ASSESSMENT OF AGRICULTURAL INFORMATION NEEDS IN AFRICAN, CARIBBEAN & PACIFIC (ACP) STATES

EASTERN AFRICA

Country Study: Kenya

Final Report

Prepared by:

Jeremiah Njeru Lewis Gitonga and Veronica Machira

On behalf of the

Technical Centre for Agricultural and Rural Cooperation (CTA)

Project: 4-7-41-255-7/e

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Acknowledgements

List of Acronyms

ACP   African, Caribbean and Pacific [Countries]
AFC   Africa Finance Corporation
AFIPEK   Kenya Fish Processors and Exporters Association
AGOA   African Growth and Opportunity Act
AGORA   Access to Global Online Research in Agriculture
AICM   Agricultural Information Communication and Management
AIDS   Acquired Immunodeficiency Syndrome
AIRC   Agriculture Information Resource Centre
ASALs   Arid and Semi Arid Lands
ASARECA   Association of Strengthening Agricultural Research in Eastern and Central Africa
ASCU   Agricultural Sector Coordinating Unit
ASK   Agriculture Society of Kenya
CAADP   Comprehensive Africa Agricultural Development Program
CBOs   Community Based Organisations
CBPP   Contagious Bovine Pleuro-Pneumonia
CCK   Communication Commission of Kenya
CCPP   Contagious Caprine Pleuro-Pneumonia
CD ROM   Compact Disc - Read Only Memory
CDF   Constituency Development Fund
CGA   Cereals Growers Association
CKDAP   Central Kenya Dry Areas Programme
COMESA   Common Market for Eastern and Southern Africa
CRS   Catholic Relief Services
CTA   Technical Centre for Agricultural and Rural Cooperation
DFID   Department for International Development
DNO   Data Network Operators
DORA   Distribution of Reference Books in Agriculture
DRD   Department of Research and Development
DVP   Digital Village Project
EAC   East Africa Community
EADB   East African Development Bank
EARO   Ethiopian Agricultural Research Organisation
EBCAM   European Business Council for Africa and the Mediterranean
ECF   East Coast fever
EPZ   Export Processing Zone
ERS   Economic Recovery Strategy
EU   European Union
EU-ACP EPA   EU-ACP Economic Partnership Agreement
FAO   Food and Agriculture organization
FBOs   Faith Based Organizations
FGs   Farmers Groups
FIPS   Farm Inputs Promotion
FNPP   FAO Netherlands Partnership Programme
GDP   Gross Domestic Product
GIS   Geographic Information System
GITS   Government Information Technology Service
GOK   Government of Kenya
GSP   Generalized System of Preferences
GTZ   German Technical Cooperation
GZDSP   Green Zones Development Support Project
HIV   Human Immune Deficiency Syndrome

ICIPE	International centre for insect physiology and Ecology
ICM	Information and Communication Management
ICRAF	International Centre for Research in Agro-forestry
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
ICT	Information and Communication Technology
IEHA	Initiative to End Hunger in Africa
IFAD	International Fund for Agricultural Development
IFMP	Implementation of Fisheries Management Plan
IFOAM	International Federation of Organic Agriculture Movements
IGAD	Intergovernmental Authority on Development
IICA	Inter-American Institute for Cooperation on Agriculture
ILO	International Labour Organization
ILRI	International livestock Research Institute
INASP	International Network for the Availability of Scientific Publications
ISFP	Intensified Social Forestry Project
ISPs	Internet Service Providers
JKUAT	Jomo Kenya University of Agriculture and Technology
KACE	Kenya Agriculture Commodity Exchange
KAINET	Kenya Agriculture Information Network
KAPP	Kenya Agricultural Productivity Project
KARI	Kenya Agriculture Research Institute
KARIN	Kenya Agriculture and Rural Development Information Network
KBC	Kenya Broadcasting Corporation
KBDS	Kenya Business Development Services
KEFRI	Kenya Forestry Research Institute
KENFAP	Kenya National Federation of Agricultural Producers
KENFAP	Kenya Federation of Agricultural Producers
KFA	Kenya Farmers Association
KFS	Kenya Forestry Service
KFWG	Kenya Forests Working Group
KIOF	Kenya Institute of Organic Farming
KLISC	Kenya Library Information service Consortium
KMC	Kenya Meat Commission
KMDP	Kenya Maize Development Programme
KNBS	Kenya National Bureau of Statistics
KNFU	Kenya National Farmers' Union
KNLS	Kenya National Library Service
KOAN	Kenya Organic Agriculture Network
KPTC	Kenya Posts and Telecommunications Corporation
KTCIP	Kenya Transparency Communication Infrastructure Project
KTDA	Kenya Tea Development Agency
KTRF	Kenya Tea Research Foundation
LAN	Local Area Network
MFIs	Micro-Finance Institutions
MICs	Market Information Centres
MIPs	Market Information Points
MITF	Mombasa International Trade Fair
MLD	Ministry of Livestock Development
MMMB	Miti Mingi Maisha Bora (MMMB)
MOA	Ministry of Agriculture
MOIC	Ministry of Information and Communication
MRC	Market Resource Centre
MYS	Ministry of Youth and Sport
NALEP	National Agriculture and Livestock Extension Programme
NARO	National Agricultural Research Organisation

NFP	National Forest Programme
NGOs	Non-governmental Organisations
NHS	National Household Survey
NITF	Nairobi International Trade Fair
NRM	Natural Resource Management Project
ODA	Official Development Assistance
OUSTR	Office of the United States Trade Representative
PACE	Pan-African Control of Epizootics
PATTEC	Pan-African Tsetse and Trypanosomiasis Eradication Campaign Programme
PCs	Personal Computers
PELUM	Participatory Ecological Land Use Management
QAS	Question and Answer Service
RAIN	Regional Agriculture Information Network
RECOTIS	Regional commodity Trade and Information System
RRRP	Rural Radio Resource Pack
RUFORUM	Regional Universities Forum for Capacity Building in Agriculture
SACCOs	Savings and Credit Co-Operative Organizations
SADCC	Southern African Development Coordination Conference
SDI	Selective Dissemination of Information
SHGs	Self Help Group
SIDA	Swedish International Development Cooperation Agency
SIFE	Students in Free Enterprise
SMS	Short Messaging System
SRA	Strategy for Revitalizing Agriculture
TBP	Tree Biotechnology project
TNS	Technoserve
UK	United Kingdom
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFPA	United Nations Population Fund - UNFPA
UNHCR	United Nations High Commission for Refugees
UNICEF	United Nations Children Fund
UON-CAVS	University of Nairobi - College of Agriculture and Veterinary Services
US	United States
USA	United States of America
USAID	United States Agency for International Development
WTO	World Trade Organization
YECs	Youth Empowerment Centres
YWE	Young Women in Enterprise

Currency conversion rate - 7th October 2008

1 Euro = 94.6 Kshs

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Executive summary

Introduction

The Technical Centre for Agricultural and Rural Cooperation (CTA) established in 1983 under the Lomé Convention between the ACP (African, Caribbean and Pacific) group of states and the European Union Member States aims to develop and provide services that improve access to information for agricultural and rural development, and to strengthen the capacity of ACP countries to produce, acquire, exchange and utilise information in this area.

CTA works primarily through intermediary public and private partners (research centres, extension services, libraries, Non Governmental Organizations (NGOs), farmers' organisations, regional organisations and networks, etc) to promote agriculture and rural development. Through these partnerships, CTA hopes to increase the number of ACP organisations capable of accessing and combining modern and conventional Information and Communication Technologies (ICTs), generating and managing information and developing their own Information and Communication Management (ICM) strategies.

Since 2003, CTA has been systematically conducting needs assessment studies across the Pacific, Caribbean and Africa regions. One of the main objectives of these studies is to identify strategic partners for CTA to work with to improve the availability and effectiveness of their information and services to their beneficiaries.

Objective

The overall objective of the needs assessment study for Kenya was to improve CTA's collaboration strategies with ACP agricultural organisations in Kenya and the relevance of its support to them.

Methodology

This study was part of a study carried out concurrently in 8 countries within the East Africa region. The study commenced with a briefing meeting in Kampala, Uganda for country consultants held in April 2008. The briefing meeting was organized by the regional coordinator and CTA representative and provided an opportunity to discuss and refine study objectives and tools including the data collection form and the reporting modalities. It also clarified CTA mandate, activities and strategic plan for 2007 – 2010.

The study was carried out in two stages. First, a desk study was carried out to develop an overview of the agriculture sector in the country and describe the status the information and communication technology especially in relation to agriculture and rural development. In the second stage, interviews were conducted with 13 institutions using a semi-structured questionnaire to collect data on ICM operations, ICM resources and constraints, information sources and information and capacity building needs. The data was subsequently analysed and a report prepared using a standard report outline guide provided by CTA.

Expected results

The study aimed to provide insight on:

- Status of infrastructure, information services and ICM capacity of institutions involved in agriculture and rural development,

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- Information and capacity building needs in the area of ICM identified for key institutions and potential CTA partners involved in agriculture and rural development,
- Potential strategic partners for CTA activities and services identified (paying special attention to e.g. print media, editors, radio, TV and journalist networks), and
- Baseline data on the status of ICM and ICT in agriculture and rural development compiled for monitoring purposes and improved outreach.

Conclusions

Information Needs

Institutions involved in agriculture and rural development in Kenya have multiple roles – the most common being extension and outreach, information service, training, rural development, and research and development. The institutions have many information needs but key ones include development and funding programmes, networks and partnerships, research, market information, regulations, certifications, patents and copyrights.

The information that institutions find difficult to acquire varies but includes information on development and funding programmes, none farm livelihood, market data, gender, patents, certifications, post harvest technology, equipment sourcing, and crop and dairy insurance.

Almost all institutions face difficulties acquiring journal articles, materials in appropriate languages, materials for mass distribution, cartographic information and statistical data. Additional formats that different institutions find difficult to acquire include abstracts, briefs, summaries, visual / pictorial information, and grey literature.

Specific priority needs can be summarized further under five categories of institutions: (a) Government institutions (Ministry of Livestock Development (MLD), Ministry of Youth and Sport (MYS) and Kenya Forest Service (KFS)) key needs include regulations, development and funding programmes, patents and certifications, (b) Educational and research institutions (Jomo Kenyatta University of Agriculture and Technology (JKUAT), University of Nairobi – College of Agriculture and Veterinary (UON-CAVS), Kenya Agricultural Research Institute (KARI), and Kenya Forestry Research Institute (KEFRI)) key needs includes research; networks and partnerships, funding and assistance, and patents and copyrights, (c) NGOs' (Kenya Organic Agriculture Network (KOAN) and Technoserve (TNS)) key needs depends on the NGO function but include certification, patents, packaging, trade fairs, development and funding programmes, and available networks, (d) Information service institutions (Agriculture Information Resource Centre (AIRC), Kenya National Library Service (KNLS), and Kenya Broadcasting Corporation (KBC)) need general information e.g. social development issues and farm problems and specific information e.g. regulations and networks, and (e) Private enterprise key needs depends on their business e.g. market information for Kenya Agricultural Commodity Exchange (KACE).

Capacity building needs

The 13 institutions interviewed have standard computing resources: IT departments with between 1 to 3 professional staff and 1 to 6 technical staff, Pentium 3 and 4 Personal Computers (PCs)', 2003 Windows and Office software, Local Area Networks (LANs), and a range of Internet services including dial-up, wireless and Very Small Aperture Terminal (VSAT).

Four priority areas for capacity-building are identified: (a) Improving ICT/ICM skills (database and website development and management, making content accessible and developing and

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implementing ICM policies and strategies), (b) Making information accessible (packaging it in languages and dissemination formats that can be easily used by the end users), (c) Improving computing equipment and infrastructure (mostly the computing equipment at branch levels and LANs and Internet services at both the branch and head offices levels), and (d) Funding.

Prioritized current and future capacity building needs can be summarized further under five categories of institutions.

- **Government institutions** (MLD, MYS, and KFS) priorities include improving skills (database, website, multimedia, mass media, and communication), improving computing equipment at the branch offices, improving LANs and Internet services, and modernizing information systems. Future needs include improving MLD website, setting up training centre at the MLD and improving MYS PPP initiatives.

- **Research and education institutions** (KARI, KEFRI, JKUAT, and UON-CAVS) priorities include advancing staff skills (databases, websites, ICM policies and strategies), increasing the number of computers and improving interconnectivity between head and sub offices. Future needs include improving information packaging and dissemination for KARI, digitizing and availing information online for JKUAT, improving information systems for UON-CAVS and KEFRI, implementing ICM policies and strategies for KEFRI, JKUAT and UON-CAVS and establishing an AICM training centre for UON-CAVS.

- **NGOs** (KOAN, TNS) priorities include improving ICM skills (database and website), making available information accessible (translate into suitable language and format), and funding. Future needs include software to manage rural banks and community dairy for TNS, developing an electronic newsletter for KOAN and installing systems to allow the two NGOs use Short Messaging Service (SMS) to serve rural communities.

- **Information service institutions** (AIRC, KNLS, and KBC) priorities include improving ICT/ICM skills (database management, use of online resources, development of local content, digitization of information resources, and development and implementation of ICM policies and strategies), making information accessible by packaging it in formats and languages that can be use easily and funding. Future needs include undertaking a user survey to identify content gaps and improving communication with information producers for AIRC and training libraries users to use digital and online products for KNLS.

- **Private enterprise** (KACE) priorities include improving basic ICT/ICM skills as well as advanced skills in website development and management and funding.

Overview of CTA's Products and Services

It is clear that CTA products and services are highly valued by the institutions involved in agriculture and rural development in Kenya. CTA's products and services are reported to be appropriate for the local Kenyan conditions, useful for extension, relevant to Kenya's agriculture and rural development needs and specialized.

However, although more than half of the institutions interviewed know about CTA and its products and services, the range of products and services used is narrow with only three products: *Spore* magazine, CTA publications and the Rural Radio Resource Packs (RRRP) being used widely. Other products and services such as Distribution of Reference Books in

Agriculture (DORA), Selective Dissemination of Information (SDI), CD-ROM / Database subscriptions and Question and Answer (Q&A) service are not widely used.

Additionally, most of the institutions interviewed are not actively involved in CTA activities such as the annual seminars, ICT observatory, training programmes and seminars and only three institutions have been involved in some of these activities.

Potential Partners and Beneficiaries

Potential partners should assist CTA address the information and capacity building needs identified in this study. Further, they should help CTA improve its collaboration with institutions involved in agriculture and rural development and the relevance of its products and services. The following potential partners are identified:

- AIRC can partner with CTA to improve access to information and information formats that institutions have difficulties acquiring and collaboration and information sharing between institutions. AIRC has a national mandate to collect and disseminate agriculture and rural development information. It has a nation-wide reach and good linkages with institutions that produce and use agriculture and rural development information.

- KBC can partner with CTA to explore opportunities and ways to improve access to agriculture and rural development information in the rural areas through the use of media, mostly Radio and TV programmes. KBC has regional radio services that broadcast programmes in local languages.

- KNLS can partner with CTA to improve access to agriculture and rural development information in the rural areas. KNLS has a network of libraries across the country, including 31 community libraries.

- JKUAT and UON-CAVS can partner with CTA to develop training programmes that can help improve the ICT/ICM capacities of the institutions that produce and use agriculture and rural development information in Kenya.

All institutions dealing with agriculture and rural development can benefit from CTAs' products and services but two level of beneficiaries are identified: (a) Institutions interviewed in this study (and others) who can use CTAs' products and services to improve their ICT/ICM capacities and their access to information and (b) Institutions that can benefit from CTAs' support in implementing specific capacity building activities. The ones identified in this study include JKUAT, UON-CAVS, KEFRI, KARI, KNLS, KOAN, TNS, and AIRC.

Recommendations

Information Needs

Institutions and CTA should work together to increase access to and use of CTAs' publications, distribution and web services that address the information and information formats that institutions have difficulties acquiring.

CTA should support the establishment of a network of institutions that produce and use agriculture and rural development information to increase sharing and exchange of information, especially the types and formats that institutions have difficulties acquiring.

Research and education institutions such as KARI, KEFRI, JKUAT, and UON-CAVS should provide more information on topics that institutions have difficulties acquiring. On the other

hand, information providers such as AIRC and KNLS should provide more information in formats that institutions have difficulties acquiring.

AIRC should improve access to agriculture and rural development information by improving communication with information producers and to make sure that all available information is included in its collection / information resources.

Capacity Building Needs

Institutions should use CTAs' ICT training courses and related workshop and seminars to improve their capacity to develop and manage databases, websites, and content and to develop and implement ICM policies and strategies.

Information providers such as AIRC, KNLS, and KBC should use CTAs' media services, ICT training services and seminars and workshops to develop their capacity to make information accessible by making it easier to understand (e.g. translating to Kiswahili and other local languages) and presenting it in suitable formats.

CTA should assist institutions develop ICM policies and strategies which will enable them to mainstream ICT within the institutions and use it as a key recourse, including the use of emerging technologies such as SMS that offer many possibilities in rural areas. ICM policies and strategies will address short and long-term funding needs for computing equipment, infrastructure and interconnectivity expansion and improvement. Through planning, institution will be able allocate adequate ICT financial and human resources.

Institutions should seek CTA support when implementing specific capacity building activities. Most of the specific capacity building needs identified by the institutions can benefit from different CTA products and services.

CTA's Products and Services

CTA should use the findings of this study to better target its range of products and services to the Kenya market and particularly to address the information and capacity building needs identified in this study.

CTA should continue and increase promotion of its products and services among institutions and organizations to augment both the number of institutions using them and the number of products and services used by individual institutions.

CTA should involve more institutions in its trainings, workshops, seminars and other relevant activities.

CTA should identify partners that can help make CTA products and services widely known, accessible, used and effective.

Potential Strategic Partner Institutions

In line with one of CTA's strategic principle of developing fewer but stronger partnerships, two institutions are recommended for partnership with CTA, i.e. AIRC and UON-CAVS. The core purpose of the two are in line with CTA core purpose i.e. improving access to agriculture and rural development information (AIRC) and strengthening capacity of ACP institutions to produce, acquire, exchange and utilize agriculture and rural development information (UON-CAVS)

The partnership with AIRC would encompass the whole range of CTA's products and services and would also allow CTA to explore the potential of using media, particularly Radio and TV, to improve access to information in rural areas through AIRC current collaboration with KBC.

The partnership with UON-CAVS would involve the collaboration in AICM training along the proposed AICM training courses.

1. INTRODUCTION

1. The Technical Centre for Agricultural and Rural Cooperation (CTA) established in 1983 under the Lomé Convention between the ACP (African, Caribbean and Pacific) group of states and the European Union (EU) Member States aims to develop and provide services that improve access to information for agricultural and rural development, and to strengthen the capacity of ACP countries to produce, acquire, exchange and utilise information in this area.

2. CTA works primarily through intermediary public and private partners (research centres, extension services, libraries, NGOs, farmers' organisations, regional organisations and networks, etc) to promote agriculture and rural development. Through these partnerships, CTA hopes to increase the number of ACP organisations capable of accessing and combining modern and conventional ICTs, generating and managing information and developing their own ICM strategies.

3. Since 2003, CTA has been systematically conducting needs assessment studies across the Pacific, Caribbean and Africa regions. One of the main objectives of the needs assessment studies is to identify strategic partners for CTA to work with to improve the availability and effectiveness of their information and services to their beneficiaries in the country.

4. In the Kenya study, thirteen institutions were visited and interviews conducted using a standardized semi-structured questionnaire. The institutions visited are shown on Table 1. They included two government ministries, one government enterprise, two national research institutes, two universities, two non governmental organizations, an agriculture information resource centre, an agricultural commodity exchange company, a national library service and a national broadcaster. Although all of the institutions interviewed have their head offices in Nairobi, they all have operations in the rural areas. Initially, 21 institutions and organizations were selected and contacted for interviews but 8 were not available for interviews.

Table 1: List of the institutions and organizations interviewed

	Name	Acronym	Type	HQ office location	No. of branches
1	Kenya Organic Agriculture Network	KOAN	NGO	Nairobi	0
2	Technoserve	TNS	NGO	Nairobi	8
3	Agriculture Information Resource Centre	AIRC	Government	Nairobi	67
4	Kenya Agriculture Research Institute	KARI	Government	Nairobi	23
5	Jomo Kenya University of Agriculture and Technology	JKUAT	Education	Nairobi	3
6	University of Nairobi - College of Agriculture and Veterinary Medicine	UON-CAVS	Education	Nairobi	4
7	Ministry of Livestock Development	MLD	Government	Nairobi	2
8	Ministry of Youth and Sport	MYS	Government	Nairobi	0
9	Kenya Forestry Research Institute	KEFRI	Government	Nairobi	6
10	Kenya National Library Service	KNLS	State Enterprise	Nairobi	46
11	Kenya Forestry Service	KFS	State Enterprise	Nairobi	8
12	Kenya Broadcasting Corporation	KBC	Media	Nairobi	4
13	Kenya Agriculture Commodity Exchange	KACE	Private	Nairobi	8

2.   COUNTRY PROFILE

5.   Kenya is located in East Africa and neighbours Somalia to the East, Ethiopia and Sudan to the North, Uganda to the West, Tanzania to the South and the Indian Ocean to the South East. It has a land area of 582, 650 sq km of which 569, 250 sq km is land and 13,400 sq km is water. The altitude rises from the low coastal plains to the central highlands and reaches 5200m at the peak of Mount Kenya, Africa's second highest mountain. The combination of the Great Rift Valley which bisects the country and country's varied physiographic features give Kenya a variety of landscapes.

6.   Kenya has a variable tropical climate with two rainy seasons, the long rains between April and June and the short rains in November and December. It is hot and humid at the coast (1000 mm annual rainfall, 26°C average temperature), temperate inland (1250 – 2000 mm annual rainfall, 19oC average temperature) and very dry to the North (250 – 500 mm annual rainfall, 29°C average temperature). Overall, only 18% of the land is arable, the other 82 % being arid and semi arid and of low agricultural potential. The variable climate and landscape determines the type of agricultural production systems practised in the country (Sombroek et al, 1982; CIA, 2008).

7.   Kenya's population was projected at 37.18 million (M) in 2007 based on 1999 national population census. Population distribution depends on the land potential and varies widely from 533 persons per sq km in Western province to only 10 persons per sq km in North Eastern province. The national sex ratio is 97 males for every 100 females. The majority of the population is young, 55% being below 20 years of age and 41% being between 20 and 64 years. Those above 65 years accounts for only 4% of the population. The country has a dependency ratio of 84% which has decreased, having been 90% in 1999. The national household size is 5 persons per household with 70% of the households headed by men and 30% headed by women (KNBS, 2007b).

8.   Kenya's population is made up of 42 ethnic groups but five of the larger groups, Kikuyu, Luhya, Luo, Kalenjini and Kamba account for 70% of the population (KNBS, 2003; 2007b). Kiswahili is understood and spoken by most of the ethnic groups and is used for communication at community level, however, for official business, English is the official language.

9.   The urban population growth rate is 4.7% compared to a growth rate of 0.3% in rural areas. The urban population increased by 15% between 1985 and 1999 and it is estimated that 45% of the population will live in urban areas by 2015. Although 276 urban centres were reported in the 1999 census data, five urban areas, Nairobi, Mombasa, Kisumu, Nakuru and Eldoret, account for 36% of the urban population in Kenya (KNBS, 2007a).

10.   Overall, 79% of the population is literate with men having higher levels (84.8%) as compared to women (73.6%). Literacy levels are higher where land potential is high, i.e. Central, Nyanza and Western provinces. North Eastern province has the lowest literacy levels of 28.2%.

11.   Access to services varies from province to province, being poor in the lower potential provinces. To improve access to services in rural areas, the government initiated a Constituency Development Fund (CDF) in 2003 and decentralized the decision making process for service delivery. The CDF is currently the main vehicle for public service development in the country. The fund aims to control imbalances in regional development by allocating development funds equally through the parliamentary constituencies.

2.1   Agriculture, Fisheries, Forestry and Livestock

2.1.1 Agriculture

12.   Agriculture plays an important role in Kenya's economy as the majority of the people depend on it. The national household survey of 2006 showed that 69% of Kenya's households were involved in agriculture, the percentage being 86% in rural areas and 14% in urban areas. There was significant difference between the provinces depending on the land potential. The most productive provinces, Western, Eastern, Nyanza and Central had over 80% of households involved in agriculture. Rift Valley had 66% and Coast had 50% while the arid and semi arid North Eastern had only 10% of households involved in agriculture (KNBS, 2007b).

13.   Only 18% the land area is suitable for agriculture, the other 82% being arid or semi arid. Due to the limited land potential, only 9% of the total land area is cropped. Despite the limited land potential, only 6% of the farmed land is irrigated. This implies that agriculture in Kenya is largely rainfed. A large proportion of the farmed land is under food crops, the most important crops being maize, beans, cow peas, sorghum and potatoes. Use of fertilizer is substantial with 52% of farmers using inorganic fertilizers and 37% using organic fertilizer (KNBS, 2007b).

14.   Agriculture is a key sector of Kenya's economy and there has been a direct relationship between growth in agriculture and growth in the economy. Following the country's independence in 1964, the sector experienced high growth rates which however declined though the 1980's and reached a low of negative 4% in 1992. Factors that contributed to this decline included inconsistent policies, frequent drought; depressed prices of agricultural commodities in the world market, poor infrastructure, breakdown of support services, etc (KNBS, 2007a).

