	65	120	188	220	408	175	206	381	111	259	370
Central	468	550	1018	550	646	1196	553	650	1203	417	973	1390
Coast	392	460	852	539	633	1172	419	491	910	373	958	1331
Eastern	1028	1206	2234	1231	1445	2676	1167	1370	2537	1059	2723	3782
N/Eastern	193	227	420	253	297	550	406	477	883	405	945	1350
Nyanza	986	1158	2144	1193	1400	2593	1043	1224	2267	985	2532	3517
R/Valley	1346	1581	2927	2222	2608	4830	1597	1874	3471	1073	2537	3610
Western	308	456	764	996	1169	2165	630	739	1369	495	1197	1692
TOTAL	4776	5703	10,479	7172	8418	15,590	5990	7031	13,021	4918	12,124	17,042

²⁰ Note: 'Others' refer to: 1) centre new; 2) not aware of the need for a committee; 3) planning to constitute one; 4) centre situated in restricted area; 5) irregular attendance among learners; 6) under Parish priest.

The survey also sought to find out reasons for assessing learners and the results are presented in Table 5.9. Almost three quarters (73.3 per cent) of the centres assess learners because they want to monitor their progress over time. On the other hand, one in four centres assesses their learners to determine their literacy achievements.

Table 5.9: Main purpose for assessing

Purpose of assessing learners	Frequency	Percent
Monitor learners progress	349	73.3
Judge teachers effectiveness	4	0.8
Determine learners literacy achievements	117	24.6
Other	6	1.3
Total	476	100.0

By and large, adult literacy programmes face numerous problems. Urgent intervention measures are, therefore, required to improve the delivery of literacy programmes. The KNALS, therefore, sought to take stock of the main challenges facing literacy programmes and the results are presented in Table 5.10. Most of the centres (51.3 per cent) reported that inadequate learning materials act as the main barrier to literacy programmes. Poverty was also reported as another major hindrance, 26.1 per cent. Also in government run centres, teachers double up as centre managers while in other centres, managers are not involved in teaching.

Table 5.10: Responses of centre managers on main barriers to literacy pro-

Barriers to literacy programmes	Frequency	Percent
Inadequate teaching/ learning materials	244	51.3
Poverty (others competing basic needs)	124	26.1
Mixing of males and females	21	4.4
Inadequate teachers	17	3.6
Long distance to centres	8	1.7
Lack of multi-media resources	5	1.1
Other reasons	57	12.0
Total	476	100.0

weighed opportunity costs between walking long distance to learn and need to provide their families' upkeep, and the latter took precedence. Lack of teachers and long distance to the centres also had a bearing on the performance of the learners. At least, 17.6 per cent of the respondents indicated that inadequate infrastructure and space also contributed to poor perform-

Table 5.11 shows the main barriers to the performance of adult learners in the individual centres. In most of the centres the results indicate that the main barrier to performance is irregular attendance of adult learners (69.5 per cent). This could be justified by the fact that due to poverty, many adults

Table 5.11: Main barriers to perform-

Barriers to learning performance	Frequency	Percent
Irregular attendance of learners	331	69.5
Inadequate infrastructure and space	84	17.6
Poor conditions of buildings	31	
Poor ventilation/lighting system	9	1.9
None	21	4.4
Total	476	100.0

Table 5.12: Language of instruction at

Language of instruction	Frequency	Percent
Mother tongue	41	9.6
Kiswahili	48	10.1
English	1	0.2
Mother tongue and Kiswahili	157	33.3
Kiswahili and English	47	9.9
Mother tongue, Kiswahili and English	182	38.2
Total	476	100.0

Table 5.13: Type of adult education programme

Type of programme offered	Frequency	Percent
Basic literacy and post-literacy	204	42.9
Basic literacy	147	30.9
Post-literacy	22	4.6
Non-formal education	10	2.1
Others	7	1.5
Total	476	100.0

ance at the centres. Only 4.4 per cent of the centres reported that there were no barriers to literacy programmes.

Language is critical for the development of literacy skills. The choice of the language of instruction used is of utmost importance since it improves a learner's learning outcomes. In Kenya, the prevailing language policy provides for use of mother tongue in

basic literacy in rural areas and Kiswahili in urban and catchments areas that have mixed language groups. Kiswahili and English are taught as subjects at the post-literacy level. Most of the centres (38.2 per cent) use a combination of three languages while teaching. These are mother tongue, Kiswahili and English. Similarly, one in three centres combine Kiswahili and mother tongue, while only 9.9 per cent use both Kiswahili and English

only as shown in [Table 5.12](#).

[Table 5.13](#) shows the different types of adult education programmes offered at sampled centres. A number of the centres (42.9 per cent) offer both basic literacy and post-literacy programmes. Only 2.1 per cent of the centres reported to be offering non-formal education programmes only.

CHAPTER 6

POLICY IMPLICATIONS, CONCLUSION AND RECOMENDATIONS

6.1 INTRODUCTION

Education is a fundamental universal human right for all and with it comes economic, social, political and personal benefits. It is a key determinant of earnings and, therefore, an important exit route from poverty. Education enhances people's ability to take advantage of opportunities that can improve their well-being as individuals and be able to participate more effectively in the community, markets and democratic processes. Higher educational attainment for a household head significantly reduces the likelihood of a household remaining poor. Similarly, the educational level of mothers has a direct relationship with the education of the children and significantly determines the health status of the entire family.