15.   From 2002, the government started reforming the sector and in 2004 launched the Strategy for Revitalizing Agriculture (SRA) to provide short, medium and long term direction for the agricultural sector. The SRA is implemented across four line ministries of Agriculture, Livestock, Fisheries, and Cooperative Development and Marketing. SRA aims to undertake commodity policy reforms, fast track interventions, implement special activities such as food and nutrition programmes, and increased government budget for agriculture. Within this strategy, agriculture, livestock, fisheries and forestry policies and strategies are reviewed to align them to the SRA and address changes that have taken place in each sub sector such as, in the case of forests, decline in forest cover, destruction of the water catchment areas and conflicts between forest managers and adjacent communities over access to forest resources.

16.   Following the SRA, the agricultural sector has since started to recover and in 2006, accounting for nearly one quarter of the national GDP, the key sub sectors being crops and horticulture, livestock, and forestry. Of the total agriculture contribution to the GDP, crop and horticulture accounted for 70%, livestock accounted for 22% and forestry accounted for 4%. Fishing and agricultural related services accounted for 2% each. It is however important to note that the majority of the agricultural producers are subsistence farmers who live in rural areas and have limited access the services and technologies that are needed to bring about sustained agricultural growth (KNBS, 2007a).

17.   The marketed crop produce include perennial crops (tea, coffee and sisal, etc), horticulture (cut flowers, vegetables and fruits), industrial crops (pyrethrum, sugar-cane, cotton and tobacco) and cereals (maize, wheat, barley and rice) among others. Livestock products include meat, dairy products, hides, and skins and wool. The main

export market for Kenya's agricultural produce and products include the European Union (EU), the Common Market for East and South Africa (COMESA), the East Africa Community (EAC), and the United States (US). The most important exports include tea, horticultural produce, coffee, tinned pineapples, pyrethrum extracts and sisal fibre. Kenya also exports fish, mostly Nile Perch to the EU, Far East and Israel. A variety of wood products including cork, wood carving, paper, and wattle bark extract are exported to different countries mostly within the COMESA. The EU is a preferred market for Kenya agricultural export due to its relative proximity and accessibility, which allows for greater profit margins (KNBS, 2007a).

18. In the past, small-holder farmers were supported by cooperative societies with bulk purchasing of farm inputs and marketing of farm produce. However, many cooperative societies collapse as a result of market liberalization and the implementation of structural adjustment programmes. Although many farmers cooperative still exists, they are being replaced by farmers' groups and associations.

19. Currently, the Kenya Federation of Agricultural Producers (KENFAP) represents farmers in development and policy formulation initiatives. KENFAP was formed in 1997 to replace the Kenya National Farmers' Union. Commodity associations represented in KENFAP including Kenya Horticultural Crops Growers' Association, Pyrethrum Growers Association, Cereal Growers Association, Kenya livestock Breeders Organization, Kenya Sugarcane Growers Association, National Community Forests Association, Kenya Bee Keepers Association, Dairy Goats Association of Kenya, Kenya Fisher Folk Association, High ridge Banana Growers Association, Barley Growers Association, Kenya Poultry Farmers Association, Kenya National Potato Farmers Association, Kenya Cotton Growers Association, Kenya Livestock Producers Association, and Kenya Coffee Growers Association.

20. On the other hand, crop development programmes such as the Kenya Maize Development Program (KMDP) are changing crop production and marketing by bring together and supporting collaboration between various stakeholders in the crop value chain. KMDP is helping traders and brokers associations offer fair trade while supporting farmer groups' better produce and market maize.

2.1.2 Fisheries

21. Despite the country having a long coast line of 536 Km and a well developed marine fishing industry, the country still relies on Lake Victoria for fish. The lake contributes over 90% of the fish caught in Kenya and therefore dominates Kenya's fishing industry. About 500,000 Kenyans are engaged in fish production and fish related enterprises, including distribution to major town where the large proportion is consumed. The fish caught in Kenya is consumed locally and only 30% is exported. Overall, the fish industry contributes only about 0.5% of the GDP (EPZ, 2005). Kenya's fish export markets include the EU, Far East and Israel. The Nile Perch accounts for over 80% of the total volume exported. The EU is the preferred market because of its relative proximity and accessibility, therefore greater profit margins (KNBS, 2007b).

22. Fish processing and export is regulated by the Kenya Fish Processors and Exporters Association (AFIPEK). To harmonise policies on surveillance, monitoring and processing standards to those of the other two East African states, AFIPEK has developed a code of good manufacturing practise for handling and processing fish and fishery products in Kenya.

23. From 2008, a new Ministry of Fisheries Development has been established to oversee the development of the fisheries industry. Key departments of the ministry include

quality assurance, marketing and value addition, inland fisheries, marine and deep sea fisheries and aquaculture development. The ministry has established a Fisheries Secretary and is planning to establish a Fisheries Development Authority and also restructure the Kenya Marine and Fisheries Research Institute to enable it to generate reliable and specific data to support the development and management of the fisheries sector.

2.1.3 Forestry

24. Kenya forest cover is very low and currently stands at around 1.7%, having fallen from 2% in the early 1990s (KNBS, 2007a). To address this situation, Kenya Forest Service (KFS) is implementing activities aimed at increasing forest cover across the country. KFS is doing this in collaboration with other stakeholders including government ministries, research institutes and local communities. Among other things, KFS is promoting farm forest on agricultural land and dry land forests in the expansive arid and semi arid areas.

25. The Kenya forest industry is mainly small scale and informal. The industry employs about 65,000 people, more than half on part time basis. Like in other developing countries, forestry exports are few and contribute only approximately 1% of the GDP. A variety of wood products including cork, wood carving, paper, and wattle bark extract are exported to different countries mostly within COMESA. Kenya also exports some wood products to other parts of the world namely Israel, Italy, England, Belgium, Norway and China (EPZ, 2005c). Forests are however important sources of energy providing 75% of the domestic energy source.

26. Despite the importance of forests, their sustainable development and management is hampered by a number of factors, including inadequate financial resources and lack of an enabling policy and legislation environment (GOK, 2004). To address these issues, the forest policy has been revised to take into account changes that have taken place in the country such as rapid population increase, decline in forest cover and associated reduction in forest products and services and conflicts between forest managers and forest adjacent communities over access to forest resources.

27. The forest policy goal is tap into forests to contribute to poverty reduction, employment creation and sustainable land use and conservation. It further aims to promote forest research and training and participation of all stakeholders in forest issues and increase forest cover by expanding forests to all ecological zones and land uses systems of the country (GOK, 2004). The proposed activities will be implemented through and overseen by KFS.

2.1.4 Livestock / Pastoralism

28. The livestock sub-sector which is an integral part of the agricultural sector contributes about 10% of the GDP and accounts for over 20% of the agricultural GDP. The sub-sector employs over 50% of the agricultural labour force and is responsible for ensuring self-sufficiency in livestock products. This has been achieved except in extreme drought years (KNBS, 2007a).

29. Livestock production, mainly beef and small ruminants are the major enterprises in the low potential arid and semi-arid areas. The livestock is reared mainly under nomadic pastoralism and limited ranching. In the pastoral areas, there is no individual land ownership, and grazing land is communally owned. Drought, water shortages and diseases such as East Coast Fever (ECF), contagious Bovine Pleuro-Pneumonia

(CBPP) and Caprine Pleuro-Pneumonia (CCPP), and Rift Valley Fever are the main constraints to livestock production in these areas (ILRI, 2008).

30. The 2006 household survey indicated that 84% of rural households and 27% of urban households are involved in livestock keeping. Of all the households that reported as rearing livestock, 67% and 60% reported keeping chicken and cows respectively (KNBS, 2007b).

2.2   Status of ICT Infrastructure and Recent Developments in the Sector

31. Telecommunication services in Kenya have been run in the past by the Kenya Post and Telecommunications Corporation (KPTC), which operated as a monopoly until 1997 when the government initiated reforms aimed at setting the long term vision for the sector and attracting other players into the sector. The reforms addressed key areas of information and communication including information technology, broadcasting, telecommunication, postal services, radio frequency management and universal access. They culminated in the development of information and communication policies, strategies and related legislation which have identified and started to address the key challenges in the sector i.e. policy and regulation, inadequate infrastructure, and insufficient skilled human resources.

32. Implementation of telecommunication reforms has been guided by four principles i.e. infrastructure development, human resource development, stakeholder participation and appropriate policy and regulatory framework. Emphasis has been placed on the development, deployment and exploitation of the sector to aid the development of other sectors of the economy and provide a basis for facilitating socio-economic development in an era that is dominated by information and knowledge-based economies. To reach this goal, a cohesive and well functioning institutional framework is essential. The government is therefore providing leadership and direction while fostering a friendly investment environment.

33. The Kenya Broadcasting Corporation (KBC) was the sole player in the electronic media sector in Kenya until 1992 when the government allowed other players to enter into the sector. Since then, the Communication Commission of Kenya (CCK) has licensed 16 television stations and 26 FM radio stations and assigned 89 TV and 244 FM frequencies. It is estimated that 60% and 90% of the population has access to television and radio services respectively (CCK, 2008a).

34. The development of a telecommunications infrastructure capable of delivering efficient and affordable information and communications services is seen as a prerequisite for the country's economic development. In 2001, CCK reviewed the telecommunication sector and created 11 market segments including (1) Fixed lines operators, (2) Mobile phone operators, (3) Satellite / VSAT operators, (4) Data network operators, (5) Internet service providers and (5) Value added services among others.

35. Fixed line telephone growth has been declining since the opening up of the mobile telephone service market by the government starting from 2000 when two mobile phones operators were registered. By 2007, there were only 264,882 fixed telephone lines, down from 300,000 in 2000. This presents a penetration of only 0.9%. Although Telkom Kenya was protected by the government for a period of 10 years so that it could be able to improve access in rural areas, 90% of fixed telephone lines are still within

urban areas and rural areas still remain poorly served and with a lower telephone penetration compared to urban areas (CCK, 2008a).

36. While the fixed line telephone network growth has been declining, growth in the mobile phone network has been rapid. Currently, the two mobile phone operators serve a total of 12 M subscribers representing a penetration of 34%. Subsequently, the cost of making mobile phone calls has been decreasing and currently stands at around 16 Kshs (0.16 Euros) when calling within the same network and 23 Kshs (0.24 Euros) when calling another network or a fixed line. Competition between operators has led to introduction by all operators of attractive tariff regimes to suite the lifestyles of different groups of subscribers. For example, Celtel allows a cell of three family members or friends to call each others at only 3 Kshs (0.03 Euros) per minute. The same network allows off peak (6pm and 6 am) call at 3 Kshs (0.03 Euros).

37. The upsurge in the number of cyber cafes has rapidly increased the number of people with access to computers and Internet but as with telephone services, this increase is concentrated in urban areas leaving rural areas still poorly served. Unlike the mobile phone, uptake of Internet services has been slow, with a humble penetration rate of only 5% by end of 2007. CCK is addressing this challenge and has streamlined data network licensing processes and licensed 22 Data Network Operators (DNO) by 2007. Subsequently, the cost of connection to the Internet backbone by ISPs has decreased as well as the cost of Internet access for the end user. In some of the cybercafés, one can browse for one hour for a cost of Kshs 30 (0.32 Euros). Lower costs are generating a lot of innovation from the end user side. For example, tenants in estates are able to install a shared Internet connection to share the cost.

38. Kenya has taken a leap to join the knowledge economy league by formulating a national ICT Policy that will enable it take advantage of ICTs in the process of transforming into an information-rich and knowledge-based society. The imminent upgrading of the ICT sector in Kenya through the formulation of a national ICT Policy is significant because it has the potential and prospects to generate additional jobs or employment opportunities for a growing youthful population.

3. STATUS OF INFORMATION AND COMMUNICATION FOR AGRICULTURE AND RURAL DEVELOPMENT

3.1 Institution and Regulatory Policy Framework

39. The Kenya government policies and strategies for information and communication aim to promote the use of information and related communication technologies to bring about development within all sectors of the economy (GOK 2006a, 2006b, 2007b). These policies and strategies aim to create an environment that will transform Kenya into a knowledge society by ensuring that information is widely disseminated and accessed. The policies and strategies are guided by four principles i.e. infrastructure development, human resource development, stakeholder participation, and appropriate policy and regulatory framework (Annex 2, Section 2.1.9). Currently there are no policies or regulations that restrict access to information by media, public and private institutions and individual citizens.

40. Ongoing ICM reforms aim to create an efficient and competitive operating environment that encourages participation of all parties (Annex 2 section 2.3). The institutions interviewed identified several ways in which these reforms will impact on information and communication for agriculture and rural development. These include:

- Lowering of costs of hardware (currently, the government has removed taxes on all assembled computer hardware and accessories),
- Improving awareness on the role of information and communication in agriculture and rural development, especially at the management level,
- Increasing access and demand for information products and services, and
- Modernizing of the traditional (e.g. paper based) agriculture and rural development information systems.

41. On the other hand, some of the institutions interviewed observed that the lack of a clear ICT policy in the past led to disparate ICT systems that are now difficult to integrate and modernize. Further, a few of the institutions interviewed observed that the changes taking place will increase competition and this will require them to frequently update their products and services to match similar products and services in the market.

42. Although access to information is not restricted, poor infrastructure limits its use in the country, especially in the rural areas. CCK has addressed this by implementing a universal access strategy that addresses among other things coverage, cost of service, availability of appropriate content, and development of the necessary human resource to manage information and communication (CCK, 2008a). By encouraging competition among service providers, CCK aims to contribute to the lowering of the cost of service. This is clearly the case in the mobile phone sector where competition among the providers has led to a lower cost of service (Annex 2, Section 2.3.2). CCK has also registered 26 FM radio stations (Annex 2 - Table 18) which now cover most of the rural areas and most of which broadcast in local languages. These radio stations will increase the amount of local content.

43. The impact of information and communication in agriculture and rural development is yet to be seen and its full potential will only be realized when the ongoing reforms and investments take root. However, it is clear that the ongoing policy reforms have

popularized information and communication and created awareness on their role in development. As a result, many innovative applications are being developed even in rural areas e.g. the use of mobile phone to disseminate information in the rural areas. Communities are eager to utilize the power of ICT in development projects. For example, to promote transparency, many of the parliamentary constituencies have a website for their community managed CDF although the fund is only in its second 5 year term.

3.2   Operational Aspects

3.2.1   Description of Agricultural Information and Services

44. Many institutions in Kenya deal with agricultural information. These include national research institutes (e.g. KARI, KEFRI), universities (e.g. UON-CAVS, JKUAT), agricultural information resource centres (e.g. AIRC), ministries (e.g. MLD), NGO's (e.g. KOAN and TNS), and private companies (e.g. KACE). Among these KARI and AIRC are important. KARI is mandated to undertake agriculture research across the whole country and has a network of research centres spread across the country covering different ecological conditions and production systems. AIRC on the other hand has the mandate of collect, package and disseminate agricultural information across the whole country.

45. Agricultural information is disseminated at two levels i.e. scientific and extension. At the scientific level, universities and national research institutes are the key players. Information is published in international and local scientific journals (see Table 22) and as student research theses (Masters and Doctorate). Journals and student theses are available at university and institutes libraries. Their readership is limited to students, researchers and professionals in different areas of interest. Unlike journals that are synthesized to communicate key findings, most theses are written to fulfil university degree requirements and the information in them has not been widely utilized.

46. At the extension level, information is disseminated by institutions involved in agricultural and rural development extension work. Of the 13 institutions interviewed in this study, 9 were involved in extension and outreach. Of these, AIRC is the most important since it has the mandate to collect, collate, package and disseminate agricultural information across the country. AIRC works closely with institutions that produce agricultural information.

47. Training is an important service in agriculture and rural development. Six of the institutions interviewed were involved in training. These included the two universities (JKUAT, UON-CAVS), the two NGO's (KOAN, TNS) and two government institutions (MLD, KFS). Universities have Diploma, Bachelors and Masters training programmes for agriculture students and professionals working in agriculture and rural development. Courses listed by the two universities include crop science, biotechnology, food science, agricultural engineering, veterinary science, range and wildlife management, horticulture, public health and agriculture business management among others. The universities do not have a course on agriculture information management but Egerton University is launching an MSc program in Agricultural Information and Communication Management (AICM) as of 2008/2009 academic year. This programme is attracting students from the entire East and Central Africa region. UON-CAVS also has a plan to launch the same program in the near future. AICM is a regional MSc program initiated by the former Regional Agriculture Information Network (RAIN) of ASARECA and

currently coordinated by RUFORUM. The program also has a postgraduate diploma, a short course module, and other academic and research components

48. The universities have field farms where they develop and test agricultural technologies. These farms organize open days when local communities are invited to learn about different agricultural and rural development technologies. The open days are organized in collaboration with farm input suppliers and other technology developers who also get the chance to share information about their products and services. The open days are becoming an important means of sharing information with local communities. In addition, JKUAT has introduced a paid short course for farmers who may be interested to further their knowledge.

49. Training by government institutions and NGOs are less structured but are important for developing the capacities of the local organizations and communities. These may be in form of short training courses, workshops, demonstrations and exchange visits among other.

3.2.2 Information Sources

50. The information sources used by the institutions interviewed are summarized in Table 2.

Table 2: Information sources used by institutions interviewed

Information Sources	Count	%
Internal Sources		
• Reports	12	95
• Publications: Brochures (8), Newsletters (6), Booklets (6), Posters (5), Journals (5), Manuals (4), Directories (2), Catalogues (1)	11	85
• Databases: Bibliographic references (7), Members (3), Market Information (2), Production (2), Research (2)	11	85
• Libraries	8	62
• Information and documentation centres	2	15
External Sources		
Organizations		
• Universities and national research institutes: JKUAT (3), UON (2), Egerton (1), KARI (9), KEFRI (2), KTRF (1)	12	92
• Regional & International research institutes: ICIPE (5), ICRAF (4), ILIRI (4), ASARECA (4), CEDEAO (1), UNEMO (1), Africa Harvest (1)	9	69
• Government ministries & Agencies: AIRC (6), KNBS (1), NEMA (1)	9	69
• NGOs and UN Agencies: CTA (2), FAO (1), UNEP (1), UNEP (1), AATF (1), KFWG (1), FAN (1), IFOAM (1)	7	54
• Input suppliers: Agro-vet, Seed companies, Organic input suppliers	6	46
• Farmers & Commodity associations	4	31
• Meetings with beneficiaries	3	23
• Embassies	2	15
Print		
• Newsletters	7	54
• Booklets and posters	6	46
• Research papers	5	38

Information Sources	Count	%
• Personal collection (books, reports)	5	38
Electronic		
• Internet / Websites / Electronic network	11	85
• TV/Video shows	5	38
• Radio	4	31
Others		
• Trade fairs, agricultural show and exhibitions	7	54
• Colleagues	7	54
• Agri-business	5	38
• Agricultural Banks	1	8

51.   The institutions interviewed used many internal and external information sources. Internal sources used include work reports (12 institutions), publications (11 institutions), databases (11 institutions), libraries (7 institutions) and information and documentation centres (2 institutions).

52.   External sources include organizations, print, and electronic media among others. The bulk of the external information comes from organizations, the key providers being universities and national research institutes, regional research institutes, government agencies and NGOs. AIRC, which operates under Ministry of Agriculture (MOA) and which has the mandate to collect and disseminate agricultural information, is the key information provider among the government agencies. Input suppliers are also important information providers. This is in line with a general trend where input suppliers are becoming important sources of technical and extension information. Input suppliers use this interaction to promote their products while providing the information needed to make best use of their products. Other organizations include farmer and commodity associations, beneficiaries and embassies.

53.   Apart from organizations, print and electronic media are the other external sources. A wide range of print formats is used including newspapers (7 institutions), booklets and posters (7 institutions), research papers (5 institutions) and personal collections (5 institutions). Electronic sources include the Internet (11 institutions), TV and Video (5 institutions), and Radio (4 institutions). Others external sources include trade fairs and agricultural shows (7 institutions), colleagues (7 institutions), agribusiness (5 institutions), and agricultural banks (1 institution).

3.2.3 Information products and services provided

54.   Table 3 summarizes the products and services offered by the institutions interviewed. Products include publications and databases while services include websites, extension and outreach, libraries and documentation centres, meetings and workshops, training, market information, TV and Radio programmes, Q&A service and information centres.

55.   A variety of publications are produced. These include brochures (7 institutions), booklets (6 institutions), newsletters, posters and journals (each by 5 institutions), manuals (4 institutions), directories (3 institutions) and catalogues (1 institution). The directories published include the Kenya National bibliography and Kenya periodicals directories published by the KNLS.

Table 3:   Information products and services provided by institutions interviewed

Products and Service	Count	%	Institutions
Products			
• Publications	11	85	KACE, KOAN, KFS, AIRC, UON-CAVS, KARI, JKUAT, MYS, TNS, KEFRI, KNLS
• Databases	11	85	KACE, KOAN, AIRC, UON-CAVS, KARI, MLD, JKUAT, MYS, TNS, KEFRI, KNLS
Services			
• Websites	13	100	KACE, KOAN, KFS, AIRC, UON-CAVS, KARI, MLD, JKUAT, MYS, TNS, KBC, KEFRI, KNLS
• Extension and outreach	9	69	KACE, KOAN, KFS, AIRC, UON-CAVS, KARI, MLD, JKUAT, MYS
• Libraries / Doc. centres	8	62	AIRC, KARI, JKUAT, UON-CAVS, KNLS, KFS, KBC, KACE
• Meetings / Workshops	7	54	KOAN, AIRC, UON-CAVS, MLD, MYS, KEFRI, KNLS
• Training	6	46	KOAN, KFS, UON-CAVS, MLD, JKUAT, TNS
• Market information	3	23	KACE, MLD, KBC
• TV and Radio	3	23	AIRC, KBC, KFS
• Q&A service	1	8	KARI
• Information centres	1	8	KACE

56. Databases include those on bibliographic references (7 institutions), member contacts (3 institutions), farm production (2 institutions), market information (2 institutions), and research work (2 institutions). The Regional Commodity Trade Information System (RECOTIS) database hosted and maintained by KACE provides trade information to clients interested in buying, selling, importing, exporting or distributing agricultural commodities. The database has 500 records mostly from East Africa but also from other countries all over the world.

57. All institutions use websites to share information but most websites only provide basic information. Only KACE uses its website to provide dynamic data to its beneficiaries. Similarly, although seven institutions use email to communicate with beneficiaries, this is only to maintain contact and only KACE and MLD uses email to disseminate information routinely to their clients. Again, only KACE uses Short Message Service (SMS) to provide information to users. Although most institutions did not use SMS to disseminate information, they identify it as an effective way to disseminate information.

58. Extension services were provided by nine institutions while seven institutions used meeting and workshops to provide information to beneficiaries. Training services were provided by six institutions. The other information services provided included databases and Radio and TV broadcasts. KACE also used Information centres to provide market information in different communities in different areas.

59. Libraries and documentation centres are run by 8 institutions including 46 libraries of the KNLS spread across the country. Of the 46 libraries, 31 are community libraries. KNLS also offers mobile library services to pastoralists and has started a pilot "Books Box" service to rural schools and several products for visually impaired persons.

Libraries and documentation centres also offer other related services such as literature search, book loans and limited photocopying.

60. KBC collaborates with AIRC to produce and air 1 TV and 2 radio weekly agriculture and rural development programmes. KBC also collaborates with KACE to compile and air daily agricultural community prices for major markets across the country. KACE also offers access to these commodity prices through SMS and interactive voice response services. MLD provides livestock prices for major markets across the country through its website while KARI provided a Q&A service through a project supported by CTA.

3.2.4 Information and Communication Management Capacity

61. The institutions interviewed did not have well-established ICM departments but they all had IT departments with the exception of the two NGO's, KOAN and TNS, who were outsourcing IT services. IT departments had between 1 to 3 professional staff and 1 to 6 technical staff with the exception of KBC which had 16 technical staff. Professional staff had mostly graduate level training with few with post graduate training while technical staff had mostly diploma level training with few with certificate level training. Limited ICM skills was identified as a constraint by over half (8 of 13) of the institutions interviewed. Three institutions also identified lack of personnel as a constraint.

62. ICM costs were covered within institutions overall budgets and none of the institutions had a budget specifically set aside for ICT and ICM activities. Five of the institutions interviewed did not have clear information on ICM budget. Annual ICT / ICM budget for the other eight institutions that had estimates varied widely from one institution to the other, ranging from 1.8 Million Kshs (18,947 Euros) for MLD to 85.5 Million Kshs (900,000 Euros) for TNS. However, only about one third (4 of 13) of the institutions interviewed identified limited funding as a major constraint.

63. All institutions were using standard computing hardware including PCs, laptops, scanners, projectors, etc. The PCs were within the range of Pentium 3 and 4. The institutions were using standard operating systems (mostly Windows 2003 server) and standard office application (mostly Office 2003). Nearly half (5 of 13) institutions complained that their ICT equipment was inadequate.

64. All institutions had installed Local Area Networks (LANs) and had Internet connections. Internet was provided through a variety of services including dial-up, wireless and VSAT. A third (4 of 13) of the institutions noted that their LANs and Internet was unreliable while nearly half (5 of 13) of the institutions complained about poor Internet service and particularly low Internet bandwidth.