The adoption of the Millennium Development Goals (MDGs) by the UN Assembly in September 2000 was a laudable initiative by the international community to fight poverty, accelerate human development, and facilitate the gradual, but more effective integration of the developing world, especially Africa, into global economy. Significant progress has been made towards Goal Two – achieving universal primary education, which is aimed at ensuring that by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling. The EFA goals agreed upon in Dakar in 2000 set out a commitment by governments to ensure that all citizens access quality education without discrimination by the year 2015. Kenya is committed to both the MDGs and the EFA targets. The

key EFA targets on literacy are to promote learning and life skills for young people and adults and improve the adult literacy levels by 50 per cent as well as achieve gender parity by the year 2015.

Investing in human capital by providing people with income earning opportunities is the surest way of empowering them to be responsible of their destiny and an undisputed path for poverty reduction. Improvement in literacy levels as a basis for the foundation of acquisition of skills that enable individuals to create and/or acquire wealth is, therefore, an important component in the national strategy of reducing poverty by the year 2015 and addressing the country's target of industrialisation by the year 2020 as well as achievement of our grand vision 2030.

In the Kenya's Vision 2030 three pillars are envisioned namely: a sustainable high economic growth rate, building a just and cohesive society with equitable social development, and a democratic political system. This requires a functionally literate adult population which can effectively contribute to economic production and participate in the democratic processes of the country. The results of this survey, however, indicate that only 29.6 per cent of adults have achieved the desired literacy level requisite for making any meaningful contribution to this vision. Unless urgent strategic measures are taken to address this literacy gap therefore, it will be extremely difficult to realise and sustain the gains of this noble vision.

6.2 POLICY IMPLICATIONS

The results of this survey have provided policy-makers with accurate and timely information, which should help them, achieve their mandate of improving the lives of the population by reducing levels of illiteracy revealed in this study and also revitalise a weakened literacy programme. Kenya had launched a mass literacy campaign in 1979 with the aim of eradicating illiteracy among adults and out-of-school youth. The programme was vibrant up to the mid-1980s but declined due to shortage of teachers. The number of teachers dropped from 18,000 in 1979 to a mere 4,881 in 2006 (72.8 per cent decline). Other factors include inadequate financial resources and effects of the cost-sharing policy, which forced learners to buy their own learning materials. With the introduction of free primary education a number of adult learners who are unable to buy their own learning materials have opted to join primary schools thereby contradicting a cardinal principle of education where characteristics of the learner should be respected in a learning environment.

The following key findings of the survey will require urgent policy interventions.

1) Low adult literacy levels

The survey revealed that only 61.5 per cent of the population has attained minimum mastery levels while 29.6 per cent of the adult population has attained desired literacy mastery levels. In view of the fact that adults are the engine of economic production for development, there is need to address these low literacy levels especially taking into account the fact that literacy is an indispensable catalyst needed for development and democracy to grow. Literacy is also critical for any successful poverty eradication strategy. To address the low lit-

eracy levels there is need to:

- Give more emphasis to adult literacy programmes in the development agenda.
- Raise the level of literacy mastery of adult learners from the minimum to the desired level since the low percentage of those with the desired mastery level will not propel the country to achieve its desired developmental goals.
- Make adult education a key sub-sector of education in Kenya with requisite recognition and status.

2) Regional variations in literacy levels

There is a glaring variation of literacy levels between areas of high and low economic potential. This also explains why the map of illiteracy correlates with that one of poverty in Kenya. For instance Nairobi has the highest level of literacy (minimum level of mastery) 87.1 per cent compared to North Eastern Province which has the lowest at 8.0 per cent. There is need to give more emphasis to regions with low levels of literacy if Kenya will achieve balanced development. This can be effected through:

- Employment of more teachers and opening more adult education centres in marginalised regions.
- Provision of the required teaching and learning materials.
- Encouragement of public-private partnership in promoting literacy.

3) Gender disparities

There exists gender disparities with 58.9 per cent of the women compared to 64.1 per cent of men having attained minimum mastery levels. Women constitute more than half of Kenya's population; they are the major labour force in the agricultural sector especially in the rural areas, and play an important role in education of the child.

Literacy increases women participation in both private and public spheres, in household decision-making, community affairs, and as active citizens in national life. Adult literacy programmes have a dramatic impact on women's self-esteem, empowering them to unlock economic, social, cultural, and political resources. There is therefore, need to introduce gender-responsive programmes taking into consideration:

- Socio-cultural diversity
- Relevance of curricula

4) Low enrolment and participation in literacy programmes

According to the findings of this survey, 7.8 million or 38.5 per cent of Kenya's adult population have not acquired minimum literacy level hence require literacy programmes. However the survey also revealed that there was high turnover of teachers in the literacy programmes, which hindered access to adult education programmes in various centers. This explains why 29.7 per cent of the population who have attended an adult literacy class stated that they dropped out as a result of lack of teachers. The situation is even worse given that the majority of the teachers are volunteers (63.3 per cent) and paid token allowances. Some 6.2 per cent of the eligible adult population interviewed stated that they were not interested in adult education, with some indicating they were not confident about the quality of the programme offered. Therefore, there is need to:

- Expand access by employing more teachers to raise the number of centres from the current one class per location. To deal with the high illiteracy levels the ideal situation is to have at least four classes in a sub-location. This will translate to 25,000 teachers. (Teacher/learner ratio of 1:30)

- Motivate teachers by revising the existing scheme of service for full-time teachers to improve their terms of service and boost their morale.
- Employ part-time teachers on an improved short-term service contract.
- Recruit quality assurance officers to ensure that quality education is offered in adult learning centres.
- Develop a National Qualifications Framework (NQF) which will provide transition mechanisms for those adults and out-of-school youth wishing to continue with their education and also provide an accreditation system that provides equivalencies with the formal education system.