65. Other constraints, including lack of ICT policy, low e-literacy, rapid ICT changes, limited automation, and poor technical support were identified, but each by one institution only.

3.3 Interventions Supporting Information and Communication for Agriculture and Rural Development

66. The government of Kenya through the Ministry of Information and Communication (MOIC) recognizes that ICT can be a powerful tool for economic and social development including in agriculture and rural development. However, in the past ICT development has concentrated on urban areas resulting in wide disparities between urban and rural areas in the distribution of ICT facilities. The government has identified this disparity as one of the areas that need to be urgently addressed.

67. In 2007, the government initiated a Digital Village Project (DVP) whose aim is to level out the existing disparities between urban and rural areas in the distribution of ICT facilities. The DVP will follow a collaborative approach, bringing together all partners including government, public and private sector organizations, development partners, civil society organizations and individuals investors to participate in adopting, supporting or investing in the following ICT facilities:

- Digital Schools: Educational ICT facilities to be established in every location with 5 PCs each
- Digital Kiosks: Commenced ICT facility to be established in every constituency with 1 to 5 PCs each
- Digital Centers: Development of ICT facility to be established in every district with 10 to 20 PCs each.

Each ICT facility in the DVP will be owned and operated by a stakeholder from the rural community. Although the DVP does not directly address agriculture and rural development information, it will provide the infrastructure that has hitherto limited the use of ICT in agriculture and rural development.

68. Kenya ICT board is carrying out a Kenya Transparency Communication Infrastructure Project (KTCIP) which aims to generate growth and employment by leveraging ICT and Public Private Partnerships. KTCIP has an e-centres component that aims to support the government through the Ministry of Information and Communication to establish 300 e-centres over a period of 3 years. The e-centres will provide a suite of services to the public via computers connected to the Internet. The centres will also provide other computing facilities such as printers and fax machines. The e-centres will be run by private entrepreneurs who will be trained in business and information technology through a standard certification program. The roles of the e-centre are twofold:

- Provide Kenyans in rural areas with access to information that will enable them improve information base as well as their business skills and knowledge.
- Provide employment directly, through the activities of the e-centre, or indirectly through the multiple opportunities that access to information will provide.

Eligible entrepreneurs will be able to apply for an e-centre development loan from a revolving fund. As with the DVP, although KTCIP is not directly linked to agriculture and rural development information access, the project will provide the infrastructure and the knowledge capacity required to improve access to ICT and information in rural areas.

69. Kenya will be one of the beneficiaries of the Eastern Africa Submarine Cable System (EASSy). EASSy is an undersea fibre optic cable that will link the countries of East Africa to the rest of the world. The US$200 million project was conceived in 2003 to install a 9900km high performance fibre optic cable linking countries on the Southern, Eastern and Northern African coastlines to the global super highway. The cable will run from Mtunzini in South Africa to Port Sudan in Sudan, with landings in Mozambique, Madagascar, Tanzania, Kenya, Somalia, Djibouti, and Eritrea and connection to at least five landlocked countries. These countries will no longer have to rely on expensive satellite systems to communicate voice and data. The EASSy project is also not directly related to agriculture and rural development information but will reduce the cost of agriculture information communication.

70. All these projects follow an approach that involves partnership between government and the private sector. The projects are all in their initial phase and their impacts are yet to be seen. If successful, these projects will go a long way in increasing the use of ICT

in rural areas and subsequently access to agriculture and rural development information in rural areas.

4. INSTITUTIONAL NEEDS ANALYSIS (STRENGTHS, MAIN BOTTLENECKS / SHORTCOMINGS)

4.1 Information needs

71. Information needs of institutions depend on their roles, the products and services they provide and the range of clients they serve. Although institutions may have similar general information needs, their specific needs will vary. In this study, we identified both the general and the specific information needs of the institutions interviewed. Before examining the information needs, we assessed the roles of the institution interviewed, which are summarized on Table 4 below.

Table 4: Roles of institutions interviewed

Role	KFS	KOAN	MLD	UON-CAVS	JKUAT	KACE	MYS	KARI	KEFRI	KNLS	TNS	AIRC	KBC	Total
Extension and outreach	1	1	1	1	1	1	1	1				1		9
Information Service		1	1	1	1	1	1			1		1	1	9
Training	1	1	1	1	1			1	1		1			8
Rural Development	1	1	1			1		1	1	1	1			7
Research &Development	1			1	1	1		1	1	1				6
Policy and Planning	1	1	1		1		1							5
Trade and Marketing	1	1	1			1					1			5
Regulations &Standards	1	1	1											3
Supplier	1			1										2
Financial services							1							1
Producer	1													1
Total	9	7	7	5	5	5	4	4	3	3	3	2	1	

72. Table 4 shows that most of the institutions have multiple roles with nearly half of them (6 of 13) serving at least five roles. This implies a wide range of information needs. The table also shows that some roles are more common than others. These include extension and outreach (9 institutions), information service (9 institutions), training (8 institutions), rural development (7 institutions) and research and development (6 institutions). The roles reported by institutions reflect their missions and objectives and go beyond their current operations and functions.

73. In some cases, similar institutions have a different number of roles. For example, of the two government ministries, MLD reported 7 roles, while MYS reported 4 roles. Also, of the two NGOs, KOAN reported 7 roles while TNS reported 3 roles. Actually, TNS has few roles but a much bigger operation on the ground. KFS reported the highest number of roles despite being a new institution established in 2005 by the Forest Act. KFS manages these roles through partnership with a host of institutions and organizations including government ministries, UN agencies and development banks among others. There are also similarities in roles, for example between educational (JKUAT and UON-CAVS) and research (KARI and KEFRI) institutions.

74. The information needs of the institutions interviewed are summarized on Tables 5 and 6. Table 5 shows the most common information needs by the total number of times they were identified by the institutions while Table 6 shows the most important information needs as ranked by the institutions.

Table 5: Most common information needs of the institutions interviewed

Category	Information needed	Institutions	Total
Broad rural development	Farm problems, Social development, Gender issues	AIRC, JKUAT, KARI, KBC, KFS, KNLS, KOAN, MLD, MYS, TNS, UON-CAVS	11
	Regulations	AIRC, JKUAT, KARI, KBC, KFS, KNLS, KOAN, MLD, UON-CAVS	9
	Available networks	JKUAT, KBC, KFS, KNLS, KOAN, TNS, UON-CAVS	7
Technical	Post harvest technology	AIRC, JKUAT, KACE, KARI, KBC, KFS, KNLS, KOAN, TNS, UON-CAVS	10
	Equipments sourcing	AIRC, JKUAT, KARI, KBC, KNLS, MLD, KOAN, TNS, UON-CAVS	9
	Crop varieties	AIRC, JKUAT, KARI, KBC, KNLS, KOAN, TNS, UON-CAVS	8
Economic	Market data	AIRC, JKUAT, KACE, KARI, KBC, KFS, KNLS, KOAN, MLD, MYS, TNS, UON-CAVS	12
	Identification of markets	AIRC, JKUAT, KARI, KBC, KFS, KNLS, KOAN, MLD, TNS, UON-CAVS	11
	Commodity profiles, Credit and Micro credit	JKUAT, KACE, KARI, KBC, KFS, KOAN, MLD, MYS, TNS	9
Training	Management of information	AIRC, JKUAT, KARI, KBC, KEFRI, KFS, KNLS, KOAN, MLD, MYS, TNS, UON-CAVS	12
	Application of ICT in extension, Editing	AIRC, JKUAT, KACE, KARI, KBC, KFS, KNLS, MLD, MYS, UON-CAVS	11
	Participatory methods	JKUAT, KARI, KFS, KNLS, KOAN, MLD, MYS, TNS, UON-CAVS	9

Table 6: Most important information needs as ranked by the institutions interviewed

Category	1st rank	2nd rank	3rd rank
Broad rural development	Farm problems (4)	Non-farm livelihoods (3)	Social development issues (4)
Technical	Grading system (4)	Post harvest technology (3)	Crop varieties (4)
Economic	Market data (7)	Identification of markets (6)	Commodity profiles (3), Credit and micro credit (3)
Training	Application of ICT in extension (10)	Management of information (11)	Editing (6)

Note: The value in brackets indicate the number of institutions that place this information need at this rank. Other information needs were also placed in these three ranks but the one shown here were the most frequent.

75. Most of the information needs listed on Table 5 and 6 are similar. These are the general information needs for most institutions. The needs common to both tables include:

- For broad rural development information – Farm problems and social development issues.

- For technical information – Post harvest technology and crop varieties.

- For economic information – Market data, identification of markets, commodity profiles and credit and micro credit.

- For training information – Application of ICT in extension and management of information.

76. To examine institutions specific needs, the 13 institutions interviewed were grouped into 5 broad categories i.e. government ministries and enterprise (MLD, MYS, KFS), educational and research institutions (JKUAT, UON-CAVS, KARI, KEFRI), NGO's (KOAN, TNS), information service institutions (AIRC, KBC, KNLS) and private enterprise (KACE).

77. For the government ministries and enterprise (MLD, MYS, and KFS), in addition to the general information needs listed on Table 5 and Table 6, the other important information needs identified included regulations, development and funding programmes, patents and certifications. MYS also prioritized information that would help the ministry develop and implement a youth development index. The identified information needs indicate the on-going changes taking place within the government where its operations are shifting towards policy development, regulation, certification, creation of equal playing ground and quality assurance among others. To implement these changes, government ministries and agencies need the above type of information. The information on development and funding programmes is needed not only to source funding but also to create partnerships with local, regional and international development agencies. Both KFS and MLD are currently involved in several development projects at national and community levels.

78. The education and research institutions (JKUAT, UON-CAVS, KARI, and KEFRI) identified a wide range of specific information needs, in addition to the general information identified on Table 5 and Table 6. These can be grouped into four areas: Research; Networking and partnership; Funding and assistance; and Patents and copyright. Research related information identified included integrated pest management, crop insurance, waste utilization, commodity profiles, industrial profiles, packaging, transportation, and participatory methods. Networking and partnership are critical to the success of any education institution and hence the two institutions highlighted information on conferences and meetings, available networks, and trade fairs as important. Both also identified information on development and funding programmes and equipment sourcing as important. As centres of inventions and innovations, the two educational institutions also identified information on patents as important. Other special needs were identified. For example, to cope with the rapid development in agriculture, science and technology, the editorial board of the journal of Agriculture, Science and Technology published by JKUAT draws from a large pool of over 100 reviewers from local and international universities. The board therefore needs information about experts working in the areas that the journal addresses.

79. In addition to the general information needs listed on Table 5 and 6, the specific needs of the two NGOs (KOAN and TNS) depended on their specific functions. KOAN supports organic agriculture enterprises among farmer groups and other institutions and therefore identified information on certification, patents, packaging, trade fairs and organic agriculture networks among others. On the other hand, TNS supports small holder farmers in poor rural areas to establish agriculture-based enterprises. It collaborates with local and international business and many development organizations. It therefore needs information on development and funding programmes and available support networks, whether research, marketing, etc. TNS also identified information on EuroGAP as a need. Both NGOs identified training needs on use of ICT to improve their services and specifically use of SMS for data dissemination.

80. The three information service institutions KNLS, KBC and AIRC all serve a very broad spectrum of clients using different media i.e. books for KNLS, radio and TV for KBC and manuals, booklets, fact sheets, brochures, posters as well as audio and video materials for AIRC. The information needs of these institutions include both general information such as social development and farm problems (Tables 5 and 6) as well as specific information such as regulations and networks.

81. The private enterprise KACE has very specific information needs, mainly agricultural commodity market prices to facilitate agricultural commodity trading between sellers (producers) and buyers, locally and internationally.

82. Some of the information identified by the institutions as difficult to acquire include:

   - For broad rural information – Development and funding programmes, none farm livelihood and gender issues.

   - For technical information – Patents, certifications, post harvest technology and equipment sourcing.

   - For economic information – Crop and dairy insurance.

   - For training information – Participatory methods, management of information and application of ICT in extension.

83. Table 7 presents the information formats identified as difficult to acquire ranked by the number of times they were identified by different institutions. The key information formats difficult to acquire included journal articles, materials in appropriate languages, cartographic information, statistical data, and patents. Others include abstracts, materials for mass distribution, briefs, summaries and visual or pictorial information and grey literature.

84. Outside of the educational institutions, it was difficult to access journal articles due to lack of resources that can help institutions identify available journal articles that could be useful for their work. Even after identifying the relevant journals, access may be limited since institutions may only have access to the bibliographic records and abstracts but not the full article. Use of free full text journal services is not widespread and is limited to academic and research institutions. For example, Access to Global Online Research in Agriculture (AGORA) service is used only by three institutions – JKUAT, KEFRI and KARI.

85. Information in the appropriate language is identified as one format that is difficult to acquire because the information produced or used by many institutions is packaged in languages that are not easily understood by local communities. In the past, government extension officers provided the translation but provision of extension services has changed and is currently provided by a variety of institutions and in a variety of arrangements which mostly does not involve government extension officers.

Table 7: Information formats that institutions interviewed find difficult to acquire

	AIRC	JKUAT	KACE	KARI	KEFRI	KOAN	MLD	MYS	TNS	UON-CAVS	Total
Journal articles	1	1	1		1	1	1	1	1	1	9
Material in appropriate languages		1	1	1		1	1	1		1	7
Cartographic information	1	1		1			1		1	1	6

	AIRC	JKUAT	KACE	KARI	KEFRI	KOAN	MLD	MYS	TNS	UON-CAVS	Total
Statistical data		1				1	1	1	1	1	6
Patents		1		1			1	1		1	5
Abstracts						1		1	1	1	4
Material for mass distribution		1					1	1		1	4
Standards		1					1	1		1	4
Briefing and summaries							1	1		1	3
Visual or pictorial information		1					1			1	3
Grey literature - Thesis, Research	1										1
Specialized resources e.g. books					1						1
Total	3	8	2	3	2	4	9	8	4	10	

86. Cartographic information and statistical data were also identified as difficult to acquire. These information formats require specialized skills to access and use. The other formats identified as difficult to acquire i.e. patents, abstracts, materials for mass distribution, briefs and summaries are either difficult to find or costly to produce.

87. Many of the information formats that were identified as difficult to acquire such as materials in appropriate languages, briefs and summaries are also the ones that could be readily used by lower level (grass root) users such as small scale farmers and community based organizations. At the same times, as shown in section 3.2.3 (information products and services provided), services such as TV and Radio programmes, market information and Q&A that can be readily used by these groups are few. It is therefore clear that while the needs of the upper level users such as government ministries, NGOs, private enterprises and research and education institutions are well addressed; those of the lower level information users such as small scale farmers and community based organizations are not met.

4.2   Capacity building needs

88. Table 8 summarizes the ICM strengths and weakness of the institutions interviewed and their key capacity building needs.

Table 8: Institutions ICM strengths, weakness and priority capacity building needs

Institution category	Institutions	ICM Strengths and Weakness			Rural reach	Priority capacity building needs identified by institutions
		Infra-structure	Info. re-sources	Staff skills		
Government	MLD, MYS, KFS	++	+	+	+++	Skills, Equipment/ Infrastructure, Funding
Research and Education	KARI, KEFRI, JKUAT, UON-CAVS	++	+++	++	+	Skills, Equipment/ Infrastructure, Funding
NGOs	KOAN, TNS	+	++	+	++	Skills, Content accessibility, Funding
Information service	AIRC, KNLS, KBC	++	++	+	+++	Skills, Content accessibility, Funding
Private enterprise	KACE	++	++	+	++	Skills, Funding

Scoring: + is Weak, ++ is Average, and +++ is Strong. Based on combination of various interview data

89. The three government ministries (MLD, MYS, KFS) main strength lies in their country-wide institutional structures which have well established hierarchy with national, provincial and district offices and staff and a good reach and influence in rural and other remote areas. Their weakness lies in their poor ICM skills and information systems. Their capacity building priorities include improving ICM skills, improving computing infrastructure and associated information systems and funding to facilitate capacity building activities. Future capacity building needs includes improving the MLD website, setting up a training centre at the MLD and improving MYS public private partnership initiatives.

90. None of the three above-mentioned institutions have implemented concrete ICM policies and strategies. KFS has a draft ICM policy while MYS has two policy documents that relate to ICM i.e. a "youth and ICT" policy and an ICT action plan. MLD has no policy or strategy in place.

91. The ICM skills improvement identified include database development, website development, communication skills, mass media, and multimedia development. Although these institutions need external support to develop these skills, they have the opportunity to use their existing training facilities to organize and undertake the necessary training. Threats relating to ICM skills development include lack of a clear understanding of the required skills sets and the possibility of the trained staff moving to better paying institutions once they acquire better ICM skills.

92. Due to the importance placed by the government on ICT, government head offices have good and functional computing infrastructures. At provincial and district levels, the computing infrastructure needs to be improved and expanded. Most of these offices have old PCs and printers and do not have LANs and Internet. These needs have been identified and are targeted through different government development initiatives including the e-governance project. The institutions have the opportunity to tap into the government goodwill and commitment as well as the support of the donors. Improvement in computing equipment and infrastructure however faces a threat of a rapidly changing ICT environment which, as stated by some the institutions, is hard to keep pace with. This requires a well planned investment.

93. The three government institutions need to improve their information systems both at their headquarters and at the provincial and district offices. Government institutions information systems are still manual based or use very old software. This is mainly attributed to the slow pace of government institutions in adopting new technologies, which is linked to the high cost of adopting such technologies. The three government institutions have identified this as a priority need and have the opportunity to select and implement the right information systems since they do not have any previous systems that they have to improve or convert. In addition to improving the information systems, government institutions need to improve access to information for the rural communities. They have the opportunity to use their extension structure and extension mandate. Threats include lack of information that is simple enough and in appropriate language, budget limitations and competition from the private sector.

94. Funding is identified by the three government institutions as a requirement for facilitating their capacity building activities. The three institutions have the opportunity to use the funds provided by the central government, donors and other development partners to undertake their capacity building activities. The funding threats they face include poor coordination of funding activities, delays in implementing funded projects and unclear ICM policies.

95. Research and education institutions (KARI, KEFRI, JKUAT, and UON-CAVS) are the key producers of agricultural information in Kenya (Section 3.2.2 - Information sources). Their strengths include the wealth of information produced through well designed research projects, good government support and strong collaboration with other local, regional and international institutions. They also have good ICT infrastructure, information resources and systems and average ICT skills. Although research and educational institutes have a weak rural reach, this is not a major limitation since they have developed good linkages with other institutions that have a good rural reach and through whom they disseminate their research and development findings. In addition, research and educational institutions have introduced open days when they invite farmers and local communities to field farms or demonstration sites to learn about their technologies. They have also started to introduce short paid courses for interested farmers e.g. JKUAT. Their capacity building priorities includes further developing staff ICM skills and improving computing equipment and infrastructure. They also need funding to implement these activities. Future needs include improving information packaging and dissemination for KARI, starting AICM training courses for UON-CAVS, digitizing information resources and availing them online for JKUAT, improving information systems for UON-CAVS and KEFRI and completing and implementing ICM policies and strategies for KEFRI, JKUAT and UON-CAVS.

96. The four above-mentioned institutions have either draft ICM policies, partial or no policies. UON-CAVS has some ICT guidelines in place while KARI and KEFRI both have draft ICM policies which are yet to be completed and implemented. JKUAT has no policy or strategy in place.

97. Although research and educational institutions have staff with good ICT skills, they need to further develop their capacity to develop and manage databases, information systems and websites. Also, they need to develop the capacity to develop and implement ICM policies and strategies. In developing these skills improvement initiatives, these institutions have the opportunity of having a management team that recognizes the role of ICM and the importance of investing in it. They also have well skilled and trainable staff. They however face the threat of staff movement to other institutions once they acquire advanced ICM skills. This is more so the case with research institutes since many of them operate along a project approach and may experience budgetary constraints during project transition periods.

98. Computing equipment and infrastructure improvement is needed to expand computing infrastructure and improve Internet connectivity to research centres and departments away from the research headquarters or main campus. Currently, the research and educational institutes have low bandwidth at the head offices and limited or no connection at the outside research centres and departments. The research centres and departments also have limited computing equipment. There is also a need to interconnect the research centres and departments to enable efficient sharing of information with their head offices. As with skills development, these institutions have the opportunity of having an ICM sensitive management. They face the threat of a rapidly changing ICT environment which needs good investment planning.

99. Research and educational institutions also prioritized funding as a requirement for implementing identified capacity building activities. Indirectly, the funding problem in these institutions is linked to the lack of clear ICM policies and strategies which would enable a more sustained allocation of the necessary budget. In seeking budgetary support, these institutions have an advantage because their management is likely to appreciate the values of ICM. They also can attract funding and material support through their well established collaboration networks and also by developing funding proposal for donors.

100. KARI has also identified the need to improve packaging and dissemination of its research findings. KARI depends on other institutions to package and disseminate its research findings especially to rural communities. This means that the research findings that are not within the focus areas of the disseminating institutions remain shelved in research reports. KARI would therefore like to develop the capacity to improve and expand package and disseminate its research findings. There is increasing demand for information and an increasing number of dissemination avenues including field days, agricultural shows, and exhibitions. However, KARI is confronted with a lack of resources required to develop this capacity.

101. UON-CAVS is one of the universities to launch the regional AICM course initiated by the former RAIN and currently coordinated by RUFORUM, which has taken over the coordination after RAIN was dissolved in 2008. The curriculum was developed under the aegis of RAIN by a group of experts drawn from the universities in ASARECA region at different levels. The courses include an MSc in AICM, post graduate diploma in AICM and a certificate in AICM which will target practitioners. Institutions offering the course will also host an agriculture information resource centre. Egerton University has admitted students to the program, starting September 2008. Egerton is also in the process of setting up an AICM resource centre.

102. NGOs (KOAN, TNS) are the other important producers of agriculture and rural development information in Kenya, after research and educational institutions (Section 3.2.2 - Information sources). Their main strength lies in their good understanding of the issues at hand within their specific areas of operation. They also have a relatively good rural reach and good relationship with their beneficiaries because they usually promote products and services that directly address the needs of their beneficiaries. Their weaknesses include poor ICT/ICM skills, inaccessible content and variable funding that limit the scope of their operations and in many cases language barriers. The capacity building priorities includes improving ICM skills, making available content accessible and funding. Future needs include installing software to manage the rural banks and community dairy for TNS, developing an electronic newsletter for KOAN and installing equipments and software that will allow both NGOs to use mobile phones to serve rural communities.

103. Both NGOs do not have any ICM policies or strategies. In addition, due to lack of ICT capacity, they have been outsourcing ICT tasks, including simple operations. This has made their ICT/ICM operations costly. The NGOs therefore have prioritized ICT/ICM skills development. They need to develop basic in-house ICT capacity as well as develop skills in other areas of ICT / ICM including development and management of website and databases.

104. Both NGOs also need to make information accessible to rural communities. This will require them to translate their information products and services to the local language used by their beneficiaries and to package their products and services into formats that their beneficiaries can easily use.

105. As with the other institutions, the two NGOs also identified funding as an important requirement for facilitating identified capacity building activities. ICM funding difficulties are attributed to the fact that ICM is usually not factored into the NGOs' budgets. Priority areas for which funding is needed include upgrading of software, installing of SMS equipment and applications interface to link to existing databases and information systems, and extending ICT to their operations in the rural areas.

106. The information service institutions (AIRC, KNLS, and KBC) are mainly involved in information dissemination. Their strength lies in their countrywide presence with a good

rural reach. The three have the capacity to reach a large proportion of the population including that in rural and remote areas. AIRC reach extends to all 67 districts through the District Agricultural Information Officer. KNLS has 46 libraries across the country, 31 of which are community libraries. It also has other initiatives to reach communities in rural and remote areas such as the camel mobile libraries for pastoralists and "Book Box" pilot project for rural schools. KBC TV and radio broadcast service reach the whole country. The radio service includes 4 regional services – Central, Eastern, Western, and Coast – that broadcast in a total of 15 local languages. All three, AIRC, KNLS and KBC, have the support of the government and the trust of the people. Their weakness lies in the ICT/ICM skills, inappropriate content in terms of language and limited funding. Capacity building needs include improving ICT/ICM skills, making content accessible and funding. Future needs include undertaking a user survey to identify content gaps and also improve communication to information producers to ensure a rich and more complete content for AIRC, training library users to use digital and online products for KNLS and improving computing infrastructure especially at the district / sub offices for KNLS and KBC.

107. The three institutions have either draft ICM policies or partial or no ICM policies. AIRC has a draft ICM policy while KNLS has a books collections policy and a community library policy. KBC has not policy or strategy in place.

108. The institutions need to develop both basic ICT/ICM skills as well as advanced skills in many areas including database management, use of online resources, development of local content, digitization of information resources, and development and implementation of ICM policies and strategies.

109. The three also need to develop the capacity to make their content accessible for users especially in the rural areas where literacy is low. This will entail packaging the information in formats that the target users can use easily as well as translating into Kiswahili and other local languages. A few of AIRC information products are in formats such as leaflets and simple booklets that can be used by rural communities but most of these still need to be translated into local languages. AIRC also needs to increase the number of products in such formats. For KNLS community libraries, there is a need to expand the dissemination formats to include audio, visual and other formats that can be easily used by rural communities. The need of making information accessible is not as pressing for KBC since it has channels broadcasting in local languages but it needs to increase the number of agriculture and rural development programmes targeting rural communities.