5) Low awareness on literacy programmes

The study revealed that only 31 per cent of the adult population was aware of the existence of literacy programmes. This is attributed to low visibility of the programme on the ground due to the sparse distribution of literacy classes – one class a location. It is also important that the functional aspect of literacy be promoted through partnership with other sectors such as health and agriculture for a holistic integration of activities. This calls for:

- Multi-sectoral approach in provision of adult literacy.
- Mounting of publicity campaigns in collaboration with partners to profile the adult education programmes and give them the visibility they deserve.
- Advocacy workshops and airing literacy programmes using different channels of mass media.
- Strengthening of the Board of Adult Education so as to improve its regulatory and coordination role and provide linkages with and among various government departments and ministries, FBOs and civil society groups.

6.3 CONCLUSIONS

In view of the findings, the study arrives at the following conclusions:

- The adult literacy level was estimated using two methods; self-reporting one's ability to read and write and actual testing (assessment) of the population with the later showing a lower literacy rate of 61.5 per cent as compared to 72.1 per cent. The population rated themselves higher in literacy achievement showing that a significant proportion of the population (10.6 per cent) would rather not reveal their inability to read and write.
- In general, the survey showed that the country had a national adult literacy rate of 61.5 per cent and a numeracy rate of 64.6 per cent, indicating that more people were knowledgeable in computation compared to reading. In all these, the critical finding was that on average 38.5 per cent of the Kenyan adult population was illiterate, which is a major challenge, given the central role literacy plays in national development and empowerment of individuals to lead a fulfilling life.
- In terms of gender variations, more males compared to females recorded higher performance in reading and numeracy at 64.1 per cent and 67.9 per cent and 58.9 per cent and 61.3 per cent respectively. In terms of participation in adult literacy programmes, more females than males were enrolled.
- The survey shows variations in literacy levels by regions and gender. In regard to regional disparities, the urban areas recorded higher rates compared to rural areas. For example, Nairobi, the capital city, had adult literacy rate of 87.1 per cent and its closest rival was Central Province, a highly agriculturally productive area, had a literacy rate of 73.2 per cent. Contrastingly, North Eastern Province had an adult literacy of 8.0 per cent, implying that the bulk of its adult population was illiterate. The regional disparities confirm the trend where areas that are economically well-endowed have a head start in terms of academic achievements compared to the poorly-endowed areas.
- The survey found that fewer adults had achieved the desired mastery levels of numeracy and literacy. Achieving the desired mastery level of literacy meant that an adult had essential cognitive skills that are core for effective participation in society. Similarly, an adult with desirable numeracy levels was competent in essential basic computing skills and was able to perform daily mathematical operations. The survey results show that only 29.6 per cent of the adults had the desirable mastery of literacy compared to the 61.5 per cent that had a minimum literacy levels. Regional variations are also noted where Nairobi recorded the highest numbers of adults with desirable literacy competence at 62.4 per cent while North Eastern Province had the lowest at 4.4 per cent.
- The survey further shows that adult education programme is hampered by lack of teaching and learning materials as well as teachers. More than half of the respondents identified inadequate teaching and learning materials as the major handicap facing adult literacy, followed by teacher shortage and then poverty among the population.
- Majority of adult learners were instructed using mother tongue and Kiswahili and only a few cases were in English. Just like with the policy at the primary school level, basic adult literacy should

be offered using the language of the catchment area.

- Government was the main provider of facilities for adult education programme, accounting for 41 per cent followed by FBOs at 31.3 per cent.

6.4 RECOMMENDATIONS

In view of the findings, policy implications, and conclusions the following are recommendations that need to be considered in an effort to strengthen adult and continuing education and ultimately improve literacy rates in Kenya:

1). Education is a human right and it is the responsibility and the core function of the government to provide it to all its citizens irrespective of age, gender and economic status. The government should therefore take the lead role to provide leadership and direction on adult education in Kenya. The literacy programme has suffered many years of neglect since the National Literacy Campaign fizzled out in the mid-80's. This is evidenced by the lack of teachers and reliance on volunteer teachers. Literacy plays a central role in development and should hence be placed high on development agenda.

- The government should therefore ensure that the DAE is provided with adequate funding and personnel to enable it achieve its mandate.
- Tap onto existing or new funding mechanisms like the Constituency Development Fund (CDF) and Local Authority Transfer Fund (LATF) to support adult and youth literacy programmes. At least a provision should be made requiring that part of the CDF and the other funds are used to purchase learning and teaching materials for the adult education and youth training programmes.

2). Access to adult education should be expanded to take care of the 7.8 million adults in need of literacy programmes. This can be achieved through:

- Establishing at least four adult education centres in every sub-location and equipping them with adequate teaching and learning materials.
- Recruiting 25,000 more adult education teachers through a four-year phased-out programme and improving their terms and conditions of service.
- Recruiting part-time teachers on contract basis.
- Retaining the full-time teachers by paying them at least the equivalence of the minimum wage of a primary school teacher for all the hours worked.

3). The literacy programme should target all the illiterate groups in the country, including those with special needs; and linking ACE programmes with the broader national development plans and objectives. Specifically, ACE should be designed in such a way that it prepares the learners to be able to adapt and participate in a highly developed and sophisticated society envisioned for 2030.

4). In providing ACE, quality is of paramount importance. It is imperative therefore, that quality should be placed at the core of provision of the programmes. To achieve this, the following should be addressed:

- The draft National Qualifications Framework needs to be concluded and implemented.
- Adult literacy curricula need to be regularly revised and updated to make them relevant and attractive
- Learning centres be provided with adequate teaching and learning materials.
- Provide in-service training for the adult literacy teachers to equip them with

requisite skills and knowledge to offer quality teaching and motivate learners.

- Recruit qualified quality assurance officers to supervise the implementation of quality adult and continuing education.

5). Adult and continuing education is a shared responsibility. It calls for the commitment and participation of government, civil society, faith-based organisations, private sector, individuals and communities. This partnership should translate into support for adult and continuing education programmes through direct funding and resource provision.

6). A publicity and advocacy campaign needs to be mounted in collaboration with partners to profile adult education programmes and give them the visibility they deserve. Rally the support of the politicians to talk about adult and continuing education programmes during their meetings so that they can interest more people to register. Also, use the FBOs and the civil society to publicise the programmes and where they are involved in service delivery, work with them to get more people to enroll.

7). Sustainable literacy thrives in an environment full of opportunities that support reading. It is therefore recommended that such environment be provided through establishment of community learning resource centres, community libraries and publication of relevant and appropriate reading materials to enhance the reading culture. Innovative approaches for material production such as learner-generated materials should also be encouraged.

8). The last Literacy survey was done about 20 years ago. It is important that the Government invest in on going feedback and evaluation mechanism, data systematisation and strategic research. Therefore, it is recommended that:

- The DAE intensifies inspection services to ensure that the programme runs well and that quality teaching is offered in all the learning centres. The focus of evaluations should be to get regular data for planning as well as on the practical application of what has been learnt and the impact on active citizenship, improved health livelihoods and gender equality.
- The government, through DAE and KNBS, should conduct regular national literacy surveys, at least every five years, to monitor literacy levels and consequently, use the findings to develop education and training programmes to eliminate illiteracy.

9). Literacy is a pillar for national development. It equips citizens with the knowledge and competencies to be able to seek gainful employment or engage in income-generating activities. Further, it empowers citizens to participate in social and political decision-making processes; enjoy their fundamental rights; and enables them to lead a dignified life. Therefore, the government should introduce programmes that address the literacy needs of the population that have not met the minimum mastery level as well as those who need to achieve the desired mastery level.

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Annex 3. Reading and Numeracy Items Framework

(A) Reading Items Test Construction Blueprint

ITEM	Question	Domain	Skills	Contexts	Level	Reach Score Location
1	Watch	Narrative	Verbatim	Home/Family	Level 1	
2	Immunization 1	Document	Locate Information	Health/Safety	Level 3	
3	Immunization 2	Document	main idea	Health/Safety	Level 4	
4	Immunization 3	Document	Inference	Health/Safety	Level 4	
5	Bank Form 1	Document	Locate and process	Consumer/Economics	Level 4	
6	Bank Form 2	Document	main idea	Consumer/	Level 4	
7	HIV/AIDS 1	Expository	Inference	Health/Safety	Level 5	
8	HIV/AIDS 2	Expository	main idea	Health/Safety	Level 3	
9	HIV/AIDS 3	Expository	Paraphrase	Health/Safety	Level 3	
10	Mandela	Narrative	Inference	Leisure/Creation	Level 4	
11	Mandela	Narrative	Locate information	Leisure/Creation	Level 4	
12	Hotel Menu 1	Document	Inference	Consumer/	Level 2	
13	Hotel Menu 2	Document	Locate Information	Consumer/Economics	Level 2	
14	Hotel Menu 3	Document	apply rules	Consumer/	Level 5	
15	Family Budget1	Expository	main idea	Consumer/	Level 5	
16	Family Budget2	Expository	Paraphrase	Consumer/	Level 4	
17	Pie Chart* 1— work sector	Document	Locate Information	Work	Level 2	
18	Pie Chart* 2— work sector	Document	locate process	Work	Level 5	

B. Numeracy Items Test Construction Blueprint

ITEM	Question	Domain	Skills	Contexts	Level	Rasch Score Location
1	Missing No.	Number	Knowing	Family/	Level 1	-2.
2	Symbol	Number	Performing Routine	Family/Community	Level 3	-0.522
3	Makutano	Number	Performing Routine	Family/Community	Level 2	-1.
4	Land	Measurement	Knowing	Family/	Level 2	-1.
5	Wafula Cycle1	Number	Performing Complex	Consumer Economics	Level 2	-0.
6	Wafula Cycle2	Number	Performing Complex	Consumer Economics	Level 3	1
7	Syrup Medicine 1	Data	Problem Solving	Healthy/Safety	Level 3	0.
8	Syrup Medicine 2	Data	Performing Complex	Healthy/Safety	Level 5	1.
9	Shoplist	Data	Knowing	Consumer	Level 2	-1.
10	Rainfall	Data	Performing Complex	Home/Family	Level 5	2.
11	Mrs Nyakundi 1- buying and	Measurement	Performing Routine procedure	Consumer Economics	Level 4	0.
12	Mrs Okoit- buying	Measurement	Performing Complex	Consumer Economics	Level 4	0.
13	Constituency1	Data	Knowing	Community/	Level 4	0.
14	Constituency2	Data	Performing Routine	Community/citizenship	Level 3	-0.
15	Fees1	Data	Problem Solving	Family/Home	Level 3	-0.
16	Fees2	Data	Problem Solving	Family/Home	Level 5	
17	Maize1	Space	Problem Solving	Consumer	Level 5	1.
18	Maize2	Space	Performing Complex	Consumer Economics	Level 5	1.