110. As with the other institutions, AIRC, KNLS, and KBC identified funding as a requirement for facilitating capacity building activities. The cost of making information accessible is high but the institutions also need funds to research and compile local content, digitize exiting content, improve computing equipment and infrastructure, extend ICT to branch offices, and increase the number of ICT / ICM staff.

111. The private enterprise KACE's strength is in its focus areas of market information which is in high demand and underserved. KACE also has a good rural presence although it still has a big opportunity to expand its products and services to more rural areas. It has a good structure for gathering information and good strategy for using ICT. It also has developed strong collaboration with organizations such as Safaricom, Interactive media services and KBC which gives it the capacity to reach rural and remote areas. Its weaknesses include limited ICT/ICM skills and funding limitation. KACE priorities include improving ICT/ICM skills and funding. KACE did not identify specific future capacity building needs.

112. KACE has an IT policy but no elaborate ICM policy or strategy. KACE needs to develop basic ICT/ICM skills as well as advanced skills in website development and management. It needs funds to improve its computing equipment and expand its computing infrastructure especially at the rural market centres. KACE funds come from different donors and vary depending on going projects. This poses the threat of it not being able to continuously sustain its services.

4.3   Overview of CTA's Products and Services

113. More than half (7 of 13) of the institutions interviewed were aware of CTA's and of its products and services. These included JKUAT, UON-CAVS, KARI, KEFRI, AIRC, KBC and KACE. The institutions that were not aware of CTA included the government institutions (MLD, MYS, and KFS), the NGOs' (KOAN and TNS) and KNLS.

114. The CTA service and products that were most used include the *Spore* magazine (6 institutions), CTA publications (5 institutions) and the Rural Radio Resource Packs (3 institutions). Only one institution, KARI, was using the other CTA services, i.e. Q&A service, CD ROMs and Databases and DORA.

115. Only three of the seven institutions using CTA services have been involved in its activities. These include KARI, KEFRI and KACE. All three have been involved in CTA training programmes, KARI and KACE have been involved in CTA annual seminars and CTA co-seminars and KACE has been involved in the CTA ICT observatory workshop.

116. CTA products and services are rated as very useful. AIRC noted that CTA's products and services are relevant to Kenya's agriculture in that they provide information on appropriate technology and use of local resources. JKUAT noted that although it has received only few publications, these have been very useful. KACE noted that the products have been very useful in its extension work. KEFRI noted that the *Spore* magazine provides information that is appropriate to farmers and that CTA publication provides specialized information that is otherwise difficult to acquire. UON-CAVS has not been using CTA's products and services frequently and hence rated them a level lower.

5. CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

5.1.1 Information Needs

117. Institutions involved in agriculture and rural development in Kenya have multiple roles – the most common being extension and outreach, information service, training, rural development, and research and development. The institutions have many information needs but key ones include development and funding programmes, networks and partnerships, research, market information, regulations, certifications, patents and copyrights.

118. The information that institutions find difficult to acquire varies but include information on development and funding programmes, none farm livelihood, market data, gender, patents, certifications, post harvest technology, equipment sourcing, and crop and dairy insurance.

119. Almost all institutions face difficulties acquiring journal articles, materials in appropriate languages, materials for mass distribution, cartographic information and statistical data. Additional formats that different institutions find difficult to acquire include abstracts, briefs, summaries, visual / pictorial information, and grey literature.

120. Specific priority information needs can be summarized further under five categories of institutions: (a) Government institutions (MLD, MYS and KFS) key needs include regulations, development and funding programmes, patents and certifications, (b) Educational and research institutions (JKUAT, UON-CAVS, KARI, and KEFRI) key needs includes research, networks and partnerships, funding and assistance, and patents and copyrights, (c) NGOs' (KOAN and TNS) key needs depends on the NGO function but include certification, patents, packaging, trade fairs, development and funding programmes, and available networks, (d) Information service institutions (AIRC, KNLS, and KBC) need both general information e.g. social development issues and farm problems and specific information e.g. regulations and networks, and (e) Private enterprise needs depends on their business e.g. market information for KACE.

5.1.2 Capacity-building Needs

121. The 13 institutions interviewed have standard computing resources: IT departments with between 1 to 3 professional staff and 1 to 6 technical staff, Pentium 3 and 4 PCs', 2003 Windows and Office software, LANs, and a range of Internet services including dial-up, wireless and VSAT.

122. Four priority areas for capacity-building are identified: (a) Improving ICT/ICM skills (database and website development and management, making content accessible and developing and implementing ICM policies and strategies), (b) Making information accessible (packaging it in languages and dissemination formats that can be easily used by end users), (c) Improving computing equipment and infrastructure (mostly the computing equipment at branch levels and LANs and Internet services at both the branch and head offices levels), and (d) Funding.

123. Although none of the 13 institutions interviewed prioritized ICM policies or strategies as a major capacity building need, none had implemented clear ICM policies and strategies. Without such policies or strategies, it is not possible for institutions to

effectively use ICM or to bring ICM to the forefront or to lobby for sufficient budgetary support. Lack of clear ICM policies and strategies will affect all efforts made by institutions to develop ICT and to provide information products and services. This is therefore a priority need that should be urgently addressed.

124. Prioritized current and future capacity building needs can be summarized further under five categories of institutions.

- **Government institutions** (MLD, MYS, and KFS): priorities include improving skills (database, website, multimedia, mass media, and communication), improving computing equipment at the branch offices, improving LANs and Internet services, and modernizing information systems. Future needs include improving MLD website, setting up training centre at the MLD and improving MYS PPP initiatives.

- **Research and education institutions** (KARI, KEFRI, JKUAT, and UON-CAVS): priorities include advancing staff skills (databases, websites, ICM policies and strategies), increasing the number of computers and improving interconnectivity between head and sub offices. Future needs include improving information packaging and dissemination for KARI, digitizing and availing information online for JKUAT, improving information systems for UON-CAVS and KEFRI, implementing ICM policies and strategies for KEFRI, JKUAT and UON-CAVS and establishing an AICM training centre for UON-CAVS.

- **NGOs** (KOAN, TNS): priorities include improving ICM skills (database and website), making available information accessible (translate into suitable language and format), and funding. Future needs include software to manage rural banks and community dairy for TNS, developing an electronic newsletter for KOAN and installing systems to allow the two NGOs use SMS to serve rural communities.

- **Information service institutions** (AIRC, KNLS, and KBC): priorities include improving ICT/ICM skills (database management, use of online resources, development of local content, digitization of information resources, and development and implementation of ICM policies and strategies), making information accessible by packaging it in formats and languages that can be used easily and funding. Future needs include undertaking a user survey to identify content gaps and improving communication with information producers for AIRC and training libraries users to use digital and online products for KNLS.

- **Private enterprise** (KACE): priorities include improving basic ICT/ICM skills as well as advanced skills in website development and management and funding. No specific future capacity building plans were identified by KACE.

5.1.3 Overview of CTA's Products and Services

125. It is clear that CTA's products and services are highly valued by the institutions involved in agriculture and rural development in Kenya. CTA's products and services are reported to be appropriate for the local Kenyan conditions, useful for extension, relevant to Kenya's agriculture and rural development needs and specializations.

126. However, although more than half of the institutions interviewed know about CTA and its products and services, the range of products and services used is narrow with only three products: *Spore* magazine, CTA publications and the RRR packs being used widely. Other products and services such as DORA, SDI, CD-ROM / Database subscriptions and Q&A service are not widely used.

127. Additionally, most of the institutions interviewed are not actively involved in CTA activities such as the annual seminars, ICT observatory, training programmes and seminars and only three institutions have been involved in some of these activities.

5.1.4 Potential Partners and Beneficiaries

128. Potential partners should assist CTA address the information and capacity building needs identified in this study. Further, they should help CTA improve its collaboration with institutions involved in agriculture and rural development and the relevance of its products and services. The following potential partners are identified:

- AIRC can partner with CTA to improve access to information and information formats that institutions have difficulties acquiring and collaboration and information sharing between institutions. AIRC has a national mandate to collect and disseminate agriculture and rural development information. It has a nation-wide reach and good linkages with institutions that produce and use agriculture and rural development information.

- KBC can partner with CTA to explore opportunities and ways to improve access to agriculture and rural development information in the rural areas through the use of media, mostly Radio and TV programmes. KBC has regional radio services that broadcast programmes in local languages.

- KNLS can partner with CTA to improve access to agriculture and rural development information in the rural areas. KNLS has a network of libraries across the country, including 31 community libraries.

- JKUAT and UON-CAVS can partner with CTA to develop training programmes that can help improve the ICT/ICM capacities of the institutions that produce and use agriculture and rural development information in Kenya.

129. All institutions dealing with agriculture and rural development can benefit from CTA's products and services but two levels of beneficiaries are identified: (a) Institutions interviewed in this study (and others) who can use CTA's products and services to improve their ICT/ICM capacities and their access to information and (b) Institutions that can benefit from CTA's support in implementing specific capacity building activities. The ones identified in this study include JKUAT, UON-CAVS, KEFRI, KARI, KNLS, KOAN, TNS, and AIRC.

5.2 Recommendations

5.2.1 Information Needs

130. Institutions and CTA should work together to increase access to and use of CTA's publications, distribution and web services that address the information and information formats that institutions have difficulties acquiring.

131. CTA should support the establishment of a network of institutions that produce and use agriculture and rural development information to increase sharing and exchange of information, especially the types and formats that institutions have difficulties acquiring.

132. Research and education institutions such as KARI, KEFRI, JKUAT, and UON-CAVS should provide more information on topics that institutions have difficulties acquiring. On the other hand, information provides such as AIRC and KNLS should provide more information in formats that institutions have difficulties acquiring.

133. AIRC should improve access to agriculture and rural development information by improving communication with information producers and to make sure that all available information is included in its collection / information resources.

5.2.2 Capacity-building Needs

134. Institutions should use CTA's ICT training courses and related workshop and seminars to improve their capacity to: (a) develop and manage databases, websites, and content and (b) develop and implement ICM policies and strategies.

135. Information providers such as AIRC, KNLS, and KBC should use CTA's media services, ICT training services and seminars and workshops to develop their capacity to make information accessible by making it easier to understand (e.g. translating to Kiswahili and other local languages) and presenting it in suitable formats.

136. CTA should assist institutions develop ICM policies and strategies which will enable them to mainstream ICT and use it as a key recourse, including the use of emerging technologies such as SMS that offer many possibilities in rural areas. Sound ICM policies and strategies will address the current short and long term funding needs for computing equipment and infrastructure and interconnectivity expansion and improvement. Such policies and strategies will also help institutions put in place plans that will lead to adequate allocation of financial and human resources for ICT.

137. Institutions should seek CTA support when implementing specific capacity building activities. Most of the specific capacity building needs identified by the institutions can benefit from different CTA products and services.

5.2.3 CTA's Products and Services

138. CTA should use the finding of this study to better target its range of products and services to the Kenya market and particularly to address the information and capacity building needs identified in this study.

139. CTA should continue and increase promotion of its products and services among institutions and organizations to augment both the number of institutions using them and the number of products and services used by individual institutions.

140. CTA should involve more institutions in its trainings, workshops, seminars and other relevant activities.

141. CTA should identify partners that can help make CTA products and services widely known, accessible, used and effective.

5.2.4 Potential Strategic Partner Institutions

142. In line with one of CTA's strategic principle of developing fewer but stronger partnerships, two institutions are recommended for partnership with CTA, i.e. AIRC and UON-CAVS. The core purpose of the two are in line with CTA core purposes i.e. improving access to agriculture and rural development information (AIRC) and strengthening capacity of ACP institutions to produce, acquire, exchange and utilize agriculture and rural development information (UON-CAVS)

143. The partnership with AIRC would encompass the whole range of CTA's products and services and would also allow CTA to explore the potential of using media, particularly

Radio and TV, to improve access to information in rural areas through AIRC current collaboration with KBC.

144. The partnership with UON-CAVS would involve the collaboration in AICM training along the proposed AICM training courses.

6. PROPOSED CTA INTERVENTION STRATEGY AND ACTION PLAN

6.1 Intervention strategies

145. CTA has a range of products and services that can efficiently address the information and capacity-building needs of the institutions involved in agriculture and rural development in Kenya. The products and services include print publishing, publications, web and media services, seminars and workshops, ICM training, ICM policy and strategy services and integrated ICM service.

146. To address the information and capacity building needs identified in this study, three intervention strategies are proposed for CTA i.e.:

- CTA to assist agriculture and rural development institutions address identified information and capacity building needs by increasing access to and use of relevant products and services, developing partnership with selected institutions and by improving collaboration between institutions and with CTA

- CTA to assist agriculture and rural development institutions take advantage of ICT as a key resource by helping them develop ICM policies and strategies that will mainstream ICT in the institutions, address short and long term funding needs for computing equipment and infrastructure expansion and improvement and take advantage of new technologies such as SMS that offer many possibilities including in the rural areas.

- CTA to assist institutions develop specific ICM capacity by supporting them to implement specific information and capacity building needs identified in the study and through which CTA can gain experiences and insight that can benefit other institutions.

147. The three intervention strategies are further elaborated in the action plan presented below.

6.2 Action plan

Intervention strategy 1:

CTA to assist agriculture and rural development institutions address identified information and capacity building needs by increasing access to and use of relevant products and services, developing partnership with selected institutions and by improving collaboration between institutions and with CTA

Objective	Expected results	Activities	Responsible Agency	Time (MM/YY)
Establish partnership with selected institutions	Partnership with AIRC and UON-CAVS established	• Develop, negotiate and formalize partnership agenda with AIRC (to improve information access) and UON-CAVS (to develop ICM capacity)	CTA, AIRC, UON-CAVS	01/09 – 06/09
		• Conduct 2 workshop for AIRC on CTA's information products and services	CTA, AIRC	07/09 – 12/10
		• Conduct 2 workshop for UON-CAVS on CTA's training products and services	CTA, UON-CAVS	07/09 – 12/10
Establish a network of institutions producing and using agriculture and rural development information	Kenya Agriculture and Rural Development Information Network (KARIN) established	• Develop terms of reference for KARIN, Contact and recruit members, Launch KARIN	AIRC, CTA, Others	01/09 – 06/09
		• Establish KARIN office within AIRC to host KARIN	AIRC, CTA	07/09 – 12/09
		• AIRC, CTA and other members promote KARIN and recruit new members	AIRC, CTA, Others	07/09 – 12/10
Improve collaboration and sharing of information between institutions	Three quarters of KARIN members actively collaborating and sharing information with other members	• Enhance communication with and between KARIN members	AIRC, KARIN	07/09 – 12/09
		• Collect, package and disseminate information from all KARIN members and other institutions	AIRC, KARIN, Others	07/09 – 12/10
		• Conduct workshop on information sharing and exchange between members (required information type / format)	AIRC, CTA, KARIN	07/09 – 12/09
		• Publish and distribute catalogue of agriculture and rural development information sources	AIRC, KARIN	07/09 – 12/10
		• Conduct survey on existing information gaps and information generation and use within KARIN members	AIRC, KARIN	07/09 – 12/10

Intervention strategy 1: (Continued)

CTA to assist agriculture and rural development institutions address identified information and capacity building needs by increasing access to and use of relevant products and services, developing partnership with selected institutions and by improving collaboration between institutions and with CTA

Objective	Expected results	Activities	Responsible Agency	Time frame
Improve access to and use of CTA's information products and services	Three quarters of KARIN members actively using relevant CTA's information products and services	• Identify, promote and disseminate CTA publication distribution, web service and integrated ICM service that address identified information needs (both type and format)	CTA, AIRC	01/09 – 06/09
		• Build AIRC capacity to promote CTA information products and services	CTA, AIRC	01/09 – 06/09
		• Conduct 2 workshop to improve access and use of CTA's information products	AIRC, KARIN, CTA, Others	01/09 – 12/09
Improve access to and use of CTA's training products and services	Three quarters of KARIN members have gained relevant ICT/ICM skills	• Identify, promote and disseminate CTA ICM workshops, seminars and training courses that address identified ICT/ICM capacity building needs	AIRC, CTA, KARIN	01/09 – 12/09
		• Conduct 3 courses with UON-CAVS for KARIN members and others on 1. Database, website and information systems, 2. ICM policy and strategy, 3. integrated ICM	UON-CAVS, CTA, KARIN, Others	07/09 – 12/10
		• Build the capacity of information providers (AIRC, KBC, KNLS) to make information accessible (language / format)	CTA, AIRC, KBC, KNLS	07/09 – 12/10
		• Support UON-CAVS AICM adapt and use CTA's ICT/ICM training products and services for its training course	UON-CAVS, CTA	07/09 – 12/09
Improve access to information in the rural areas through Radio, TV and print media	Double volume of Radio, TV and print reaching rural areas	• Promote CTA media services to Radio, TV and Print and journalist and conduct a training course on these services	CTA, AIRC, Journalist	01/09 – 12/09
		• Support AIRC and KBC to develop the capacity to increase agriculture and rural development content for rural areas	AIRC, KBC, CTA	01/09- 12/09
		• Support AIRC monitor and improve performance of Radio, TV and print in rural areas and assist	AIRC, CTA	07/09 – 12/10

Intervention strategy 2:

CTA to assist agriculture and rural development institutions take advantage of ICT as a key resource by helping them develop ICM policies and strategies that will: (1) mainstream ICT in the institutions, (2) addresses short and long term funding needs for infrastructure and interconnectivity expansion and improvement and (3) take advantage of new technologies such that offer new information and communication possibilities including in the rural areas.

Objectives	Expected results	Activities	Agencies	Time (MM/YY)
Support institutions take advantage of ICT as a key resource	Half of KARIN members have developed ICM policies and strategies	• Conduct a workshop for institutions managers on ICT as an institution resource and role of ICM policy / strategy	CTA, UON-CAVS, KARIN	01/09 – 06/09
		• Conduct training workshop on CTA's ICM policy services and associated products and services	CTA, UON-CAVS, KARIN, Others	01/09 – 12/09
		• Support institutions to develop ICM policy and strategy	CTA, UON-CAVS, KARIN, Others	01/09 – 12/09
	Five institutions have fully implemented ICM policies and strategies	• Access institutions ICM policies and strategies needs and select five institutions (3 identified in study) to support in implementing their ICM policies and strategies	CTA, KARIN	07/09 – 12/09
		• Support selected institution implement their ICM policies and strategies, monitor performance and adjust	CTA, JKUAT, UON-CAVS, KEFRI, 2 Others	07/09 – 12/10
		• Use the experience gained working with ICM policy and strategies to adapt CTA's products and services	CTA	07/09 – 12/10
	Half of KARIN members are able to meet their ICT infrastructure and connectivity funding needs	• Conduct training workshop on project planning, evaluation, institutional assessment, needs assessment and strategic planning	CTA, UON-CAVS, Others	07/09 – 12/09
		• Support institutions develop ICT funding proposals and identify and sell their ICT projects to potential donors	CTA, Others	07/09 – 12/10
	Five institutions have implemented innovative ICT solutions with potential to improve information access in the rural areas	• Explore, assess and select potential innovative ICT solutions including those identified in this study i.e. SMS by KOAN, TNS	CTA, AIRC, UON-CAVS, Others	07/09 – 12/09
		• Implement 5 innovative solutions	CTA, 5 institutions	01/10 – 12/10
		• Conduct workshop to share experience with others	CTA, 5 institutions, Others	01/10 – 12/10

Intervention strategy 3:

CTA to assist institutions develop specific ICM capacity by supporting them implement specific information and capacity building needs identified in the study and through which CTA can gain experiences and insight that can benefit other institutions

Objectives	Expected results	Activities	Agencies	Time frame
Assist selected institutions develop specific ICM capacity and share their experiences with others	Five institutions have implemented specific information and capacity building activities and their experiences shared with others	• Identify 5 institutions (3 identified in this study) with specific information and capacity building needs that can benefit from CTA products and services and whose implementation can lead to insight and experience that can benefit other institutions	CTA	01/09 – 06/09
		• Support identified institutions implement identified activities	CTA, 5 institutions	07/09 – 12/10
		• Conduct workshop to share the experience with other institutions and use experience gained to improve products and services	CTA, 5 Institutions, others	07/10 – 12/10

ANNEXES

ANNEX 1.   TERMS OF REFERENCE

<div style="border:1px solid black">

**ASSESSMENT OF AGRICULTURAL INFORMATION NEEDS FOR CTA'S
PRODUCTS AND SERVICES IN
ACP AFRICAN STATES – EASTERN AFRICA**

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1. Introduction

The Technical Centre for Agricultural and Rural Cooperation (CTA) was established in 1983 under the Lomé Convention between the ACP (African, Caribbean and Pacific) Group of States and the European Union Member States. Since 2000, it has operated within the framework of the ACP-EC Cotonou Agreement.

CTA's tasks are to develop and provide services that improve access to information for agricultural and rural development, and to strengthen the capacity of ACP countries to produce, acquire, exchange and utilise information in this area. CTA's programmes are organised around three principal activities: providing an increasing range and quantity of information products and services and enhancing awareness of relevant information sources; supporting the integrated use of appropriate communication channels and intensifying contacts and information exchange (particularly intra-ACP); and developing ACP capacity to generate and manage agricultural information and to formulate information and communication management (ICM) strategies, including those relevant to science and technology. These activities take account of methodological developments in cross-cutting issues (gender, youth, information & communication technologies – ICTs, and social capital), findings from impact assessments and evaluations of ongoing programmes as well as priority information themes for ACP agriculture.

CTA's activities are currently distributed among three operational programme areas / departments:

- ▪ Information Products and Services;
- ▪ Communication Channels and Services;
- ▪ Information and Communication Management Skills and Systems.

These operational departments are supported by Planning Corporate Services (P&CS) which is charged with the methodological underpinning of their work and monitoring the ACP environment in order to identify emerging issues and trends and make proposals for their translation into programmes and activities. This current exercise, therefore, falls within the mandate of P&CS.

2. Background

Since 2003, CTA has been systematically conducting needs assessment studies across the Pacific, Caribbean and Africa regions – the regions it has been mandated to serve. These studies have been in direct response to calls for CTA, in various evaluations of its products, services and programmes, to be more strategic in its choice regarding the setting of its own agenda and reacting to demand. In putting together its Strategic Plan and Framework for Action 2001 – 2005, CTA took a pragmatic view and opted to develop a strategy combining the benefits of both approaches, whereby the need to address the expressed demands of its stakeholders and the potential long-term advantages of developing programmes that address future needs were combined.

The Centre's new strategic plan covering the 2007 – 2010 period places emphasis on: improving CTA's efficiency and increasing the Centre's outreach by addressing the major bottleneck of difficult or insufficient access to information in ACP countries; (ii) honing CTA's profile and further defining the niche where the Centre has a comparative advantage. Consequently, reaching more beneficiaries and further strengthening CTA's partnership networks is key as well as the thrust to make ICTs and ICM strategies more widely available.

3. Main issues

CTA works primarily through intermediary public and private partners (research centres, extension services, libraries, NGOs, farmers' organisations, regional organisations and networks, …) to promote agriculture and rural development. Under the new strategic plan, the organisations targeted will be extended to include print media, editors, radio, TV and journalist networks in order to further maximise outreach. Through these partnerships, CTA hopes to increase the number of ACP organisations capable of accessing and combining

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modern and conventional ICTs, generating and managing information and developing their own ICM strategies. The identification of appropriate partners is therefore of primordial importance, whilst bearing in mind issues such as geographical coverage, decentralisation, regionalisation, thematic orientation and transparent and objective criteria and procedures for partner selection.

4. Overall Objective

Collaboration strategies with ACP agricultural organisations and relevance of CTA's support to African ACP countries improved.

5. Scope of the study

The study will focus on:

- providing an overview of main agricultural services and actors existing in the country (information supply side) in terms of their strengths, weaknesses and opportunities for collaboration with CTA;
- identifying agricultural information and ICM capacity building needs of key actors / key strategic partners for CTA products and services;
- identifying potential strategic partners for CTA activities and services (paying special attention to e.g. print media, editors, radio, TV and journalist networks);
- developing some baseline data on the status of ICM and ICTs in the country to facilitate subsequent monitoring and updating activities.

The study should assist CTA to improve and better target interventions and activities aimed at potential partners and beneficiaries (including women, youth, private sector and civil society organisations) to have a more informed picture of their needs and aid in the elaboration of a strategy and framework of action. The study should also highlight where there are specific needs for CTA's products and services thereby enabling improvement in the delivery of the same.

6. Expected results

The expected results of the study are as follow:

- status of infrastructure, information services and ICM capacity of institutions involved in agriculture and rural development described and analysed;
- information and capacity building needs in the area of ICM identified for key institutions and potential CTA partners involved in agriculture and rural development;
- baseline data on the status of ICM and ICT in agriculture and rural development compiled for monitoring purposes and improved outreach.

The study should therefore also provide updated country profiles on the status agricultural information services, the status of ICM/T in the country, which will allow CTA to make informed decisions re type and mode of intervention as well as partner selection. This will be summarised in one (1) main report per country not exceeding 30 pages excluding annexes (cf. section 8 below).

7. Methodology

The consultant will use a combination of qualitative and quantitative rapid appraisal methods including:

- the desk review of available literature and information sources including the findings of programme evaluations;
- the conduct of face-to-face interviews with relevant stakeholders / concerned parties;
- the limited use of questionnaires.