Annex 4: District¹ Statistical Tables

(A) Percentage of persons aged 15 years and above including Standard Errors attaining minimum mastery level in literacy by gender and district

	District	Male		Female		Total	
		%	SE	%	SE	%	SE
1	Nairobi	87.3	2.1	86.9	2.4	87.1	2.2
2	Kiambu	84.3	3.5	73.8	4.1	79.1	3.8
3	Kirinyaga	72.0	6.3	77.7	4.5	74.8	5.4
4	Muranga	73.0	6.6	72.4	5.6	72.7	6.1
5	Nyandarua	76.6	5.1	68.0	4.6	72.3	4.8
6	Nyeri	78.7	5.2	73.3	4.5	76.0	4.8
7	Thika	68.6	4.2	61.3	3.9	65.0	4.1
8	Maraqua	70.4	6.9	73.6	6.1	72.0	6.5
9	Kilifi	63.3	6.5	43.8	6.5	53.5	6.5
10	Kwale	66.6	7.5	47.4	6.1	57.0	6.8
11	Lamu	67.6	11.0	58.2	8.8	62.9	9.9
12	Mombasa	87.4	3.3	72.5	4.4	80.0	3.8
13	TaitaTaveta	88.3	4.0	80.0	4.4	84.1	4.2
14	Tana River	60.5	9.1	36.0	8.2	48.2	8.6
15	Malindi	58.3	12.4	49.4	8.0	53.9	10.2
16	Embu	64.5	9.4	68.2	5.3	66.4	7.4
17	Isiolo	35.9	6.8	35.1	6.3	35.5	6.5
18	Kitui	40.4	7.2	61.4	4.8	50.9	6.0
19	Makueni	75.2	5.1	63.2	4.7	69.2	4.9
20	Machakos	74.1	4.5	73.2	3.6	73.6	4.0
21	Marsabit	4.9	2.7	3.4	1.6	4.1	2.2
22	Mbeere	38.2	11.4	74.6	6.8	56.4	9.1
23	Meru Central	46.4	7.2	53.8	6.3	50.1	6.7
24	Moyale	3.2	3.2	0.0	0.0	1.6	1.6
25	Mwingi	56.7	8.4	33.6	5.2	45.1	6.8
26	Nyambene	30.4	6.7	32.7	6.7	31.5	6.7
27	Tharaka	37.8	12.2	43.0	11.8	40.4	12.0
28	Meru South	62.3	10.1	57.0	6.9	59.7	8.5
29	Garissa	20.2	5.1	8.1	2.9	14.2	4.0
30	Mandera	7.2	4.3	2.4	1.4	4.8	2.9
31	Wajir	7.4	3.2	1.5	0.8	4.5	2.0
32	Gucha	65.2	6.9	49.9	5.8	57.5	6.3
33	Homabay	66.0	6.8	47.8	5.4	56.9	6.1
34	Kisii	63.0	6.7	58.6	5.1	60.8	5.9

¹ District Administrative Units as reported in the 1999 Kenya Population and Housing Census.

² Standard Error (SE).

³ Minimum mastery level refers to the score attained equivalent to Level 3 and above in literacy competency.

35	Kisumu	85.0	4.1	81.4	3.7	83.2	3.9
36	Kuria	56.9	9.4	40.5	10.2	48.7	9.8
37	Migori	57.6	6.8	45.2	5.3	51.4	6.0
38	Nyamira	72.2	6.3	67.7	5.1	70.0	5.7
39	Rachuonyo	53.3	8.7	53.4	6.1	53.3	7.4
40	Siaya	80.8	6.6	79.9	6.0	80.3	6.3
41	Suba	69.1	8.3	66.1	6.4	67.6	7.4
42	Bondo	75.9	7.6	62.2	8.0	69.1	7.8
43	Nyando	84.0	5.1	82.3	4.8	83.1	4.9
44	Baringo	66.4	7.2	59.9	7.2	63.2	7.2
45	Bomet	60.5	6.7	51.7	5.2	56.1	5.9
46	Keiyo	68.3	8.2	54.7	10.0	61.5	9.1
47	Kajiado	48.1	6.4	52.3	5.7	50.2	6.0
48	Kericho	71.9	5.2	60.2	4.9	66.0	5.0
49	Koibatek	62.6	10.9	47.3	7.7	54.9	9.3
50	Laikipia	67.1	6.0	68.2	6.0	67.6	6.0
51	Marakwet	65.7	8.3	39.4	7.0	52.5	7.7
52	Nakuru	69.5	4.1	67.4	3.9	68.4	4.0
53	Nandi	76.4	6.1	67.1	4.7	71.7	5.4
54	Narok	32.3	5.0	23.1	5.2	27.7	5.1
55	Samburu	12.8	4.7	12.2	4.4	12.5	4.5
56	Transmara	51.3	9.7	35.4	6.7	43.4	8.2
57	TransNzoia	68.8	5.3	58.1	5.4	63.5	5.4
58	Turkana	8.9	2.8	5.6	2.2	7.2	2.5
59	Uasin Gishu	70.3	5.0	66.2	4.2	68.2	4.6
60	WestPokot	33.7	6.4	27.5	5.3	30.6	5.8
61	Bureti	79.6	5.8	54.6	5.9	67.1	5.8
62	Bungoma	62.4	5.7	50.5	5.1	56.4	5.4
63	Busia	60.1	7.5	50.6	8.2	55.3	7.9
64	Mt Elgon	42.5	9.3	20.4	6.3	31.5	7.8
65	Kakamega	51.1	7.1	57.7	5.4	54.4	6.2
66	Lugari	71.2	6.3	53.5	9.0	62.3	7.7
67	Teso	34.6	10.2	31.4	10.5	33.0	10.4
68	Vihiga	67.3	5.9	79.3	4.0	73.3	5.0
69	Butere Mumias	56.7	6.6	60.3	5.3	58.5	5.9

SE: Standard Error

(B) Percentage of persons aged 15 years and above including Standard Errors attaining minimum mastery level in numeracy⁴ by gender and district

	District	Male		Female		Total	
		%	SE	%	SE	%	SE
1	Nairobi	89.3	2.1	84.1	3.1	86.7	2.6
2	Kiambu	84.7	3.3	79.5	3.6	82.1	3.5
3	Kirinyaga	86.2	4.1	78.9	4.3	82.5	4.2
4	Muranga	80.0	6.0	81.4	4.4	80.7	5.2
5	Nyandarua	81.3	4.7	77.4	3.8	79.3	4.2
6	Nyeri	80.5	5.0	73.2	4.6	76.8	4.8
7	Thika	78.0	3.8	66.1	3.8	72.1	3.8
8	Maragua	80.5	6.3	83.9	4.6	82.2	5.4
9	Kiilfi	75.5	5.7	55.0	6.5	65.3	6.1
10	Kwale	64.9	7.6	60.7	5.9	62.8	6.8
11	Lamu	65.8	11.2	56.3	8.9	61.0	10.1
12	Mombasa	92.1	2.8	70.8	4.5	81.5	3.6
13	Taita Taveta	76.8	5.0	64.7	5.7	70.8	5.4
14	Tana River	61.0	9.1	39.2	8.3	50.1	8.7
15	Malindi	67.9	13.1	54.5	7.9	61.2	10.5
16	Embu	58.5	10.0	69.3	5.3	63.9	7.6
17	Isiolo	36.8	6.8	32.4	6.1	34.6	6.5
18	Kitui	49.1	7.5	57.8	4.9	53.4	6.2
19	Makueni	79.6	4.6	70.9	4.3	75.3	4.4
20	Machakos	74.3	4.5	76.5	3.4	75.4	3.9
21	Marsabit	4.1	2.6	2.9	1.6	3.5	2.1
22	Mbeere	51.0	13.0	67.1	8.9	59.0	11.0
23	Meru Central	46.2	7.2	61.5	5.9	53.8	6.5
24	Moyale	3.2	3.2	2.0	2.0	2.6	2.6
25	Mwingi	61.4	8.3	39.2	5.4	50.3	6.8
26	Nyambene	32.1	6.9	34.5	6.8	33.3	6.9
27	Tharaka	45.6	12.4	32.4	10.8	39.0	11.6
28	Meru South	68.3	9.7	63.4	6.5	65.8	8.1
29	Garissa	23.2	5.3	9.8	3.5	16.5	4.4
30	Mandera	7.2	4.3	2.4	1.4	4.8	2.9
31	Wajir	8.1	3.5	1.5	0.8	4.8	2.2
32	Gucha	67.7	6.6	57.8	5.6	62.7	6.1
33	Homabay	67.2	6.9	48.3	5.4	57.8	6.1
34	Kisii	78.2	5.4	63.6	5.1	70.9	5.2

⁴ Minimum mastery level refers to the score attained equivalent to Level 3 and above in numeracy competency.

35	Kisumu	89.9	3.2	83.5	3.6	86.7	3.4
36	Kuria	68.9	9.0	47.0	9.6	58.0	9.3
37	Migori	63.9	6.5	48.2	5.3	56.1	5.9
38	Nyamira	82.9	5.5	72.6	4.8	77.8	5.2
39	Rachuonyo	70.9	8.0	50.7	6.2	60.8	7.1
40	Siaya	67.3	8.3	78.0	6.2	72.6	7.3
41	Suba	75.6	7.4	61.9	7.2	68.8	7.3
42	Bondo	77.3	7.7	63.4	7.9	70.3	7.8
43	Nyando	87.3	4.7	86.6	4.2	86.9	4.4
44	Baringo	69.6	6.9	58.1	7.4	63.8	7.1
45	Bomet	70.7	6.1	60.5	5.0	65.6	5.5
46	Keiyo	71.9	8.1	55.7	10.0	63.8	9.0
47	Kajiado	48.8	6.4	51.0	5.6	49.9	6.0
48	Kericho	76.3	4.8	65.6	4.6	71.0	4.7
49	Koibatek	66.6	10.7	57.3	7.5	62.0	9.1
50	Laikipia	76.8	5.3	74.6	5.2	75.7	5.3
51	Marakwet	72.1	8.1	47.4	7.1	59.7	7.6
52	Nakuru	77.9	3.6	69.4	4.0	73.7	3.8
53	Nandi	80.1	5.9	69.2	4.5	74.7	5.2
54	Narok	28.3	4.7	26.6	6.0	27.4	5.4
55	Samburu	25.1	7.0	12.0	4.3	18.5	5.6
56	Transmara	56.9	9.6	34.1	6.6	45.5	8.1
57	TransNzoia	71.4	5.3	58.1	5.4	64.8	5.3
58	Turkana	8.9	2.8	7.6	2.6	8.2	2.7
59	Uasin Gishu	81.6	4.3	68.4	4.2	75.0	4.2
60	WestPokot	34.8	6.4	31.5	5.5	33.2	6.0
61	Bureti	82.6	5.5	61.4	5.9	72.0	5.7
62	Bungoma	67.3	5.5	54.6	5.1	61.0	5.3
63	Busia	50.9	7.6	50.2	8.2	50.6	7.9
64	Mt Elgon	45.8	9.4	23.3	6.9	34.5	8.1
65	Kakamega	49.3	7.1	65.6	5.0	57.5	6.0
66	Lugari	71.7	6.3	53.1	9.0	62.4	7.6
67	Teso	32.9	10.1	26.2	10.8	29.6	10.5
68	Vihiga	66.8	5.8	76.7	4.4	71.7	5.1
69	Butere Mumias	55.2	6.6	64.2	5.0	59.7	5.8