The rapid appraisal approach will allow a general overview of the key issues and company / organisational profiles on a per country basis and may give rise to more in-depth studies as and when needed in the future.

8. Reporting

The country reports will not exceed 30 pages (excluding annexes) and is broken down as follows:

Main report
Acknowledgements
List of Acronyms
Executive summary
1. Introduction

2. Country profile
   2.1 Brief description of agriculture and recent developments in the sector:
      2.1.1   Agriculture
      2.1.2   Fisheries
      2.1.3   Forestry
      2.1.4   Pastoralism / Livestock (where applicable)
   2.2 Brief description of the status of ICT infrastructure and recent developments in the sector
3. Status of information and communication for agriculture and rural development
   3.1 Institutional, regulatory and policy framework
      Status of national and/or other sectoral policies on information and communication for agriculture
      and rural development; definition of main strategic focus and principal characteristics; opportunities
      and threats posed by the political, institutional and regulatory environment
   3.2 Operational aspects
      3.2.1   Description of agricultural information and services (main actors in the area of
                information and communication for agriculture and rural development)
      3.2.2   Information products and services provided
      3.2.3   Information and communication management capacity
   3.3 Interventions supporting information and communication for agriculture and rural development
      Examine the main interventions undertaken, planned or foreseen by the State, donor agencies,
      private sector (e.g. telecommunications sector) to respond to identified needs paying particular
      attention to the priorities and means mobilised. Lessons learnt should also be addressed in this
      section
   3.4. Needs analysis (Main bottlenecks and shortcomings)
      3.4.1   Information needs
      3.4.2   Capacity building needs (IC policies & strategies, sensitisation, networking, skills,
                training, media, ICT, equipment)
4. Conclusions and recommendations
      4.1 Conclusions
               4.1.1 Information Needs
               4.1.2 Capacity Building Needs
               4.1.3 Potential Strategic Partners
      4.2 Recommendations
               4.2.1 Capacity Building Needs
               4.2.2 Information Needs
               4.2.3. Potential Strategic Partner Institutions
5. Proposed CTA Intervention Strategy and Action Plan
From the above analysis, establish a link between the needs which are not currently met or for which
complementary actions are needed and CTA's supply (products and services). This should lead to an
overall and coherent strategy for CTA and an action plan in priorities are identified and an implementation
schedule defined.

<u>**Annexes**</u>
1. Terms of reference
2. Country profile
   2.1 General agricultural profile (from available documentation)
               2.1.1 Size of agricultural population (male / female / youth)
               2.1.2 Farmed land, forests, fishing areas
               2.1.3 Agricultural systems
               2.1.4 Agriculture in the economy (percentage GDP)
               2.1.5 Main agricultural produce and secondary products
               2.1.6 Main export markets
               2.1.7 Trade agreements that include agriculture
               2.1.8 Sectoral policy related to agriculture, fisheries and forests
   2.2 Socio-economic profile (from available documentation)
               2.2.1 Total active population, demographic breakdown
               2.2.2 Literacy level and languages
               2.2.3 Access to services (health, schools, electricity)
               2.2.4 Rural urban drift
   2.3 Media and telecommunications (update / check)
               2.3.1 Newspapers, periodicals, magazines, radio stations, television channels,
               2.3.2 Telecommunication services (fixed, mobile, etc.)
         2.3.3 Computers and Internet access

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3. Profile of institutions
> *3.1 List of all main institutions involved in agriculture and rural development activities, including private sector and civil society organisations, with name, contact details, type and role of institution*
> *3.2 Select list of key institutions involved in agriculture and rural development, with extensive data and information on the institution, the problems faced and why it is considered a key actor*

4. List of institutions / persons interviewed (to include full contact details)

5. Bibliography

9.   Timing

The draft final report is to be submitted within three months after contract signature by CTA; the final report is due two weeks after receipt of comments from CTA.

10.   Expertise needed

The **national consultant** should have a university degree or equivalent by experience. In addition, he/she should have at least 10 years experience in field of agriculture, rural development or social / economic sciences. He/she must have in-depth knowledge of the agricultural sector in his/her country and be able to identify key players and institutions / organisations active in this area. Some knowledge of information sciences would be an added advantage. The ability to communicate and write clearly in English is essential, while knowledge of at least one of the local languages for communication / interview purposes is an added advantage.

In addition to the skills above, the **regional coordinator** is expected to be fluent in English, have some knowledge of the 9 countries forming the object of this study, have demonstrated experience in coordinating studies with several consultants and in producing synthesis reports.

The overall coordination of the exercise will be carried out by Ms Christine Webster, Deputy Head, Planning and Corporate Services CTA.

11. Implementation schedule (CTA)
- Preparation/Finalisation of ToR; Identification/ short-listing of (potential) consultants; Call for offers: October 2007 – January 2008;
- Selection of consultants & contractual arrangements: February – March 2008
- Briefing: April 2008
- Start date of contract: March/April 2008
- Contract implementation period: March – November 2008
- End date of contract: November 2008.

12. Key documents to be made available to consultants

Documents include:
- Cotonou Framework Agreement
- Executive Summaries of previous evaluation reports including ITAD, OPM, etc.
- CTA's Strategic Plan (2007-2010)
- Annual Reports
- Examples of reports of previous needs assessment studies
- Documents on products & services provided by CTA

13. Definition of roles and responsibilities

Regional Coordinator
- Respect the timeframe regarding submission of reports and deadlines
- Help identify/vet country consultants
- Attend pre-briefing and briefing meetings
- Review the terms of reference
- Finalise questionnaires[1] and methodological approach after due consultation with CTA Team
- Finalise the briefing notes and guidelines[2] for local consultants to ensure accurate and consistent application of the agreed methodology in data collection

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[1] The documents used in previous needs assessment studies are available and will need some slight modifications.

- Answer queries (technical & otherwise) of local consultants
- During the studies, monitor and provide technical assistance/information to the local consultants
- Review preliminary country reports and findings and send comments back to local consultants
- Send edited draft final country reports to CTA for feedback
- Coordinate and ensure consistency of country reports
- Prepare the overall report taking into account the findings and recommendations of all the country reports (table of contents to be agreed).

Local Consultants
- Respect the timeframe regarding submission of reports and deadlines
- Attend briefing meeting
- Familiarise themselves with background documents received from CTA; including the Terms of Reference
- Undertake desk study and prepare country profile, list of institutions involved in agriculture as well as preliminary list of select institutions.
- Undertake field visits in the country specified in the contract
- Conduct interviews and gather information in the country specified in the contract
- Draft preliminary country reports and send to Regional Coordinator for initial comments
- Based on comments received from Regional Coordinator, revise country reports and send draft final report to CTA within the specified timeframe
- Finalise country reports based on comments and observations received from CTA and send final report back to CTA

Role of CTA
- Draw up initial Terms of Reference and prepare relevant background documents
- Appoint the Regional Coordinator and the ACP Local Consultants
- Prepare and attend briefing meeting of consultants
- Invite the Regional Coordinator and Local Consultants for Briefing Meeting
- Provide input to the Regional Coordinator with regard to fine-tuning terms of reference, questionnaires, interview guide and reporting guidelines for the consultants
- Provide relevant background documents to the Local Consultants & Regional Coordinator
- Elaborate budget and discuss contractual obligations with the Team of consultants & Regional Coordinator
- Liaise with Regional Coordinator throughout the study
- Pay invoices for services rendered in a timely manner on condition that all payment conditions are fulfilled
- Overall responsibility for the supervision and implementation of the studies
- Bear the agreed costs of expenditure in respect of the study (economy class return tickets, hotel accommodation and subsistence allowances during briefing meeting, or during agreed and specified field visits)
- Provide feedback and comments on draft country reports to the Local Consultants
- Give feedback to the Regional Coordinator on the Overview Report.

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[2] See footnote above.

ANNEX 2. COUNTRY PROFILE – KENYA

2.1 General agricultural profile

2.1.1 Size of agricultural population

Kenya's economy is agricultural based and many sectors of the economy are directly or indirectly linked to agriculture. Subsequently, a large proportion of Kenya's population is involved in agriculture. Table 1 shows the percentage of households involved in agriculture in the different provinces of Kenya according to the National Household Survey (NHS) conducted in 2006.

Table 1:   Percentage of households involved in agriculture by province

	Nairobi	Central	Coast	Eastern	North Eastern	Nyanza	Rift Valley	Western	National
% HH in Agri.	1.1	81.9	49.5	88.4	9.5	83.8	66.0	90.0	68.8

Source: KNSB (2007b)

Overall, across the country, 69% of Kenya's households were involved in agriculture with significant variations between provinces. The big variation between provinces is attributed to variation in the agricultural land potential in the different provinces.

Four of the provinces, Western, Eastern, Nyanza and Central, had over 80% of their households involved in agriculture. Except for Eastern province which has some low potential land, these provinces have the most suitable agricultural land in Kenya. Rift Valley had 66.0% and Coast had 49.5% of their households involved in agriculture. These provinces have both high and low potential lands. North Eastern has the lowest percentage of households involved in agriculture. This can be attributed to the fact that province is largely arid and semi arid. Nairobi being an urban area had only 1.1% of the households involved in agriculture.

Comparing rural and urban areas, Table 1 shows that 86% of households in rural areas were involved in agriculture compared to 14% in urban areas. By gender, it can be assumed that more women are involved in agriculture as men are continually moving to urban areas seeking employment in other sectors. Overall, the figures in Table 1 indicate a heavy dependence on agriculture across the country.

2.1.2 Farmed lands, forest and fishing areas

Although Kenya's population largely depends on agriculture, only 18% the land area is suitable for agriculture with the other 82% of the country's land area being arid or semi arid (KNBS, 2007a). With a large farming population, the little land that is suitable for agriculture hosts the bulk of the population and hence has high population density. The land parcels are small and continually being subdivided further to accommodate the growing population.

From the data of the 2006 National Housing Survey (NHS), some characteristics of the farmed land are shown on Table 2. These include the average agriculture holding size, population density, cost of agriculture land, the percentage of farmers irrigating and using fertilizers and the main crops ranked by the total areas cropped.

Table 2:   Characteristics of farmed land by province

Province	Holding size (Acres)	Population density (pp/km²)	Value ('000 Kshs /Acre)	Irrigated (%)	Fertilized – inorganic (%)	Fertilized – organic (%)	Main crops grown in order of importance
Nairobi	1.3	4,360	1,250	17.1	54.8	57.2	Maize, beans, cassava, vegetables, cow peas
Central	1.5	345	200	13.1	77.8	67.6	Maize, beans, potatoes, bananas, vegetables
Coast	3.6	39	15	3.0	5.0	11.9	Maize, cow peas, cassava, beans, grams
Eastern	3.3	38	50	10.0	36.1	52.5	Maize, beans, cow peas, pigeon peas, sorghum
N. Eastern	1.8	10	100	100.0	13.2	16.3	Maize, beans
Nyanza	1.7	434	60	1.0	47.5	27.0	Maize, beans, sorghum, banana, sweet potatoes
Rift Valley	2.8	52	137	3.3	65.7	15.0	Maize, beans, potatoes, tea, vegetables
Western	2.1	533	122	2.0	57.1	35.2	Maize, beans, sweet potatoes, cassava, sorghum
National	**2.4**	**64**	**86**	**6.0**	**52.1**	**37.4**	**Maize, beans, cow peas, potatoes, sorghum**

Source: KNBS (2007b)

The size of agricultural holdings (the total area under production per household) averages 2.4 acres nationally with provinces showing varying sizes ranging from 1.3 acres in the high potential provinces such as Central to 3.6 acres in the low potential provinces such as Coast. There is a direct relationship between the size of holding and population density, the size being low in areas with high population density (KNBS, 2007b).

The value of agricultural land per acre varies across the country ranging from 200,000 Kshs (2,040 Euros) in Central to 15,000 Kshs (153 Euros) in Coast. The national average is 86,000 Kshs (878 Euros). Value depends on land potentials but seems to be influenced by other factors, which could include infrastructure development and availability of markets. For example, North Eastern shows high value for agricultural land than some of the provinces with higher land potential. This could be attributed to the fact that agriculture in this province is only possible where irrigation has been developed (KNBS, 2007b) and therefore a higher cost of agricultural land.

Despite the land being largely arid and semi arid, on average, agriculture is largely rain fed. Table 2 shows that only 6% of the farmed land is irrigated. Four of the provinces show irrigated land areas of between 1 and 3%. North Eastern agricultural land is 100% irrigated mainly due to its very dry environment. Nairobi, Central and Eastern province have a higher percentage of irrigated farms due to concentration of horticulture and market oriented production (KNBS, 2007b).

Table 2 also shows that a large proportion of the farmed land is under food crops. The variety of crops grown includes maize, beans, potatoes, cow peas, sorghum, cassava, pigeon peas, banana, sweet potatoes and vegetables. Only one cash crop, tea, appears in Rift Valley according to this ranking which is based on the total area cropped.

Use of fertilizer, both inorganic and organic is substantial across the country apart from Coast and North Eastern. At the national level, 52% of farmers use inorganic fertilizers while 37% use organic fertilizer. Across the provinces, considering the highest of the two (either Inorganic or organic fertilizer), Central has the highest number (78%) of farmers using fertilizer, followed by Rift Valley (66%). Western and Nairobi have each 55% of farmers using fertilizers while Eastern and North Eastern have 53% and 48% of farmers using fertilizers respectively. The least usage is in Coast and North Eastern with 12% and 16% respectively (KNBS, 2007b). Generally, use of organic fertilizer is lower than that of inorganic fertilizer, which is surprising considering that farmers can collect manure from their cattle sheds.

The most important crops, ranked by total area cropped at the national level include maize, beans, cow peas, sorghum and potatoes in that order. These crops are also generally the most important in the provinces (KNBS, 2007b). Table 3 shows the total cropped land in the country and the area under selected crops.

Table 3:   Area under selected crops ('000 acres) by province

	National	Nairobi	Central	Coast	Eastern	North Eastern	Nyanza	Rift Valley	Western
Maize	5,500.3	4.8	379.0	611.4	1,091.0	11.6	801.1	1,891.7	709.7
Beans	2,172.2	2.0	226.5	37.3	601.4	3.7	225.4	624.6	451.3
Cow peas	426.0		0.6	107.5	279.8		16.4	6.8	14.8
Sorghum	370.0		0.2	1.4	96.1		216.3	9.9	46.0
Potatoes	333.5		173.1		45.7		1.1	101.9	11.7
Tea	306.4		87.0		58.1		58.8	92.8	9.6
Sugarcane	275.9		2.7	1.9	4.7		57.0	23.1	186.5
Coffee	188.5		85.1		82.9		5.5	10.9	4.2
Pyrethrum	3.9		1.2					2.7	
Cotton	23.3		0.2	2.7	11.6		2.8	5.9	0.1
All crops (km2)	**49,261**	**34**	**4,978**	**4,811**	**13,158**	**62**	**6,576**	**12,515**	**7,128**
% of total area	**8.5**	**4.8**	**37.7**	**5.8**	**8.6**	**0.0**	**52.4**	**6.9**	**86.3**

Source: KNBS (2007b)

Only 8.5% of Kenya's total land area is cropped. The percentage cropped area varies across the provinces, being high in the high potential and populated provinces i.e. Western, Nyanza and Central and low in the drier provinces i.e. North Eastern, Coast and Eastern. Most small holder farmers combine crop production and livestock production. It is however important to note that 70% of the national livestock herd is kept in the less populated and lower potential provinces.

Kenya's forest cover currently stands at around 1.7%, having fallen from 2% in the early 1990s. The country has another 27% wooded land cover (KNBS, 2007b). The majority of forest cover is within the main mountains, Mt. Kenya, Mt. Elgon, and the Aberdare ranges. Around 6% of Kenya's forests are protected within the country's system of more than 20 national parks, sanctuaries and reserves (EPZ, 2005c). To improve the dismal forest cover condition in Kenya, the newly established Kenya Forest Service is developing and implementing programmes to promote farm forest on agricultural land and dryland forests in the expansive arid and semi arid areas.

Although Kenya has a 536 Km coastline and a well developed marine fishing industry, Lake Victoria continues to dominate Kenya's fishing output, contributing over 90% of the fish caught in Kenya while marine fishing accounts for only 4%. Lake Victoria is shared by three countries, Kenya, Uganda and Tanzania. Kenya claims 6% of Lake Victoria's total surface area, Uganda 43% and Tanzania 51%. Of total amount of fish caught from the lake, Kenya accounts for 35%, Tanzania 25% and Uganda 25% (EPZ, 2005d).

2.1.3 Agricultural systems

Table 4 shows the proportion of land which is of high, medium and low potential in each of the provinces. Overall, at the national level, only 18% of the land is of high and medium potential, the other 82 % being of low potential. By province, Western, Nyanza and Central have the highest land potential followed by Rift Valley, Eastern and Coast. North Eastern province has the lowest land potential and does not have any area with high and medium potential.

Table 4:   Land production potential by province

Province	Land production potential (%)		
	High	Medium	Low
Nairobi	30	0	70
Central	94	2	4
Coast	5	12	83
Eastern	4	15	81
North Eastern	0	0	100
Nyanza	97	3	0
Rift Valley	19	1	80
Western	100	0	0
National	**12**	**6**	**82**

Source: KNBS (2007a)

The high variation in land production potential is reflected in the wide range of agricultural production practiced. Production includes cereals (maize, wheat, barley, rice, etc), pulses and potatoes, industrial crops (sugarcane, pyrethrum, cotton and tobacco), horticulture (cut flowers, vegetables and fruits), and perennial cash crops including tea, coffee and sisal. Livestock production includes poultry, sheep, goat and cattle for meat, dairy and other products (KNBS, 2007a).

Three quarters of Kenya's agricultural production comes from small holder farmers. In the past, these farmers were supported by cooperative societies with bulk purchasing of farm input and marketing of farm produce. However, many cooperative societies collapse as a result of market liberalization and implementation of structural adjustment programmes. Although many farmers cooperative still exists, they are being replaced by farmer groups and associations.

Currently, the Kenya Federation of Agricultural Producers (KENFAP) represents farmers in development and policy formulations initiatives. KENFAP was formed in 1997 to replace the Kenya National Farmers' Union (KNFU). It has representation in 56 of the 67 districts of Kenya. KENFAP has a membership of 2,500 farmer groups and a total membership of about 42,000 farmers.

Commodity associations represented in KENFAP including Kenya Horticultural Crops Growers' Association, Pyrethrum Growers Association, Cereal Growers Association, Kenya livestock Breeders Organization, Kenya Sugarcane Growers Association, National Community Forests Association, Kenya Bee Keepers Association, Dairy Goats Association of Kenya, Kenya Fisher Folk Association, High ridge Banana Growers Association, Barley Growers Association, Kenya Poultry Farmers Association, Kenya National Potato Farmers Association, Kenya Cotton Growers Association, Kenya Livestock Producers Association, and .Kenya Coffee Growers Association.

Fish processing and export is regulated by the Kenya Fish Processors and Exporters Association (AFIPEK). AFIPEK launched a code of good manufacturing practise for handling and processing fish and fishery products in Kenya to harmonise policies on surveillance, monitoring and processing standards to those of the other two East African states.

From 2008, a new Ministry of Fisheries Development has been established to oversee the development of the fisheries industry. Key departments of the ministry include quality assurance, marketing and value addition, inland fisheries, marine and deep sea fisheries and aquaculture development. The ministry has established a Fisheries Secretary and is planning to establish a Fisheries Development Authority and also restructure the Kenya Marine and Fisheries Research Institute so that the institute can generate reliable and specific data to support the development and management the country's fish resource.

2.1.4 Agriculture in the economy

Agriculture is a key sector of Kenya's economy and there is a direct relationship between growth in agriculture and growth in the economy. After independence in 1964, the sector experienced high growth rates as a result of pro-peasant policies, access to land and capital and establishment of functional support institutions. However, from mid 1980s, sector growth rate declined reaching a low of negative 4% in 1992 (GOK, 2005). Some of the factors that contributed to this decline include:

- Increased frequency of drought,
- Inconsistent policies and structural changes,
- Poor access to credit by the majority of small holder farmers,
- Declining public funding for agriculture,
- Inappropriate production technologies especially for small holder farmer,
- Inadequate provision of support services,
- Incidences of HIV/AIDS, affecting labour supply,
- Poor governance leading to collapse of farmer institutions,
- High cost of farm inputs,
- Depressed commodity prices in the world market, and
- Dilapidated and inadequate rural infrastructure, especially feeder roads.

To turn around the sector, the new government that took over in 2002 initiated strategies to revive the sector. Since then, the sector has started to show prospect for recovery, growing by 1.2% in 2002, 1.5% in 2003 and 1.9% in 2004 (KNBS, 2007b). Table 5 shows the percentage contribution of agriculture to the national GDP. Agriculture accounts for nearly one quarter of the national GDP. The key sub sectors are crops and horticulture, livestock, and forestry. Taking the figures for 2006, crops and horticulture contributed 17%; livestock contributed 5% while forestry contributed 1%. Fisheries and agricultural services contributed 0.4% each.

Table 5:   Agriculture contribution to the national GDP

	% contribution to national GDP				
	2002	2003	2004	2005	2006
Crops & Horticulture	17.1	17.4	17.2	16.8	16.9
Livestock	6.6	6.4	5.5	5.0	5.3
Services	0.4	0.3	0.3	0.4	0.4
Forestry	1.1	1.2	1.1	1.1	1.0
Fishing	0.6	0.5	0.5	0.4	0.4
Total	**25.2**	**25.2**	**24.2**	**23.2**	**23.6**

Source: KNBS (2007a)

It is estimated that the sector contributes a further 27% to the national GDP through linkages with other sectors such as manufacturing and service (GOK, 2003a). The sector is expected to experience substantial growth as initiatives put in place to revive it start to bear fruits. Since majority of the population depends on agriculture, growth in the sector will lead to poverty reduction especially in the rural areas and subsequently growth in other sectors of the economy.

2.1.5 Main agricultural produce and secondary products

Three quarters of the Kenya's agricultural production comes from small holder farms with large scale farms accounting for only a quarter of the production (KNBS, 2007a). Due to the limited development in the sector, especially in the small scale farms, there are few secondary products and much of what is marketed is primary produce.

Table 6 shows the gross marketed crop produce and livestock products for the period 2002 to 2007.

Table 6:   Gross marketed agricultural production from 2002 to 2007

	Marketed agricultural production (Million Kshs)					
	2002	2003	2004	2005	2006	2007
Cereals	6,398	5,676	10,800	11,904	12,701	14,686
Horticulture	26,722	28,840	32,591	38,838	43,121	65,210
Industrial crops	10,853	9,062	9,340	10,187	10,730	12,611
Perennial crops	39,734	41,649	49,772	49,118	56,413	54,470
Other crops	165	164	183	311	260	-
Livestock products	19,340	19,432	20,768	24,259	26,984	28,988
Total – Kshs	**103,212**	**104,823**	**123,454**	**134,617**	**150,209**	**175,965**
Total - Euros	**1,053**	**1,070**	**1,260**	**1,374**	**1,533**	**1,852**

Source: KNBS (2007a, 2008)

Considering the period shown in Table 6, crops produce account for 82% of the value of agricultural production marketed while livestock products account for 18% of the value of the marketed volume. Taking the value of total marketed volume over the period shown, the order of importance is perennial crops (tea, coffee, and sisal), horticulture (cut flowers, vegetables, and fruits), livestock products (meat, dairy products, hides, skins, and wool), industrial crops (pyrethrum, sugar-cane, cotton, and tobacco), cereals (maize, wheat, barley, and rice) and lastly other crops (pulses, potatoes, etc). The importance of horticulture is increasing and in 2007, the value of the marketed horticulture produce was higher than that of perennial crops. Overall, there is a positive growth in the value of the marketed agricultural production, increasing by 72,753 Million Kshs (766 million Euros) over the period shown.

2.1.6 Main export markets

The Economic Recovery Strategy (ERS) for wealth and employment creation identified exports as a key determinant for economic development in the country (GOK, 2003a). However, Kenya's export sector, of which agriculture is an important contributor, has been performing dismally due to many reasons including poor infrastructure, fluctuation in international market prices and weather fluctuations that affects agricultural production.

To address the situation, the government has put in place several initiatives including developing a national export strategy whose objective is to synergize and consolidate export promotion and development (GOK, 2003b) and establishing an export processing zones.

The main export market for Kenya's agricultural produce and products includes the EU COMESA, EAC and the US. Most of agricultural produce and products are exported to the EU. With exception of tea export to Egypt, manufactured goods form the bulk of exports to COMESA and EAC countries.

Table 7 shows the value (Million Kshs) of agricultural produce and products exported in 2006.