SE: Standard Error

C: Percentage of primary school age (6-13 years) school attendance by District

District	At school	Left school	Never attended	Total
Nairobi	95.2	1.6	3.2	100
Nairobi	95.2	1.6	3.2	100
Kiambu	97.3	1.9	0.8	100
Kirinyaga	92.4	2.4	5.2	100
Muranga	96.8	0.8	2.4	100
Nyandarua	98.4	0.8	0.8	100
Nyeri	95.9	1.5	2.6	100
Thika	98.6	0.7	0.7	100
Maragua	98.0	0.7	1.3	100
Central	97.0	1.3	1.7	100
Kilifi	89.7	2.9	7.4	100
Kwale	89.4	1.1	9.5	100
Lamu	90.0	0.0	10.0	100
Mombasa	95.9	0.7	3.4	100
Taita Taveta	98.0	0.7	1.3	100
Tana River	77.5	1.2	21.3	100
Malindi	88.4	2.0	9.6	100
Coast	90.5	1.5	8.0	100
Embu	93.1	2.1	4.8	100
Isiolo	75.1	5.7	19.2	100
Kitui	95.9	1.1	3.0	100
Makueni	95.3	0.9	3.8	100
Machakos	96.7	1.4	1.9	100
Marsabit	61.8	0.8	37.4	100
Mbeere	94.2	1.6	4.1	100
Meru Central	97.9	0.0	2.1	100
Moyale	90.2	0.7	9.1	100
Mwingi	96.4	1.4	2.2	100

District	At school	Left school	Never attended	Total
Nyambene	89.0	6.0	5.1	100
Tharaka	91.2	3.5	5.3	100
Meru South	95.4	3.5	1.2	100
Eastern	93.2	2.0	4.8	100
Garissa	73.9	0.0	26.1	100
Mandera	67.7	0.3	31.9	100
Wajir	55.0	0.8	44.2	100
North Eastern	65.1	0.4	34.5	100
Gucha	98.3	1.0	0.7	100
Homa Bay	97.0	1.4	1.6	100
Kisii	96.4	1.6	2.1	100
Kisumu	98.2	0.0	1.8	100
Kuria	92.0	2.1	5.9	100
Migori	92.8	4.7	2.5	100
Nyamira	97.5	0.4	2.1	100
Rachuonyo	97.7	1.7	0.6	100
Siaya	92.1	4.6	3.3	100
Suba	96.7	1.5	1.8	100
Bondo	96.9	0.7	2.3	100
Nyando	97.6	0.5	1.9	100
Nyanza	96.1	1.8	2.1	100
Baringo	85.8	4.1	10.1	100
Bomet	95.6	2.9	1.5	100
Keiyo	93.9	0.9	5.2	100
Kajiado	85.4	1.1	13.6	100
Kericho	98.9	0.4	0.7	100
Koibatek	97.4	0.0	2.6	100
Laikipia	96.4	0.8	2.9	100
Marakwet	97.0	0.0	3.0	100
Nakuru	91.0	4.7	4.2	100

District	At school	Left school	Never attended	Total
Nandi	95.7	1.1	3.2	100
Narok	74.2	1.1	24.7	100
Samburu	70.4	5.0	24.6	100
Transmara	91.4	0.7	8.0	100
TransNzoia	93.9	1.1	5.1	100
Turkana	51.7	0.7	47.6	100
Uasin Gishu	97.4	0.6	2.0	100
West Pokot	76.5	0.8	22.7	100
Bureti	94.4	3.3	2.3	100
Rift Valley	88.2	1.8	10.0	100
Bungoma	96.3	1.1	2.5	100
Busia	94.7	0.9	4.4	100
Mt Elgon	94.1	1.5	4.4	100
Kakamega	92.4	1.4	6.2	100
Lugari	94.4	1.2	4.4	100
Teso	88.8	3.3	7.9	100
Vihiga	93.6	1.7	4.7	100
Butere Mumias	96.3	1.2	2.5	100
Western	94.5	1.4	4.2	100
KENYA	91.4	1.6	7.0	100

D: Percentage of adults who say they are able to read, write and compute by District and Gender