Table 7: Value of agricultural exports to different countries in 2006

	Germany	United Kingdom	Netherlands	USA	Italy	Sweden	Finland	Canada	Egypt	Others countries	Total
				Export value (Million Kshs)							
Tea	92	8,557	60	786	42			174	9,245	28,394	**47,348**
Beans, Peas, Lentils	221	9,919	2,567	9	13			4	3	15,140	**27,875**
Coffee (Raw)	1,800	588	387	6	115	1	599	222		5,420	**9,138**
Pineapple – Tinned	217	395	274	77	239	4	62	2	4	2,844	**4,117**
Pyrethrum – Extracts	26	11	73	392	76	6	10	16	3	1,087	**1,698**
Sisal - Fibre and tow	87	1	1	0	15				41	1,248	**1,393**
Oil seeds, Nuts, Kernels	1	12	33	27		0				541	**613**
Wool – Raw		15								139	**154**
Meat and Meat products		1	5	0						490	**496**
Hide and Skins					4					622	**626**
Wattle - Bark extracts	2				2					64	**68**
Pyrethrum – Flowers				1						21	**21**
Maize		0								360	**360**
Butter and Ghee				0						10	**10**
Cotton – Raw										7	**7**
Total (Million Kshs)	**2,446**	**19,498**	**3,400**	**1,298**	**504**	**10**	**671**	**418**	**9,295**	**56,386**	**93,924**
Total (Million Euros)	**25**	**199**	**35**	**13**	**5**	**0**	**7**	**4**	**95**	**575**	**958**

Source: KNBS (2007a)

The table shows that the most important exports in 2006 included tea, horticultural produce, coffee, tinned pineapples, pyrethrum extracts and sisal fibre and tow. Overall, looking at the total volume of exports in that year, the United Kingdom was the single most important destination for Kenya's agricultural products. Other important destinations were Egypt, Netherlands, Germany and the USA. These five countries provided the major export market for Kenya's agricultural produce and products.

The main market for tea included Egypt, United Kingdom and United States with Egypt taking 20% of the total volume. Horticultural produce were exported to United Kingdom (UK), Netherlands and Germany, with UK taking 36% of the total volume. Coffee was exported to Germany, UK and Netherlands with Germany taking 20% of the total volume. For tinned pineapples, the market included UK, Netherlands and Italy with United Kingdom taking 10% of the total volume (KNBS, 2007b).

The fish caught in Kenya is consumed locally and only 30% is exported. Kenya's fish export markets include the EU, Far East and Israel. The Nile Perch accounts for over 80% of the total volume exported. The EU is the preferred market because of its relative proximity and accessibility, therefore greater profit margins (KNBS, 2007b). Fish export to EU was however interrupted by the fishing ban imposed in 1998 and 1999 by the EU on fish from Lake Victoria. Before the ban, over 60% of the fish caught in Kenya was exported to EU countries, the key destination being Netherlands, Belgium, Germany, Portugal, Italy, France, and Spain (EPZ, 2005d).

Kenya also exports a variety of wood products including cork, wood carving, paper, and wattle bark extract to different countries mostly within COMESA. Kenya also exports some wood products to other parts of the world namely Israel, Italy, England, Belgium, Norway and China (EPZ, 2005c).

2.1.7 Trade agreements that include agriculture

Kenya is a member of the EAC, COMESA, Intergovernmental Authority on Development (IGAD) and World Trade Organization (WTO) and a signatory to a number of trade and trade related agreements (GOK, 2003b). The country also benefits from preferential trade arrangement provided by United States of America (USA) through the African Growth and Opportunity Act (AGOA). Kenya is also involved in the reciprocal trade arrangement with the EU which is replacing the non reciprocal preferential trade regime under the Cotonou agreement. The key agreements that include agriculture are highlighted below.

COMESA: COMESA came into effect in 1994 with the aim of liberalizing trade among member states. COMESA agreement includes the establishment of a customs union and cooperation among member states in investment and industrial development, monetary and financial systems, policy harmonization and standardization as well as infrastructure and service development. COMESA member states recognize that their economies are agricultural based and have prioritized agriculture for economic growth. In 2004, member states' ministers of agriculture agreed to a strategy to expand agricultural production, improve agricultural productivity, enhance regional food security and promote both intra and extra COMESA trade in agricultural commodities (COMESA, 2004). COMESA has subsequently removed all barriers to regional agricultural trade so that food crops and other agricultural commodities can move unimpeded across the region from surplus to deficit areas.

EAC: EAC treaty was signed in 2002 between three East Africa states – Kenya, Uganda and Tanzania. Since then, Rwanda and Burundi have joined the community. The treaty provides for three phases of integration i.e. Custom Union, Common Market and Monetary Union, and eventually, Political Union (Kamala, 2006). The community aims at increasing the social welfare of the citizens of member states through regional economic, social, political and cultural integration.

The community's Custom Union protocol was signed in March 2004 and came into effect in January 2005. Custom Union protocol eliminates tariffs and non-tariff barriers among partner states and establishes common tariffs on imports originating from third countries. Goods, including agricultural produce and products produced within the EAC move across the border of the partner states without taxation provided they qualify under rules of origin. The Custom Union will result in increased intra-trade among partner states, increased competition that will increasing consumer's choice and reduce costs. Lake Victoria, a common fishing resource shared by three of the member states is facing problems of decline of water levels and increasing levels of pollution. Under the EAC, the Lake Victoria Commission will be established to make sure that the lake is used sustainable (Kamala, 2006).

EU-ACP EPA: EU-ACP Economic Partnership Agreement (EPA) between EU and the ACP countries aims at progressively removing barriers to trade and enhancing cooperation in all areas related to trade. The agreement provides an open, transparent and predictable framework for goods and services to circulate freely, thus increasing competitiveness of ACP countries (EBCAM, 2008). EPAs are negotiated within regional blocks and Kenya is negotiating EPA within the EAC.

A framework for the EPA was initiated in 2007 and will be completed in 2008. The agreement controls the rate of opening up of developing countries' market to agricultural products from the EU to protect the young agricultural industry in these countries. The current framework however covers fisheries and also provides for continued negotiations on other agricultural products.

AGOA: AGOA introduced by the US government in 2000 is a trade and investment policy which grants duty-free access to many goods from sub-Saharan African countries to the US market. AGOA is an extension of the Generalized System of Preferences (GSP) which allowed some products of some countries to be imported into the US duty free (OUSTR, 2007).

Currently, most of the increase in trade arising from AGOA is in the petroleum and textile industries. If AGOA is going to make a difference for poor farmers in Kenya, it will have to dramatically increase the role of agriculture in the Act. Furthermore, certain products deemed "import sensitive" by the U.S. government, including agricultural products such as sugar, are excluded from consideration under AGOA. In 2006, AGOA accounted for 77% of Kenya's exports to the US, mostly apparel, but also nuts, canned fruit, and cut flowers (OUSTR, 2007).

Kenya is also a beneficiary of AGOA's Initiative to End Hunger in Africa (IEHA). IEHA is a market-oriented, smallholder-based growth strategy to increase rural incomes in Africa. It was launched in 2002 and is administered by United States Agency for International Development (USAID). IEHA is the US government avenue to contribute to the Comprehensive Africa Agricultural Development Program (CAADP), the most ambitious and comprehensive agricultural reform effort ever undertaken in Africa. CAADP addresses policy and capacity building issues in agriculture and aims to help African countries achieve an annual agricultural growth rate of 6% (OUSTR, 2007).

2.1.8 Sectoral policy related to agriculture, fisheries and forests

Agriculture sector policy

The objectives of Kenya agricultural policies include: (1) Increasing productivity and growth, (2) Enhancing food security and equity, (3) Developing irrigation to reduce impacts of fluctuating rainfall, (4) Commercializing and intensifying production especially among small scale farmers, (5) Using participatory approaches in policy formulation, and (6) Ensuring environmental sustainability (Patrick and Rosemary, 2006).

Although many agricultural policies have been formulated, agriculture's performance has been poor since the mid 1980's (see Section 2.1.4). Therefore, the new government in 2002 saw the need for a strategy to revive the sector. The government therefore launched the SRA in 2003 (GOK, 2003a).

SRA is a national strategy to steer agricultural development for the period 2004 – 2014. SRA is implemented concurrently in four agricultural sector ministries i.e. MoA, MLD, Ministry of Fisheries Development, and Ministry of Cooperative Development and Marketing. The strategy proposes far-reaching policies and institutional changes that are necessary to reverse agricultural sector decline and place it competitively on the global arena.

To ensure that the reforms proposed in the SRA do not disrupt normal operations, the Agricultural Sector Coordinating Unit (ASCU) was formed to objectively analyze proposed reforms and support decisions by the government. ASCU is also responsible for engaging all stakeholders in the SRA process. The changes and reforms proposed in the SRA aim at encouraging participation and achieving transparency, accountability, efficiency, and effectiveness in the management of the agricultural sector at all levels.

Some of the SRA initiatives that are already being implemented or have been planned (GOK, 2003b) include:

- Commodity policy reforms – Review and development of commodity policies including review of the 2001 coffee act, establishment of the coffee development fund, development of a cotton policy and bill, development of a pyrethrum industry policy and liberalization of the pyrethrum industry, implementation of the tea policy and liberalization of the tea industry, transformation of the government run Kenya Tea Development Authority (KTDA) into a small holder company, development of the sugar industry strategic plan and restructuring of the sugar industry, and development of a potato production and marketing policy.

- Fast tracking interventions – Undertaking reforms across the sector through a number of fast track interventions focusing on harmonizing legal, regulatory and institutional frameworks; improving the delivery of research, extension and advisory services; restructuring and privatizing non core functions of agricultural line ministries; increasing access to quality farm inputs; and improving access to markets.

- Food and nutrition security programme – Formulation of a food and nutrition policy and programme in the context of millennium development goal 1 i.e. to halve number of hungry in Kenya by 2015. Within the SRA, this is being carried out within a 10 year programme entitled "Njaa Marufuku Kenya", i.e. "Ban hunger from Kenya".

- Budgetary support – Increasing government budgetary support to agriculture.

Livestock sector policy

Livestock production is the main economic activity in the ASALs which make up 82% of the Kenya's land area. Even in the medium and high potential areas, livestock is an important source of income and food security. For the rural community, livestock is a form of insurance against drought and is customarily used to pay dowry. Live animals and other livestock products such as hides and skins, dairy products, and pork contribute significantly to foreign exchange earnings.

The objective of the livestock development policy of 1980 was to address poverty, enhance foreign earnings and food security, ensure sustainable use of environment, and providing raw materials for processing and manufacturing industries. This policy has been reviewed (GOK, 2007a) to address its shortcomings and to align the sector to ongoing SRA (GOK, 2003a).

Other previous livestock legislations include the Kenya Meat Commission (KMC) act of 1950 and the Kenya Food Policy Act of 1981. KMC was established to purchase livestock and operate abattoirs but stopped operations in 1986 due to poor management and stiff competition following market liberalization. Within the SRA, the commission was restructured and reopened in 2006. The food policy recommended establishment of large scale ranches in the rangelands, expansion of feed lots to increase meat off-take and provision of loans to livestock producers.

Past livestock policies and legislations increased the average national livestock production, but they did not create substantial impact at the household level. The new National Livestock Policy (GOK, 2007a) aims to:

- Achieve appropriate livestock management systems for sustainable development of the livestock industry.

- Focus research efforts in the livestock sub-sector to resolving current and emerging problems including improving and conserving available animal genetic resources effectively.

- Achieve effective control of animal diseases and pests in line with the relevant international codes and standards.

- Ensure quality standards and quality assurance at all levels of production and marketing chain for increased competitiveness of the livestock industry.
- Address various cross-cutting issues that impact on the livestock including land, water, environment, infrastructure, insecurity, livestock-wildlife interactions, HIV/AIDS, capacity building, and gender.

Forest sector policy

Kenya's forests have important economic, environmental, social, and cultural values. They provide products such as timber; pulp and paper, poles and fuel wood both for industrial and domestic use. Forests also provide a wide range of non-wood forest products (GOK, 2004). They conserve biological diversity, regulate water supplies, sequestrate carbon, and house wildlife.

The existing Kenya's forest policy developed in 1968 has been reviewed to take into account significant changes that have taken place in the country including: rapid increase in population and a rise in forest related activities; decline in forest cover and associated reduction in water catchment, biodiversity, forest products and habitats for wildlife; and conflicts between forest managers and forest adjacent communities over access to forest resources.

The forest policy goal is to enhance the contribution of the forest sector in the provision of economic, social and environmental goods and services (GOK, 2004). It aims to:

- Contribute to poverty reduction, employment creation and improvement of livelihoods through sustainable use, conservation and management of forests and trees.
- Contribute to sustainable land use through soil, water and biodiversity conservation, and tree planting through the sustainable management of forests and trees.
- Promote the participation of the private sector, communities and other stakeholders in forest management to conserve water catchment areas, create employment, reduce poverty and ensure the sustainability of the forest sector.
- Promote farm and dry land forestry to produce timber, wood fuel and other wood and non wood products.
- Promote the management of mangrove forests to provide fuel, building materials, protect the shoreline and provide habitat for fisheries.
- Promote forest research, training and education to ensure a vibrant forest sector and promote forest extension to enable farmers and other forest stakeholders to benefit from forest management approaches and technologies.

Table 8a, b, c, and d list past agriculture, livestock, forest, and fisheries related acts and regulation in Kenya documented in the Food and Agriculture Organization (FAO) legal offices database.

Table 8a: Past agriculture related acts and regulation in Kenya

Act, Regulation, Rule	Year	Aims
Crop Production and Livestock (Wattle Bark Factory) Rules	1938	Regulates preparation, processing or other treatment of wattle bark for sale or for the manufacture of wattle bark extract

Act, Regulation, Rule	Year	Aims
Agriculture Act	1963	Promote and maintain a stable agriculture, to provide for the conservation of the soil and its fertility and to stimulate the development of agricultural land in accordance with the accepted practices of good land management and husbandry
Crop Production and Livestock Act	1963	Control and improvement of crop production and livestock, and the marketing
Agriculture (Land Preservation) Rules,	1963	Land preservation order requiring acts or things to be performed or done or prohibiting acts or things from being performed or done on a piece of agricultural land
Agriculture (Basic Land Usage) Rules	1965	Guidelines on the use of agriculture land with the aim of protecting the land from degradation
Agricultural Produce Marketing Act	1965	Control and regulate the marketing of agricultural produce, to enable marketing boards to be established for marketing produce and to provide for the powers and functions of the boards
Agriculture (Sugar Settlement Organization) Rules	1968	Control residence in sugar settlement schemes with valid license or a letter of allotment
Agricultural Finance Corporation Act	1969	Establishment of the Agricultural Finance Corporation to assist in the development of agriculture and agricultural industries
Land Planning Act	1970	Plan the use and development of land
Agriculture (Guaranteed Minimum Return) Order	1977	The minimum return of money guaranteed by the Government for every acre of land appropriated for planting with an essential crops
Agriculture (Sugar-cane Marketing) Rules	1977	Rules regulating sale of sugar cane by sugar cane growers by purchase of sugar cane by factor owners
National Cereals and Produce Board Act	1985	Regulate and control the marketing and processing of maize, wheat and scheduled agricultural produce and establish a national cereals and produce board

FAO legal office online database (http://faolex.fao.org/faolex/index.htm)

Table 8b: Past livestock related acts and regulation in Kenya

Act, Regulation, Rule	Year	Aims
Kenya Meat Commission Act,	1950	Establish a commission to purchase cattle and small stock, and to acquire, establish and operate abattoirs, meat works, cold storage concerns and refrigerating works for the purpose of slaughtering cattle and small stock, processing by-products, preparing bides and chilling, freezing, canning and storing beef, mutton, poultry and other meat foods for export or for consumption within Kenya
Animal Diseases Act	1965	Provides for matter relating to animal diseases including inspection, action by owners of infected animals, declaration on infected areas, and prohibition of importation from infected areas.
Fertilizers and Animal Foodstuffs (Approved Animal Foodstuffs) Rules	1972	Rules defining fertilizer and animal food stuff ingredient and packaging requirements

Act, Regulation, Rule	Year	Aims
Fertilizers and Animal Foodstuffs (Approved Animal Foodstuffs) Rules	1972	Rules defining fertilizer and animal food stuff ingredient and packaging requirements
Hides, Skins and Leather Trade Act	1987	Consolidate law relating to the trade in hides, skins and leather to provide for coordination and control of the trade and development of the hides, skins and leather industry and other connected purposes
Dairy Industry (Imposition of Cess) Regulations	2000	Imposition of cess is hereby imposed on all milk and cream sold in Kenya by any producer and retailer
Fertilizers and Animal Foodstuffs (Importation and Use of Meat and Bone Meal Prohibition) Regulations	2001	Prohibits the import and use of meat meal or bone meal or products derived from these in the manufacture of animal foodstuffs or animal mineral supplements.
Dairy Industry (Sales by producers)	2004	Regulates operation of producers processing, manufacturing, preparing or treating dairy produce for sale

FAO legal office online database (http://faolex.fao.org/faolex/index.htm)

Table 8c: Past forest related acts and regulation in Kenya

Act, Regulation, Rule	Year	Aims
The Forests (Closing) Rules	1963	Provides for closing of forests areas for specified periods
The Forests (Controlled Entry) Rules,	1965	Controls entry and settlement in central forest by an authorized person.
Timber Act	1971	Provide for the effective control of the sale and export of timber; for the grading inspection and marking of timber and for control of the handling of timber in transit
The Forests (General) Rules	1982	Sets guidelines for license / the payment of forest wood products for all central forests, forest areas, and un alienated government land.
Environmental Management And Co-Ordination Act	1999	Provide for the establishment of an appropriate legal and institutional framework for the management of the environment
Forests (Suspension of timber harvesting and quarrying) Rules	2000	Prohibits entry into forest for timber harvesting or quarrying without licenses
Nyayo Tea Zones Development Corporation Order	2002	Order authorizing establishment of the Nyayo Tea Zones Development Corporation to create tea and fuel wood growing zones in gazetted forests and gazetted trust land
Forests Act	2005	Provides for the establishment, development and sustainable management, including conservation and rational utilization of forest resources for the socio-economic development of the country

FAO legal office online database (http://faolex.fao.org/faolex/index.htm)

Table 8d: Past fisheries related acts and regulation in Kenya

Act, Regulation, Rule	Year	Aims
Fish Protection (Importation Restriction) Rules	1950	Prohibits importation of fish or fish eggs without written authorization from the department of fisheries
Fish Protection Rules	1952	Prohibits fishing without a license unless if its for own consumption
Fisheries (Foreign Fishing Craft) Regulations,	1954	Prohibits foreign fishing vessel from fishing, attempt to fish or participate in fishing operations in Kenya fishery waters without license.
Fish Protection (Lake Victoria) Rules	1962	Set out rules and regulation for fishing in Lake Victoria
Fish Industry Act	1968	Guide reorganization, development and regulation of the fish industry including establishing advisory councils, promoting modern fishing methods, protection of fish and the prevention of over fishing
Fisheries Act	1989	Provides for the development, management, exploitation, utilization and conservation of fisheries
Maritime Zones Act,	1989	Consolidate the law relating to the territorial waters and the continental shelf of Kenya including establishment and delimitation of the exclusive economic zone of Kenya and the exploration, exploitation, conservation and management of the resources of the maritime zones
Protocol for sustainable development of Lake Victoria	2003	Govern the East Africa partner states (Kenya, Uganda and Tanzania) cooperation in the sustainable development of Lake Victoria Basin

FAO legal office online database (http://faolex.fao.org/faolex/index.htm)

2.1.9 Institutional, regulatory and policy framework for information and communication

Until 1977, the telecommunication services in Kenya were managed as part of a regional network with neighbouring Tanzania and Uganda within the first EAC. When the community collapsed in 1977, the Kenya government established the KPTC to run the services. KPTC operated as a monopoly (EPZ, 2005e) since its inception but in 1997, the government issues the telecommunications and postal sector policy guidelines with the aim of removing the monopoly and setting the long term vision for the sector.

In 1998, the government enacted the Kenya Communications Act and launched reforms in the sector, mainly to improve the regulatory framework, eliminate involvement of government as an operator and open up market to multiple players to increase competition and reduce cost of services. Through these reforms, KPTC was split into three entities i.e. Postal Corporation of Kenya to provide postal services, Telekom Kenya Limited to provide telecommunication services and CCK to provide regulatory services (EPZ, 2005e).

At the time of these changes, the key challenges that the government faced in harnessing the potential of information and communication technology for economic growth and poverty reduction included lack of a comprehensive policy and regulatory framework, inadequate

infrastructure and insufficient skilled human resources. To address these challenges, the government developed the national ICT policy (GOK, 2006a) and strategy (GOK, 2006b) through a consultation process that involved all partners and stakeholders.

The policy and strategies addressed all key areas of information and communication including information technology, broadcasting, telecommunication, postal services, radio frequency management and universal access. Further, the government has developed a Freedom of Information policy (GOK, 2007b) to facilitate access to information. The aim of the freedom of information policy is to ensure maximum access by all Kenyans to information.

The policy and strategy are guided by four principles i.e. infrastructure development, human resource development, stakeholder participation and appropriate policy and regulatory framework. Emphasis is placed on the development, deployment and exploitation of the sector to aid the development of other sectors of the economy and provide a basis for facilitating socio-economic development in an era that is dominated by information and knowledge-based economies. The Government is providing leadership and direction and is fostering friendly investment rules and regulations. It aims to simultaneously develop the sector while using it as a broad based enabler of national developmental goals. To achieve policy goals, the various institutions have to effectively play their respective but interdependent roles to promote competition, progressive liberalization and universal access to services.

2.2   Socio-economic profile

2.2.1   Demographics

Kenya carries out a national population census every 10 years. The last census was carried out in 1999 and showed a total population of 28.7M which is projected to have reached 37.2M in 2007 (KNBS, 2007a). Table 9 shows 2007 projected population, % male and female population and the population density by province.

Table 9:   2007 projected population and population density by province

Province	Population	Male (%)	Female (%)	Area (Km²)	Density (Per/Km²)
Nairobi	3,034,397	49.8	50.2	696	4,360
Central	4,556,683	47.5	52.5	13,220	345
Coast	3,228,358	48.5	51.5	82,816	39
Eastern	5,802,065	49.3	50.7	153,473	38
North Eastern	1,313,848	51.4	48.6	128,124	10
Nyanza	5,443,919	47.8	52.2	12,547	434
Rift Valley	9,402,491	51.2	48.8	182,539	52
Western	4,402,161	48.7	51.3	8,264	533
National	37,183,922	49.3	50.7	581,677	64

Source: KNBS (2007a, 2007b)

Provinces with high and medium land potential (Table 4, section 2.1.3) have high population density. These include Western, Nyanza and Central. The other provinces, Eastern, Coast and Rift Valley have some high and medium potential land but the large proportions of their land is of low potential and hence have lower population density. North Eastern province has the least land potential and hence the lowest population density. Nairobi is an urban centre and hence has very high population density.

Except for North Eastern and Rift Valley, women are more than men and the national sex ratio is 97 males for every 100 females. This sex ratio is not changing, having been 98 in the 1999 national census and 97 in the 2003 Kenya Demographic and Health Survey (KNBS, 2007a; KNBS, 2007b; KNSB, 2003).

The national household size is 5 persons per household. 70% of the households are headed by men while 30% of the households are headed by women (KNBS, 2007b).

Table 10 shows the percentage male and female proportion for different age classes.

Table 10:   Percentage of men and women by age class

Age	Male (%)	Female (%)	Total (%)	Age	Male (%)	Female (%)	Total (%)
0-4	7.3	7.2	14.5	40-44	1.9	2.2	4.1
5-9	7.3	7.2	14.5	45-49	1.6	1.7	3.3
10-14	6.4	6.5	12.9	50-54	1.3	1.3	2.6
15-19	6.5	6.4	12.9	55-59	1.1	1.0	2.1
20-24	4.6	5.0	9.6	60-64	0.7	0.8	1.5
25-29	3.6	4.0	7.6	65-69	0.6	0.6	1.2
30-34	2.9	2.9	5.8	70-74	0.5	0.4	0.9
35-39	2.1	2.5	4.6	75+	0.7	0.8	1.5

Source: KNBS (2007b)

The bulk of the population is young, with 55% of the total population being below 20 years of age. Those aged between 20 and 64 years account for 41% of the total population and those above 65% account for 4% of the population. Assuming that the young (0-14 years) and old (above 64 years) depend on the middle aged population (15-64 years), the country has a dependency ratio of 84%. The dependency ratio has decreased, having been 90% in 1999 according to the 1999 national census data.

Kenya population is made up of 42 ethnic groups but five of the larger groups; Kikuyu, Luhya, Luo, Kalenjini and Kamba account for 70% of the population (KNBS, 2003) as shown in Table 11. English and Kiswahili are the official national languages. Kiswahili is spoken and understood by almost all ethnic groups and is used for communication at local levels.

Table 11:   Population of five of the five larger ethnic groups in Kenya

| | Five largest ethnic groups of Kenya | | | | |
	Kikuyu	Luhya	Luo	Kalenjin	Kamba
Population	4,455,865	3,083,273	2,653,932	2,458,123	2,448,302
% of Total	20.8	14.4	12.4	11.5	11.4

Source: KNBS (2003)

Different provinces are occupied by different ethnic groups. Table 12 shows the distribution of the major ethnic groups by province.

Table 12:   Distribution of the major ethnic groups by Province

| | | Dominant ethnic group in the province | | |
Province	Population	Dominant group	Population	%
Nairobi	1,324,570	Kikuyu	428,775	32.4
Central	3,112,053	Kikuyu	2,919,730	93.8
Coast	1,829,191	Mijikenda	994,098	54.4
Eastern	3,768,677	Kamba	2, 031,704	53.9
North-Eastern	371,391	Ogaden	133, 536	36.0
Nyanza	3,507,162	Luo	2,030, 278	57.9
Rift Valley	4,981,613	Kalenjin	2,309, 577	46.4

			Dominant ethnic group in the province		
Province	Population	Dominant group	Population	%
Western	2,544,329	Luhya	2,192,244	86.2

Source: KNBS (2003)

2.2.2 Literacy levels and languages

Table 13 shows literacy level for adult population (above 15 years) by gender and province.

Table 13: Literacy level for population above 15 years by gender and province

	Male			Female			Total		
Province	Literate (%)	Illiterate (%)	NS[1] (%)	Literate (%)	Illiterate (%)	NS[1] (%)	Literate (%)	Illiterate (%)	NS[1] (%)
Nairobi	96.6	1.4	0.5	93.9	2.9	1.8	95.3	2.1	1.1
Central	91.2	6.1	0.3	81.7	15.0	0.5	86.2	10.8	0.4
Coast	82.1	14.5	0.8	59.9	36.1	0.5	70.4	25.8	0.7
Eastern	84.3	12.2	1.1	74.0	22.3	0.8	79.0	17.4	0.9
N. Eastern	42.4	52.7	0.9	13.7	83.2	1.0	28.2	67.7	1.0
Nyanza	91.9	5.8	0.8	77.9	18.6	0.9	84.5	12.6	0.8
R. Valley	77.7	16.2	1.8	68.2	25.3	1.5	73.0	20.6	1.6
Western	87.5	10.6	0.9	76.4	20.8	0.9	81.7	16.0	0.9
National	**84.8**	**11.6**	**1.0**	**73.6**	**22.3**	**1.0**	**79.0**	**17.1**	**1.0**
Rural	**82.2**	**14.0**	**1.1**	**69.6**	**26.3**	**0.9**	**75.7**	**20.3**	**1.0**
Urban	**93.6**	**3.5**	**0.9**	**88.1**	**7.9**	**1.4**	**90.8**	**5.7**	**1.1**

Source: KNBS (2007b)   Note [1]: NS = Not Stated

Overall, 79% of the population is literate with men having higher levels (84.8%) as compared to women (73.6%). By province, literacy levels are higher in high potential areas i.e. Central, Nyanza and Western and lower in low potential areas i.e. Coast and North Eastern. North Eastern province has the lowest literacy levels of 28.2%.

In terms of the level of education attained, 86% of the population has attained primary level, 25% has attained secondary level and only 1% has attained university level (KNBS, 2007b). However, most secondary school leavers who do not proceed to universities go for various kinds of certificate and diploma training courses. Many also go to community polytechnics for vocational training before seeking employment.

2.2.3 Access to services

Table 14 shows the distribution of households by distance to the nearest health facility.

Table 14: Distribution of households by distance to the nearest health facility

	Distribution of households (%) by distance to nearest health facility				
Province	<0.5 Km	0.5 – 1 Km	1.1 - 2.9 Km	3 - 4.9 Km	>5 Km
Nairobi		10.9	8.2	60.7	20.2
Central	5.7	6.2	16.0	43.4	28.6
Coast	3.7	6.2	13.0	16.9	60.3
Eastern	1.5	5.2	2.3	27.2	63.8
North Eastern	3.2	3.5	7.7		85.7
Nyanza	0.1	7.8	11.6	36.8	43.7
Rift Valley	10.6	6.7	17.0	17.7	48.0
Western	5.7	6.3	14.4	28.6	45.0
National	**4.9**	**6.4**	**12.4**	**28.5**	**47.7**

Source: KNBS (2007b)

Almost half of the households (47.7%) access a health facility which is 5 km or more away from them. On the other hand, only 11% of the households have health facility within 1 km. The situation varies from province to province and is worst in the arid and semi arid North Eastern province where 86% of the households have to travel 5 km or more to reach the nearest health facility (KNBS, 2007b).

Table 15 shows the distribution of households by distance to the nearest primary school.

Table 15:   Distribution of households by distance to the nearest primary school

	Distribution (%) of households by distance to nearest primary school				
Region	< 0.5 Km	0.5 – 1 Km	1 – 3 Km	3 – 5 Km	> 5 Km
Nairobi	30.7	8.6	21.1	8.1	31.5
Central	10.2	9.2	25.2	14.1	41.2
Coast	9.6	8.1	7.5	2.1	72.7
Eastern	7.2	16.5	7.7	11.5	57.0
N. Eastern	18.0	21.8	2.9	4.4	53.0
Nyanza	9.1	15.5	10.6	5.5	59.3
Rift Valley	17.7	13.7	13.6	14.2	40.7
Western	10.9	9.2	7.8	4.4	67.8
Rural	**9.3**	**11.9**	**12.5**	**10.7**	**55.6**
Urban	**26.4**	**14.5**	**15.0**	**6.0**	**38.0**
National	**13.4**	**12.5**	**13.1**	**9.6**	**51.4**

Source: KNBS (2007b)

Table 15 shows that more than half (51.4 %) of the households are 5 km or more away from the nearest primary school while a quarter (25.9%) of the households are 1 km or less away. Access to education facilities is poorer in the rural areas compared to the urban areas with the percentage of households 5 km or more away from the nearest primary school being 55.6 % in rural compared to 38% in the urban areas. Variation between provinces does not seem to be dictated by the land potential. Coast and Western provinces have the highest percentage of households far away from education facilities.

The situation is similar for secondary schools with 19.3% of Kenyan households being within 1 km of a secondary school and 49.0% of households being 5 km or more away from a secondary school (KNBS, 2007b). With the introduction of free primary education in 2003 and subsidising of secondary education from 2008, access to education is expected to improve.

Table 16 shows the percentage of households with access to electricity, based on the 1989 and 1999 national population census data.

Table 16:   Percentage of households with access to electricity

	Nairobi	Central	Coast	Eastern	North Eastern	Nyanza	Rift Valley	Western	Rural	Urban	National
1989	42.5	7	11.6	4.1	5.1	2.6	4.5	1.7	1.9	32.1	8.7
1999	52.6	15.8	19.5	6	5.4	4.8	9.5	3.3	4.2	42.1	13.6

Source: KNBS (2002)

Access to electricity improved between the two years shown. By 1999, 14% of Kenyan households had access to electricity, up from 9% in 1989 (Table 16). Access to electricity was however very poor in rural areas, with only 4% of the households having access by 1999.

Table 17 shows the percentage distribution of households by type of water supply systems.

Table 17: Distribution of households by type of water supply systems

	Distribution (%) of households by water supply system					
	Piped Source (Private)	Piped source (Public)	Open Source (protected)	Open source (unprotected)	Rain Water	Truck / Bottled
Nairobi	67.8	27.2	0.9	0.0	0.2	2.7
Central	29.1	2.8	19.0	34.6	9.3	3.5
Coast	16.2	35.8	8.2	13.0	1.9	20.1
Eastern	16.9	11.8	14.3	46.1	2.8	1.5
N. Eastern	5.1	1.2	24.6	46.3	0.0	12.1
Nyanza	5.1	9.6	32.6	34.2	9.3	3.0
R. Valley	20.8	6.4	21.5	41.8	2.9	2.8
Western	4.6	2.5	54.5	33.7	1.5	1.1
National	**21.3**	**11.2**	**22.2**	**32.9**	**4.2**	**4.3**

Source: KNBS (2007b)

At the national level, up to 33% of the population obtains water from unprotected open sources such as dug wells, ponds, streams and rivers. Private piped systems or open protected sources supply water to 22% of the population while public piped systems supply water to 11% of the population. Another 4% of the population obtains water either by collecting rain water or buying from water trucks.

At the provincial level, access to water and supply systems vary widely from one province to the other. Deteriorating water quality has led to a booming bottled water business but the cost can not be afforded by the majority of the population especially in rural areas and access to safe water is a major development concern in the country.

To improve access to services in rural areas, the government initiated a CDF starting from 2003. The CDF was legislated in 2004 through the CDF Act. The fund aims to control imbalances in regional development by targeting all communities through parliamentary constituency with funds allocated equally amongst all 210 constituencies. A motion seeking to increase this allocation to 7.5% of government's revenue was recently passed in parliament. Following the success of the CDF in improving access to services, discussions are going on to further increase the CDF allocation (GOK, 2003d).

Of the amount allocated to a constituency, a maximum 10% may be used for education bursaries. Expenses for running the constituency CDF offices should not exceed 3% of annual allocations. Each constituency is also required to save 5% as an emergency reserve. CDF is managed through 4 committees, 2 at national level and 2 at the grassroots level (GOK, 2003d). Through the CDF, communities implement development projects according to their local needs and priorities. Before the onset of the CDF, access to services in the rural areas was poor in most the provinces. The government is also undertaking a rural electrification project whose aim is to spread electricity through out the rural areas.

In connection with the cost of living, Table 18 shows the % monthly (August 2008) and annual (August 2007 – August 2008) change in the Consumer Price Index (CPI). CPI is derived by monitoring the price movements of a basket of essential goods and services broadly classified into 10 categories. CPI data is generated from monthly data collected from retail outlets in 13 urban centres. The index is perceived to be representative of the spending behavior in Kenyan and shows the state of the Kenyan economy and the impact of inflation.

Table 18: Monthly and annual change in consumer price index

Item category	% Weights	% Monthly change (August 08/July 08)	% Annual change (Aug 08/Aug 07)
Food & Non-alcoholic drink	50.50	0.1	36.4
Alcohol & Tobacco	2.97	1.0	16.3
Clothing & Footwear	9.00	0.6	6.0
Housing Costs	11.74	0.4	5.9
Fuel & Power	4.18	3.6	30.8
Household Goods & Services	5.82	1.4	10.3
Medical Goods and Services	1.59	1.2	12.5
Transport & Communication	5.75	0.9	19.7
Recreation & Education	6.02	0.3	7.4
Personal Goods	2.45	1.3	8.6
Average all Groups	100.00	**0.5**	**27.6**

Source: KNBS (2008)

The cost of living in Kenya is rising due to the rapid increase in the price of key food commodities and fuel. According to Table 18, the general increase of prices of goods and services stood at 27.6%. This was much higher compared to a value of 10.6% the same period the previous year. This rise in the cost of food is mainly due to the post election violence which resulted in the bread basket region of the rift-valley and other key food producing areas not being able to produce as expected.

At the national level, Table 19 shows that over half (53%) of the population live below the poverty line. Central province has the lowest level of poverty while North Eastern, Nyanza and Western have the highest levels of poverty.

Table 19: Estimated poverty levels by province

	Nairobi	Central	Coast	Eastern	North Eastern	Nyanza	Rift Valley	Western	National
% of population below poverty line	44	31	58	58	64	65	48	61	53

Source: KNSB (2005)

2.2.4 Rural-urban drift

Table 20 shows the population of the major towns and other urban centres based on the 1999 national population census.

Table 20: Population of major towns and other urban centres

	Male	Female	Total
Nairobi	1,153,828	989,426	2,143,254
Mombasa	363,552	301,466	665,018
Kisumu	162,354	160,380	322,734
Nakuru	119,281	111,981	231,262
Eldoret	103,402	94,047	197,449
Others	3,187,038	3,250,236	6,437,274
Total Pop.	**14,205,589**	**14,481,018**	**28,686,607**
Total Urban	**5,089,455**	**4,907,536**	**9,996,991**
% Urban	**35.8**	**33.9**	**34.8**

Source: KNBS (2007a)

Table 20 shows that in 1999, 35% of the population lived in urban centres. Although 276 urban centres are reported in the 1999 census data, five urban areas, Nairobi, Mombasa, Kisumu, Nakuru and Eldoret, account for 36% of the urban population in Kenya. This situation is due to the concentration of industries in these towns although most of the urban population in these towns lives in areas with limited facilities (DFID, 2004).

It is estimated that the annual population growth rate for urban areas is 4.7% as compared to 0.5% for the rural areas and 1.3% for the whole country. This figure was 20% in 1985 and is estimated to reach 45% in 2015(DFID, 2004). The growth in urban population is expected to increase as more people move to urban areas in search of jobs. There is also substantial rural to rural migration especially with increasing development of horticultural farms which offer opportunities for employment within the rural areas.

2.3   Media and telecommunications

2.3.1   Newspapers, periodicals and broadcast media

Print media - Newspapers, Periodicals and Journals

Table 21 presents information on the newspapers that are published in Kenya. Of these, eight are daily papers while two are weekly papers. Nine of these papers are privately owned and only one is owned by the government. Again, all papers are published in English language and only one of them is published in the local Kiswahili language. Most of the papers are distributed within the major towns and only few reach the rural areas.

It is surprising that despite the importance of agriculture to Kenya's economy; only one newspaper has a dedicated agriculture and rural development related column. This column, referred to as "The Horizon" covers a wide range of topics including agricultural, food security, environment, and rural development among others. The other papers do not have a specific agriculture or rural development column. They however cover the two issues occasionally in special features or within news items.

Table 21:   Daily and weekly newspapers published in Kenya

1.	Name	Daily Nation
	Contact	Nation Media Group, Box 49010– 00100, Nairobi, Kenya
		Tel: +254 20 3288000, Fax: +254 (0) 20 214531
	Ownership	Private
	Frequency of Issue	Daily
	Circulation	200,000
	Readership	3,000,000
	Distribution	Towns and other urban areas, also rural market centres
	Language	English
	Agri. Content	Weekly column Horizon on agriculture, environment and rural development. Frequently published agricultural and rural development articles
	Website	http://www.nation.co.ke/
2.	Name	Taifa Leo
	Contact	Nation Media Group, Box 49010-00100, Nairobi, Kenya
		Tel: +254 20 3288000, Fax: +254 (0) 20 214531
	Ownership	Private
	Frequency of Issue	Daily
	Circulation	35,000

	Readership	550,000.
	Distribution	Towns and other urban areas, also rural market centres. Most readers in rural areas
	Language	Kiswahili
	Agri. Content	No scheduled agriculture or rural development column. Occasional articles and news on agriculture and rural development
	Website	http://www.nation.co.ke/
3.	Name	Business Daily
	Contact	Nation Media Group, Box 49010-00100, Nairobi, Kenya Tel: +254 20 3288000, Fax: +254 (0) 20 214531
	Ownership	Private
	Frequency of Issue	Daily
	Circulation	NA
	Readership	NA
	Distribution	Nairobi and major towns
	Language	English
	Agri. Content	No scheduled agriculture or rural development column. Occasional articles and news on agriculture and rural development
	Website	http://www.nation.co.ke/ , http://www.bdafrica.com/
4.	Name	East African
	Contact	Nation Media Group, Box 49010-00100, Nairobi Tel: +254 20 3288000, Fax: +254 20 214531
	Ownership	Private
	Frequency of Issue	Weekly
	Circulation	30,000
	Readership	1,500,000
	Distribution	Major towns in East Africa
	Language	English
	Agri. Content	No scheduled agriculture or rural development column. Occasional articles and news on agriculture and rural development
	Website	http://www.nation.co.ke/
5.	Name	Standard
	Contact	Standard Group, Box 30080-00100, Nairobi Tel: +254-20-3222111 Fax: +254-20-214467 Email: info@standardgroup.co.ke
	Ownership	Private
	Frequency of Issue	Daily
	Circulation	70,000
	Readership	700,000
	Distribution	Towns and other urban areas, also rural market centres
	Language	English
	Agri. Content	No scheduled agriculture or rural development column. Occasional articles and news on agriculture and rural development
	Coverage	Country wide
	Website	http://www.eastandard.net/
6.	Name	People Daily
	Contact	People Daily, Box 47035-00100, Nairobi, Kenya
	Ownership	Private
	Frequency of Issue	Daily
	Circulation	60,000
	Readership	NA
	Distribution	Major towns
	Language	English
	Agri. Content	No scheduled agriculture or rural development column. Occasional articles and news on agriculture and rural development

	Website	Does not have website
7.	Name	Kenya Times
	Contact	Kenya Times, Box 30958, Nairobi, Kenya
	Ownership	Government
	Frequency of Issue	Daily
	Circulation	50,000
	Readership	161,000
	Distribution	Major Towns
	Language	English
	Agri. Content	No scheduled agriculture or rural development column. Occasional articles and news on agriculture and rural development
	Website	http://www.kenyatimesonline.com/
8.	Name	Coast Week
	Contact	Shiraz D Alibhai, Mombasa
		Email: coastwk@africaonline.co.ke
	Ownership	Private
	Frequency of Issue	Daily
	Circulation	NA
	Readership	NA
	Distribution	Mombasa and other coastal towns and centres
	Language	English
	Agri. Content	No scheduled agriculture or rural development column. Occasional articles and news on agriculture and rural development
	Website	http://www.coastweek.com/
9.	Name	Nairobi Star
	Contact	Media Africa, P.O. Box, Nairobi, Kenya
	Ownership	Private
	Frequency of Issue	Daily
	Circulation	NA
	Readership	NA
	Distribution	Nairobi and other major towns
	Language	English
	Agri. Content	No scheduled agriculture or rural development column. Occasional articles and news on agriculture and rural development
	Website	www.nairobistar.com/
10.	Name	Metro Daily
	Contact	Nation media group, P.O. Box 49010-00100, Nairobi, Kenya
		Tel: +254 20 3288000, Fax: +254 (0) 20 214531
	Ownership	Private
	Frequency of Issue	Daily
	Circulation	NA
	Readership	NA
	Distribution	Nairobi and other major towns
	Language	English
	Agri. Content	No scheduled agriculture or rural development column. Occasional articles and news on agriculture and rural development
	Website	http://www.nation.co.ke/

Source: Owners Websites (Accessed July 2008); ABC (2008)
Note: NA = Not Available

Many journals and periodicals on agriculture and rural development are published in Kenya as shown on Table 22. These journals and periodicals however reach a small number of people since they target professional or special interest groups. The frequency of publication varies, some are published occasionally, others monthly, others quarterly and others bi-

annually. In most cases, the content addresses specific topics of agriculture and rural development. In a few cases, the content covers a broad range of topics.

Table 22:   Agriculture and rural development journals and periodicals published in Kenya

1.	Journal Title	East African Agricultural and Forestry Journal
	Author/Publisher	Kenya Agricultural Research Institute (KARI)
	Contact Address	P. O. Box 57811- 00200, Nairobi, Kenya Tel: +254 20 583301-20, Fax: +254-020-4183344 Email: Resource.center@kari.org
	Contact Person	Rachel Rege (rrege@kari.org)
	Subject Area	Soil and water management, forest management and link to poverty alleviation and food security
	Target Audience	Research, Development, Education community
	Frequency of Issue	Occasional
	Online link	http://www.ajol.info/index.php

2.	Journal Title	African Journal of Biotechnology (AJB)
	Author/Publisher	Academic Journals
	Contact Address	P.O. Box 5170-00200 Nairobi, Kenya
	Contact Person	NJ Tonukari, (ajb_acadjourn@yahoo.com)
	Subject Area	Applied biochemistry, industrial microbiology, molecular biology, food and agricultural technologies, metabolic engineering, etc
	Target Audience	Research, Education, Development community
	Frequency of Issue	Monthly and combine annual volume
	Online link	http://www.academicjournals.org/AJB

3.	Journal Title	African Journal of Food and Nutritional Security
	Author/Publisher	African Journal of Food and Nutritional Security / Friends-of-the-Book Foundation
	Contact Address	P.O. Box 39624 Nairobi, Kenya Tel: +251 490/812313
	Contact Person	Marketing and Sales Manager, (friendsb@insightkenya.com)
	Subject Area	Food production, processing, market, policy environment, research and development, consumer, agro-business, and agro-industry
	Target Audience	Research, Education, Development community in Africa and the 3rd world
	Frequency of Issue	Publication stopped
	Online link	http://www.ajol.info/index.php

4.	Journal Title	African Journal of Food, Agriculture, Nutrition and Development (AJFAND)
	Author/Publisher	Rural Outreach Program
	Contact Address	P.O. Box 29086-00625 Nairobi, Kenya Tel: +254-20-4444030, Fax: +254-20-4444030 Email: info@ajfand.net
	Contact Person	Prof. Ruth K. Oniang'o, (oniango@iconnect.co.ke,)
	Subject Area	Food and nutrition information
	Target Audience	Research and development community involved in food and nutrition problems and issues in Africa
	Frequency of Issue	March, July and November
	Online link	http://www.ajfand.net and http://www.bioline.org.br/nd

5. Journal Title   Kenya Veterinarian
    Author/Publisher   Kenya Veterinary Association
    Contact Address   P.O. Box 29089-00625, Nairobi, Kenya\
                           Tel: +254 020 3003403
    Contact Person   Dr. Demesi Mande, (jmande@wananchi.com)
    Subject Area   Animal science, Veterinary medicine related legal and policy issues.
                           Also invited research reviews and reports of scientific meetings of the
                           Kenya Veterinary Association
    Target Audience   Research, Education and Development community in Africa
    Frequency of Issue   Two issues per year
    Online link   http://www.ajol.info/index.php

6. Journal Title   Bulletin of Animal Health and Production in Africa
    Author/Publisher   African Union –Inter-African Bureau For Animal Resources (AU-IBAR)
    Contact Address   PO Box 30786-00100 Nairobi, Kenya
                           Tel: +254 - 20-250762, Fax: +254 -20-220546
    Contact Person   Dr Modibo Tiémoko Traoré (ibar.office@au-ibar.org)
    Subject Area   Animal health and production in Africa
    Target Audience   Development, Education and Research community
    Frequency of Issue   Quarterly - March, June, September and December
    Online link   http://www.ajol.info/index.php

7. Journal Title   Journal of Agriculture, Science and Technology
    Author/Publisher   Jomo Kenyatta University of Agriculture and Technology (JKUAT)
    Contact Address   P.O Box 62000-00200 Nairobi
                           Tel: +254-67-52711 Fax: +254-67-52030
    Contact Person   Prof F K Lenga (jast@jkuat.ac.ke, jast@rpe.jkuat.ac.ke)
    Subject Area   Agriculture, Science, Technology, Biotechnology, Medicine and
                           Architecture
    Target Audience   Education, Research and Development community in Africa
    Frequency of Issue   March and September
    Online link   http://www.ajol.info/index.php,
                           http://www.jkuat.ac.ke/rpe/publications.php

8. Journal Title   Journal of Food Technology in Africa
    Author/Publisher   Innovative Institutional Communications
    Contact Address   P. O. Box 20175-00200, Nairobi, Kenya
    Contact Person   Wanga B. A. (africafoodjournal@yahoo.com,
                           jfdtech@globalaccess.co.ke)
                           Tel/Fax: +254-20-242300
    Subject Area   Food science and technology including food engineering, food
                           management, food production and nutrition, etc
    Target Audience   Research, Education, Food Industry in the African Continent
    Frequency of Issue   Quarterly
    Online link   http://www.bioline.org.br/ft, http://www.ajol.info/index.php

9. Journal Title   Economic Review of Agriculture and Livestock Development
    Author/Publisher   Ministry of Agriculture, Development Planning Division
    Contact Address   P.O. Box, 123456-00100, Nairobi
                           Tel: +254 20 718870
    Subject Area   Agricultural, Economic, Agriculture economic, Agricultural statistics
    Target Audience   Development, Research and Education community
    Frequency of Issue   NA

	Online link	NA

10.	Journal Title	African Journal of Agricultural and Resource Economics (AfJARE)
	Author/Publisher	African Association of Agricultural Economists (AAAE)
	Contact Address	University of Pretoria, Agricultural Annexe, Pretoria
		Tel: +27 (0)12 420 4105 Fax: +27 (0)12 420 4958
		E-mail: afjare@up.ac.za
	Subject Area	African agriculture interaction with local and global economic systems including markets, technology, policy, institutions and the natural environment
	Target Audience	Research, Education and Development community in Africa
	Frequency of Issue	Bi-annual
	Online link	http://www.aaae-africa.org/afjare/rticles.html

11.	Journal Title	African Journal of Agricultural Research
	Author/Publisher	Academic Journals
	Contact Address	P.O. Box 5170-00200, Nairobi, Kenya
	Contact Person	Email: service@academicjournals.org
	Subject Area	All areas of agriculture - arid soil research and rehabilitation, tree fruit production, pesticides, post harvest technology, seed research, irrigation, agricultural engineering, marine sciences, animal science, dairy, fish and fisheries, forestry, horticulture, weed biology, agricultural economics, agribusiness, etc
	Target Audience	Research, Education, Development community
	Frequency of Issue	Monthly / Also one volume per year
	Online link	http://www.academicjournals.org/ajar/index.htm

12.	Journal Title	The Organic Farmer
	Author/Publisher	BioVision Foundation Switzerland and ICIPE (African Insect Science for Food and Health).
	Contact Address	P.O. Box 14352-00800, Nairobi
		+ 254 20 445 03 98 / SMS contact: + 254 721 541 590
	Contact Person	Email: info@organickenya.com
	Subject Area	Relevant, reliable and ecologically sound information which is appropriate and applicable for Africa farmers
	Target Audience	Farmers, Farmer groups, Community Based Organizations, Development Organizations, Decision Makers
	Frequency of Issue	Monthly
	Online link	www.organicfarmermagazine.org/

13.	Journal Title	Kenya Farmers Journal
	Author/Publisher	The Agricultural Society of Kenya
	Contact Address	P.O. Box 30176 - 00100, Nairobi
		Tel: 3866655 / 6, Fax: 3870181 / 3873838
	Subject Area	Articles, data and Information relating to the Agricultural Society Of Kenya.
	Target Audience	ASK partners and clients, Society Members
	Frequency of Issue	NA
	Online link	http://www.ask.co.ke/

14.	Journal Title	Kilimo News Magazine
	Author/Publisher	Ministry of Agriculture
	Contact Address	P.O. Box 123456-00100, Nairobi
		Tel: +254 20 718870

Contact Person	Ministry of Agriculture, Agriculture Secretary
Subject Area	News in the agricultural sector
Target Audience	Ministry partners, Clients and Staff, Kenya agricultural sector stakeholders
Frequency of Issue	NA
Online link	http://www.kilimo.go.ke/

15.
Journal Title	Horticultural Insight
Author/Publisher	Fresh Produce Exporters Association of Kenya (FPEAK)
Contact Address	P.O. Box 40312 - 00100, Nairobi, Kenya
	Tel: +254 4451488, / Fax: +254 20 445189 / +254-726-949695
Contact Person	Email: info@fpeak.org
Subject Area	FPEAK interests and concerns - chemicals, flower propagators and growers, farmers, packaging, infrastructure technology, market information, events, exhibitions, certification bodies, standards, compliance etc.
Target Audience	Horticultural farmers, Service and input providers, Regulators, Brokers
Frequency of Issue	Quarterly
Online link	http://www.fpeak.org/horticultural_insight.html

18.
Journal Title	Agricultural Review - Journal of the Agricultural Industry
Author/Publisher	College Publishers Ltd
Contact Address	Group Africa Publishing Limited
	P.O. Box 10109 - 00100. Nairobi, Kenya
	Tel: 245 20 213782 Fax 245 20 242462
Subject Area	Agriculture best practices
Target Audience	Large scale farming estates, learning and research institutions and both non-government and government agencies involved in the promotion of best practices in agriculture
Frequency of Issue	Quarterly
Online link	http://main.agriculturalreviewonline.com/

Source: African journal online website, 2008
Note: NA = Not Available

Electronic media – Television and Radio

For many years since independence, Kenya depended solely on the government owned and managed KBC for electronic media information. In 1992 the government allowed other players to enter into the electronic media sector. Since then, a very rapid growth has been witnessed.