	Male	Female
Nairobi	91.7	92.2
Kiambu	93.7	85.9
Kirinyaga	87.6	82.3
Muranga	89.3	77.3
Nyandarua	89.6	83.8
Nyeri	91.2	86.9
Thika	88.6	83.6
Maragua	82.1	82.9
Central	89.5	83.9
Kilifi	78.6	43.5
Kwale	66.0	49.3
Lamu	82.1	61.6
Mombasa	91.7	71.5
Taita Taveta	92.1	81.0
Tana River	52.0	28.9
Malindi	63.8	51.7
Coast	78.0	56.7
Embu	94.3	79.9
Isiolo	46.5	42.2
Kitui	82.0	71.8
Makueni	80.5	73.9
Machakos	83.5	79.1
Marsabit	7.3	5.6
Mbeere	85.3	72.5
Meru Central	65.5	72.9
Moyale	10.5	2.5
Mwingi	68.3	57.3
Nyambene	54.9	50.6
Tharaka	55.1	43.7
Meru South	87.6	78.8
Eastern	72.8	67.0

	Male	Female
Garissa	30.6	10.2
Mandera	10.1	3.6
Wajir	9.2	7.2
North Eastern	17.6	7.5
Gucha	77.6	73.6
Homabay	84.5	79.3
Kisii	85.1	81.3
Kisumu	86.5	83.8
Kuria	84.7	55.6
Migori	76.9	70.3
Nyamira	84.4	77.9
Rachuonyo	80.7	79.5
Siaya	81.0	71.0
Suba	84.0	76.2
Bondo	88.5	68.6
Nyando	86.3	83.9
Nyanza	82.9	76.2
Baringo	71.2	61.0
Bomet	81.2	79.0
Keiyo	91.3	67.4
Kajiado	51.1	58.9
Kericho	74.3	68.9
Koibatek	73.0	63.0
Laikipia	77.0	69.9
Marakwet	77.2	66.8
Nakuru	79.5	75.0
Nandi	75.2	73.3
Narok	46.2	34.5
Samburu	26.8	22.4
Transmara	69.9	45.1
TransNzoia	78.2	68.5
Turkana	9.4	10.9
Uasin Gishu	81.6	75.6

	Male	Female
WestPokot	43.8	35.3
Bureti	86.4	70.0
Rift Valley	68.7	62.6
Bungoma	80.3	78.8
Busia	73.9	51.1
Mt Elgon	60.9	46.3
Kakamega	64.9	69.5
Lugari	87.3	73.7
Teso	66.1	47.0
Vihiga	79.0	79.1
Butere Mumias	64.2	60.5
Western	73.3	68.6
KENYA	75.5	68.6

E: Percentage of adults 15 years and above who said they were aware of literacy programmes by gender and province

District	Male	Female
Nairobi	18.6	15.0
Nairobi	18.6	15.0
Kiambu	39.8	50.8
Kirinyaga	49.9	36.5
Muranga	30.1	27.4
Nyandarua	24.2	21.8
Nyeri	39.5	43.2
Thika	38.9	42.5
Maragua	40.7	55.6
Central	38.1	40.6
Kilifi	41.4	43.5
Kwale	30.6	42.4
Lamu	21.8	35.3
Mombasa	27.9	27.3

District	Male	Female
Taita Taveta	54.7	44.4
Tana River	19.6	28.2
Malindi	40.3	45.1
Coast	34.3	37.5
Embu	57.1	66.7
Isiolo	53.9	52.8
Kitui	45.7	36.1
Makueni	25.8	28.9
Machakos	15.3	12.2
Marsabit	67.6	57.1
Mbeere	70.0	62.1
Meru Central	30.0	26.5
Moyale	98.9	94.4
Mwingi	29.3	24.8
Nyambene	40.2	28.3
Tharaka	12.3	24.2
Meru South	31.6	54.0
Eastern	34.3	32.1
Garissa	49.3	35.5
Mandera	44.7	25.2
Wajir	36.0	30.5
North Eastern	43.2	31.1
Gucha	14.6	8.2
Homabay	30.0	18.7
Kisii	17.5	10.8
Kisumu	19.8	19.9
Kuria	12.9	11.2
Migori	27.6	25.7
Nyamira	12.8	10.4
Rachuonyo	23.6	25.3
Siaya	35.1	30.9
Suba	18.4	17.8

District	Male	Female
Bondo	26.9	25.2
Nyando	28.1	21.6
Nyanza	22.4	18.7
Baringo	53.5	49.6
Bomet	40.4	40.2
Keiyo	20.3	18.7
Kajiado	12.7	20.5
Kericho	24.0	29.5
Koibatek	48.6	55.6
Laikipia	41.1	51.8
Marakwet	29.5	47.2
Nakuru	53.5	51.9
Nandi	24.1	21.0
Narok	28.0	35.3
Samburu	38.1	31.4
Transmara	16.9	29.6
TransNzoia	27.0	16.7
Turkana	38.3	25.1
Uasin Gishu	16.0	12.2
WestPokot	92.4	70.9
Bureti	41.4	33.3
Rift Valley	36.3	34.6
Bungoma	42.0	30.7
Busia	38.7	53.7
Mt Elgon	55.2	59.9
Kakamega	4.4	5.7
Lugari	25.6	27.2
Teso	78.0	74.3
Vihiga	31.0	38.7
Butere Mumias	9.5	7.4
Western	29.8	29.5
KENYA	31.7	30.2

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