Within a period of 10 years, the CCK has licensed 16 television stations and 26 FM radio stations. By 2005, CCK had assigned 89 TV frequencies and 244 FM frequencies. Following this expansion, it is estimated that 60% and 90% of the population has access to television and radio services respectively (CCK, 2008a). Table 23 lists the television channels broadcasting in Kenya while Table 24 lists the radio stations broadcasting in Kenya.

The government owned KBC has the widest geographic coverage with 90% of the country covered for radio and 50% for television. Royal media group has also a wide coverage with its radio stations broadcasting in most of the major local languages in the country (EPZ, 2005e).

Although TV and radio are the most effective means to reach the highest percentage of the population, very few agriculture and rural development programs are broadcasted both on TV and on radio. For example, of the 16 TV channels, only one, KBC channel 1, has a scheduled agriculture program. The other cover agriculture and rural development as special features or within news items. Occasionally, agricultural input providers sponsor agriculture features or farmer tips as part of their advertisements for their products. For example, Citizen TV broadcasts frequently 3 minutes small holder horticultural tips which are sponsored by Syngenta East Africa.

On radio, a similar situation exists and only KBC radio channels have scheduled agricultural and rural development programs. The situation is however changing especially as FM radio stations compete to attract listeners. For example, Royal Media radio stations broadcasting in local languages have started agriculture and rural development programs that address the need of the local populations. These programs are becoming very famous with farmers.

Table 23:   Television channels broadcasting in Kenya.

1.	Name	Kenya Broadcasting Corporation (KBC) – Channel 1
	Contact	Kenya Broadcasting Corporation, P.O. Box 30456-00100, Nairobi, Kenya Tel:+254 20 318824, Fax: +254 20 341173 E-mail: kbc@kbc.co.ke
	Ownership	Government
	Broadcast Hours	5am – 12pm
	Language	Kiswahili and English
	Agri. Content / Duration	30 Minutes weekly TV Program Mkulima "Farmer". Produced in collaboration with Agriculture Information Resource Centre (AIRC) and Kenya Agricultural Research Institute (KARI)
	Coverage	Country wide
	Website:	http://www.kbc.co.ke/
2.	Name	Nation Television Network (NTV)
	Contact	Nation Media Group, P.O. Box 49010-00100, Nairobi, Kenya Tel: +254 20 3288000 , Fax: +254 (0) 20 214531
	Ownership	Private
	Broadcast Hours	5am – 12pm
	Language	Kiswahili / English
	Agri. Content / Duration	No programmed agricultural / rural development program. Occasional agriculture and rural development programs and news item
	Coverage	Country wide
	Website	http://www.nationmedia.com/ntv/
3.	Name	Citizen Television
	Contact	Royal Media, P.O. Box 7468-00300, Nairobi Tel: +254 20 2721415 / 6, Fax: +254 20 2724211 Email: info@royalmedia.co.ke
	Ownership	Private
	Broadcast Hours	5am – 12pm
	Language	Kiswahili / English
	Agri. Content / Duration	3 Minutes agricultural tips and guidelines sponsored by advertisers
	Coverage	Country wide
	Website	http://www.royalmedia.co.ke/tv.php (Website frequently down)
4.	Name	Kenya Television Network
	Contact	KTN Baraza Ltd, P.O. Box 56985-00200, Nairobi, Kenya Tel: +254 (20) 242642, +254 722 205259 Fax: +254 (20) 214467
	Ownership	Private

	Broadcast Hours	5am – 12pm
	Language	Kiswahili / English
	Agri. Content / Duration	No programmed agricultural / rural development program. Occasional agriculture and rural development programs and news item
	Coverage	Country wide
	Website	http://www.ktnkenya.tv

5.
	Name	Family Television
	Contact	TBN Family Media, P.O. Box 2330 KNH Nairobi Tel: +254 20 4200 000, Fax: +254 20 4200 100 Email: info@familykenya.com
	Ownership	Private
	Broadcast Hours	5am – 12pm
	Language	Kiswahili / English
	Agri. Content / Duration	No programmed agricultural / rural development program. Occasional agriculture and rural development programs and news item
	Coverage	Nairobi and central regions
	Website	http://www.familykenya.com/tv.asp

6.
	Name	K24
	Contact	Regional Reach Media Company, P.O. Box 49640 00200, Nairobi Tel: +254 20 217963 Email: Rreach@form_net.com
	Ownership	Private
	Broadcast Hours	1am – 12pm
	Language	Kiswahili / English
	Agri. Content / Duration	No programmed agricultural / rural development program. Occasional agriculture and rural development programs and news item
	Coverage	Signal currently only being received within Nairobi
	Website	NA

7.
	Name	East Africa Television (EATV) - Kenya
	Contact	IPP Media, Cell: +254 722 714900 Email: admin@channel5.co.tz
	Ownership	Private
	Broadcast Hours	5am – 12pm
	Language	Kiswahili / English
	Agri. Content / Duration	No programmed agricultural / rural development program. Occasional agriculture and rural development programs and news item
	Coverage	NA
	Website	http://www.ippmedia.com/

8.
	Name	STV
	Contact	StellaVision Ltd, Box 20190, 00200 Nairobi, Kenya Tel: +254 20 2718740/41 Cell: +254 722 272596 Fax: +254 20 2729584
	Ownership	Private
	Broadcast Hours	5am – 12pm
	Language	English
	Agri. Content / Duration	No programmed agricultural / rural development program. Occasional agriculture and rural development programs and news item
	Coverage	Covers around 90% of Kenya's urban population
	Website	NA

9.
	Name	Sayare TV (short for 'Sauti Ya Rehema' meaning Voice of Grace)
	Contact	Sayare, P.O. Box 4139-30100, Eldoret, Kenya Tel: +254 53 2062252/2061431 Email: customercare@sayaretvn.com
	Ownership	Private

	Broadcast Hours	5am – 12pm
	Language	English/Swahili/Kalenjin
	Agri. Content / Duration	No programmed agricultural / rural development program. Occasional agriculture and rural development programs and news item
	Coverage	Signal received around five urban areas i.e. Nairobi, Timboroa, Nyanundu, Mombasa and Eldoret
	Website	NA

10.	Name	Channel 2 (former Metro TV)
	Contact	Channel 2 Group Corporation (Africa) Ltd
	Ownership	Private
	Broadcast Hours	5am – 12pm
	Language	English
	Agri. Content / Duration	No programmed agricultural / rural development program. Occasional agriculture and rural development programs and news item
	Coverage	Nairobi area
	Website	NA

11.	Name	CBNC Africa
	Contact	Capital Group Limited, Box 74933-00200, Nairobi Tel: +254 20 210020/210418 Email: info@capitalfm.co.ke
	Ownership	Private
	Broadcast Hours	5am – 12pm
	Language	English
	Agri. Content / Duration	No programmed agricultural / rural development program. Occasional agriculture and rural development programs and news item
	Coverage	Nairobi area
	Website	NA

12.	Name	Adventist Television Network – Hope Channel
	Contact	Enoch Mogusu, Nairobi Email: mogusu@gmail.com
	Ownership	Private
	Broadcast Hours	5am – 12pm
	Language	English / Kiswahili
	Agri. Content / Duration	No programmed agricultural / rural development program. Occasional agriculture and rural development programs and news item
	Coverage	Nairobi area
	Website	NA

13.	Name	Star TV
	Contact	North eastern media and Telecommunications Ltd, P.O. Box 68351-00622, Nairobi, Kenya Tel: +254 46 3332 Email: nepmedia@yahoo.com
	Ownership	Private
	Broadcast Hours	5am – 12pm
	Language	English/Swahili
	Agri. Content / Duration	No programmed agricultural / rural development program. Occasional agriculture and rural development programs and news item
	Coverage	Garissa
	Website	NA

14.	Name	Unjiru TV
	Contact	Unjiru TV, P.O. Box 458-00515 Machakos Tel: +254 20 786722 Cell: +254 722 805653
	Ownership	Private
	Broadcast Hours	5am – 12pm
	Language	English/Kiswahili / Kikamba

	Agri. Content / Duration	No programmed agricultural / rural development program. Occasional agriculture and rural development programs and news item
	Coverage	Eastern (Machakos)
	Website	NA

15.	Name	DSTV (Pay TV)
	Contact	MultiChoice Kenya Ltd, Box 60406 Nairobi
		Tel: +254 20 444 0495, Fax: +254 20 444 9757
		Email: mchoice@ke01.mck.co.za
	Ownership	Private
	Broadcast Hours	5am – 12pm
	Language	English
	Agri. Content / Duration	No agricultural / rural development program.
	Coverage	Country wide but needs receiver
	Website	www.dstv.com

16.	Name	GTV (Pay TV)
	Contact	GTV Kenya Limited, Box 897 00100, Nairobi
		Tel: +254 20 4299 00 0 , Fax: +254 20 445 4888
		Email: info@gtv.tv
	Ownership	Private
	Broadcast Hours	5am – 12pm
	Language	English
	Agri. Content / Duration	No agricultural / rural development program
	Coverage	Country wide – requires receiver
	Website	http://www.gtv.tv

Source: Various owner's websites (Accessed July 2008);
Note: NA = Not Available

Table 24:   Radio stations broadcasting in Kenya.

1.	Name	KBC Radio – Swahili Service
	Contact	Kenya Broadcasting Corporation, Box 30456-00100, Nairobi
		Tel:+254 20 318824, Fax: +254 20 341173
		E-mail: kbc@kbc.co.ke
	Ownership	Government
	Broadcast Hours	5am – 12pm
	Language	Kiswahili
	Agri. Content / Duration	• One hour weekly (Monday evening) program "Mali Shambani" meaning wealth in the farm. Targets farmers and others in the agriculture sector. Provide wide range of valuable agriculture information. Includes Q&A session which uses both voice and SMS. Attracts listeners from as far as Uganda and Tanzania. • Daily agricultural community prices information for major markets in collaboration with KACE • 25 minutes weekly (Thursday evening) program Sauti ya Mukulima "Farmers voice" targets farmers with extension information
	Coverage	Country wide
	Website	www.kbc.co.ke/

2.	Name	KBC Radio – English Service
	Contact	Kenya Broadcasting Corporation, Box 30456-00100, Nairobi
		Tel:+254 20 318824, Fax: +254 20 341173
		E-mail: kbc@kbc.co.ke

	Ownership	Government
	Broadcast Hours	5am – 12pm
	Language	English
	Agri. Content / Duration	Daily agricultural community prices information for major markets in collaboration with KACE
	Coverage	Country wide
	Website	www.kbc.co.ke/

3.	Name	KBC Radio – Central Service
	Contact	Kenya Broadcasting Corporation, Box , 30456-00100, Nairobi, Kenya Tel:+254 20 318824, Fax: +254 20 341173 E-mail: kbc@kbc.co.ke
	Ownership	Government
	Broadcast Hours	5am – 12pm
	Language	Local Languages spoken in the Kenya's Eastern Province and South Rift Valley (Kikamba, Kiembu, Kimeeru, Kimaasai) slotted in at different hours
	Agri. Content / Duration	No programmed agricultural / rural development program. Occasional features and news items
	Coverage	Country wide
	Website	www.kbc.co.ke/

4.	Name	KBC Radio – Eastern Service
	Contact	Kenya Broadcasting Corporation, Box 30456-00100, Nairobi, Kenya Tel:+254 20 318824, Fax: +254 20 341173 E-mail: kbc@kbc.co.ke
	Ownership	Government
	Broadcast Hours	5am – 12pm
	Language	Local Languages (Somali, Boran, Rendile, Burji and Turkana languages) slotted in at different hours
	Agri. Content / Duration	Occasional agriculture and rural development features and news sponsored by input and service providers
	Coverage	Country wide
	Website	www.kbc.co.ke/

5.	Name	KBC Radio – Western Service
	Contact	Kenya Broadcasting Corporation, Box 30456-00100, Nairobi, Kenya Tel:+254 20 318824, Fax: +254 20 341173 E-mail: kbc@kbc.co.ke
	Ownership	Government
	Broadcast Hours	5am – 12pm
	Language	Local Languages (Luo, Kisii, Kalenjin, Kuria and Teso languages) slotted in at different hours
	Agri. Content / Duration	Occasional agriculture and rural development features and news sponsored by input and service providers
	Coverage	Country wide
	Website	www.kbc.co.ke/

6.	Name	Pwani FM
	Contact	Kenya Broadcasting Corporation, Box 30456-00100, Nairobi Tel:+254 20 318824, Fax: +254 20 341173 E-mail: kbc@kbc.co.ke
	Ownership	Government
	Broadcast Hours	5am – 12pm
	Language	English/Swahili
	Agri. Content / Duration	Occasional agriculture and rural development features and news sponsored by input and service providers
	Coverage	Coastal Areas
	Website	www.kbc.co.ke/

7.	Name	Metro FM
	Contact	Kenya Broadcasting Corporation, Box 30456-00100, Nairobi Tel:+254 20 318824 Fax: +254 20 341173 E-mail: kbc@kbc.co.ke
	Ownership	Government
	Broadcast Hours	5am – 12pm
	Language	Kiswahili and English
	Agri. Content / Duration	No programmed agricultural / rural development program. Occasional features and news items
	Coverage	Nairobi and Central Kenya region
	Website	www.kbc.co.ke/

8.	Name	Coro Radio
	Contact	Kenya Broadcasting Corporation, Box 30456-00100, Nairobi Tel:+254 20 318824, Fax: +254 20 341173 E-mail: kbc@kbc.co.ke
	Ownership	Government
	Broadcast Hours	5am – 12pm
	Language	Local language (Kikuyu)
	Agri. Content / Duration	Occasional agriculture and rural development features and news sponsored by input and service providers
	Coverage	Nairobi and central Kenya region
	Website	www.kbc.co.ke/

9.	Name	Citizen Radio
	Contact	Royal Media Services, Box 56985-00200, Nairobi, Kenya Tel: +254 20 2721415 / 6, Fax: +254 20 2724211 Email: info@royalmedia.co.ke
	Ownership	Private
	Broadcast Hours	5am – 12pm
	Language	Kiswahili
	Agri. Content / Duration	Occasional agriculture and rural development features and news sponsored by input and service providers
	Coverage	Country wide
	Website	www.royalmedia.co.ke/

10.	Name	Inooro Radio
	Contact	Royal Media Services, Box 56985-00200, Nairobi, Kenya Tel: +254 20 2721415 / 6, Fax: +254 20 2724211 Email: info@royalmedia.co.ke
	Ownership	Private
	Broadcast Hours	5am – 12pm
	Language	Local language (Kikuyu)
	Agri. Content / Duration	Daily morning agricultural program
	Coverage	Nairobi and central regions
	Website	www.royalmedia.co.ke/

11.	Name	Muga FM
	Contact	Royal Media Services,. Box 56985-00200, Nairobi, Kenya Tel: +254 20 2721415 / 6, Fax: +254 20 2724211 Email: info@royalmedia.co.ke
	Ownership	Private
	Broadcast Hours	5am – 12pm
	Language	Local language (Meru)
	Agri. Content / Duration	Occasional agriculture and rural development features and news sponsored by input and service providers

	Coverage	Central regions – Nairobi, Central, Rift Valley, Eastern, etc
	Website	www.royalmedia.co.ke/

12. Name | Musyi FM
    Contact | Royal Media Services, Box 56985-00200, Nairobi, Kenya
    Tel: +254 20 2721415 / 6, Fax: +254 20 2724211
    Email: info@royalmedia.co.ke
    Ownership | Private
    Broadcast Hours | 5am – 12pm
    Language | Local language (Kamba)
    Agri. Content / Duration | Occasional agriculture and rural development features and news sponsored by input and service providers
    Coverage | Central regions – Nairobi, Central, Rift Valley, Eastern, etc
    Website | www.royalmedia.co.ke/

13. Name | Chamuge FM
    Contact | Royal Media Services, Box 56985, 00200, Nairobi, Kenya
    Tel: +254 20 2721415 / 6, Fax: +254 20 2724211
    Email: info@royalmedia.co.ke
    Ownership | Private
    Broadcast Hours | 5am – 12pm
    Language | Local language (Kalenjini)
    Agri. Content / Duration | NA
    Coverage | Rift valley regions – Rift Valley, Nairobi, Central, etc
    Website | www.royalmedia.co.ke/

14. Name | Murembe FM
    Contact | Royal Media Services, Box 56985, 00200, Nairobi, Kenya
    Tel: +254 20 2721415 / 6, Fax: +254 20 2724211
    Email: info@royalmedia.co.ke
    Ownership | Private
    Broadcast Hours | 5am – 12pm
    Language | Local language (Luo)
    Agri. Content / Duration | NA
    Coverage | Western regions – Western, Nyanza, Rift Valley, Nairobi, etc
    Website | www.royalmedia.co.ke/

15. Name | Baraka FM
    Contact | FEBA FM, Box 49262-00100, Nairobi
    Tel: +254 20 3874306 Cell: +254 20 725 964449, Fax: +254 20 3875878
    Email: febaradio@maf.or.ke
    Ownership | Private
    Broadcast Hours | 5am – 12pm
    Language | Local language (Swahili)
    Agri. Content / Duration | The programs consist of interviews with agricultural experts, extension workers etc.
    Coverage | Coastal regions – Coast, Eastern, Nairobi, etc
    Website | http://www.mombasaonline.com/baraka.htm

16. Name | Kameme FM
    Contact | Regional Reach Limited, Box 49640 - 00100 , Nairobi
    Tel: +254 20 217963
    Email: Rreach@form_net.com
    Ownership | Private
    Broadcast Hours | 5am – 12pm
    Language | Local languages (Kikuyu, Meru, Kamba, Embu)
    Agri. Content / Duration | Daily/Weekly program "Urimi" meaning farming. Program targets small holder farmers and provides in-depth analysis of different agricultural

issues.

| | Coverage | Central regions – Nairobi, Central, Rift Valley, Eastern, etc |
| | Website | http://www.kameme.co.ke/ |

17. Name   Mbaitu FM
     Contact   Eastern Broadcasting Corporation Limited, Box 9035-00200, Nairobi
                       Tel: +254 20 2025877 Cell: +254 723 961278
                       Email: cnguku@ebckenya.com
     Ownership   Private
     Broadcast Hours   5am – 12pm
     Language   Local languages (Kikamba)
     Agri. Content /   Has prioritized content on fruit farming and horticulture
     Duration
     Coverage   Eastern
     Website   www.mbaitufm.com/home.html

18. Name   Kass FM
     Contact   Kalee Limited, Box 25636 00603,
                       Tel. + 254 20 387118
                       Email: joshua@adgroup.co.ke
     Ownership   Private
     Broadcast Hours   5 – 24 hrs
     Language   Kalenjini
     Agri. Content /   Occasional programs focuses on dairy and maize production
     Duration
     Coverage   Rift-Valley
     Website   www.kassfm.co.ke

19. Name   Easy FM
     Contact   Nation Media Group, Box Box 49010, Nairobi
                       Tel: +254 20 3288000, Fax: +254 20 214531
     Ownership   Private
     Broadcast Hours   5am – 12pm
     Language   English / Kiswahili
     Agri. Content /   No programmed agricultural / rural development program. Occasional
     Duration   features and news items
     Coverage   Nairobi and some central regions
     Website   http://www.nation.co.ke/

20. Name   Capital FM
     Contact   Capital Group Limited, Box 74933-00200, Nairobi
                       Tel: +254 20 210020/210418
                       Email: info@capitalfm.co.ke
     Ownership   Private
     Broadcast Hours   5am – 12pm
     Language   English / Kiswahili
     Agri. Content /   No programmed agricultural / rural development program. Occasional
     Duration   features and news items
     Coverage   Nairobi and some central regions
     Website   http://www.capitalfm.co.ke/capitalRadio/

21. Name   Classic FM
     Contact   Kitambo Communications Limited, Box 56155 00200 Nairobi.
                       Tel :+254 20 4244000
     Ownership   Private
     Broadcast Hours   5am – 12pm
     Language   English / Kiswahili
     Agri. Content /   No programmed agricultural / rural development program. Occasional
     Duration   features and news items
     Coverage   Nairobi and some central regions

		Website	NA

22.	Name	Family FM
	Contact	TBN Family Media, Box 2330 KNH , Nairobi
		Tel: +254 20 4200 000, Fax: +254 20 4200 100
		Email: info@familykenya.com
	Ownership	Private
	Broadcast Hours	5am – 12pm
	Language	English / Kiswahili
	Agri. Content / Duration	No programmed agricultural / rural development program. Occasional features and news items
	Coverage	Nairobi and some central regions
	Website	http://www.familykenya.com/radio.html

23.	Name	Hope FM
	Contact	Christ is the Answer Ministries (Nairobi Pentecostal Church), Box 42254-00100, Nairobi
		Tel: +254 20 3864658, Fax: +254 20 3864659
	Ownership	Private
	Broadcast Hours	5am – 12pm
	Language	English / Kiswahili
	Agri. Content / Duration	No programmed agricultural / rural development program. Occasional features and news items
	Coverage	Nairobi and some central regions
	Website	http://www.hopefm.org/

24.	Name	Waumini FM
	Contact	Catholic Church in Kenya, Box 1373-0600, Nairobi, Kenya
		Tel: +254 20 8561457 / 8560917, Fax: +254 20 8561946
		Email: news@radiowaumini.org / marketing@radiowaumini.org
	Ownership	Private
	Broadcast Hours	5am – 12pm
	Language	English / Kiswahili
	Agri. Content / Duration	No programmed agricultural / rural development program. Occasional features and news items
	Coverage	Nairobi and some central regions
	Website	http://www.radiowaumini.org/

25.	Name	IQRA FM
	Contact	IQRA Broadcasting Network, Box 21186 00505, Nairobi, Kenya
		Tel: +254 20 3861542
		Email: iqrafm@bidii.com
	Ownership	Private
	Broadcast Hours	5am – 12pm
	Language	English / Kiswahili
	Agri. Content / Duration	No programmed agricultural / rural development program. Occasional features and news items
	Coverage	Nairobi and coastal regions
	Website	NA

26.	Name	East Africa Radio
	Contact	Radio One Limited, Box 163, Dares Salaam, Tanzania
		Tel: +255 22 219349
		Email: ipp@raha.com
	Ownership	Private
	Broadcast Hours	5am – 12pm
	Language	English / Kiswahili
	Agri. Content / Duration	No programmed agricultural / rural development program. Occasional features and news items
	Coverage	Major town of East Africa countries

Website	NA	

Source: Various owners' websites (Accessed July 2008); CCK (2008a)
Note: NA = Not available

2.3.2 Telecommunication services

The government has prioritized the development of a telecommunications infrastructure capable of delivering efficient and affordable information and communications services as a requirement for the country's economic growth (CCK, 2008a).

In 2001, CCK reviewed the telecommunication sector and created 11 market segments including among others (1) Fixed lines operators, (2) Mobile phone operators, (3) Satellite / VSAT operators, (4) Data network operators, (5) Internet service providers and (6) Value added services. Table 25 summarizes the major telecommunication market segments in the country.

Table 25:   Major telecommunications market segments in Kenya

Service Segment	No. of operators	Some key operators and remarks
Fixed Line	2	Telkom Kenya Limited (Government owned), Bell Western Telecommunication Limited. Bell Western is licensed to operate in rural areas i.e. North Eastern Province
Mobile Phone	2	Safaricom Limited where government has 25% shares, Celtel Limited which is privately owned. A 3rd operator Econet Limited is expected to enter the market soon
Internet Service	73	UUNet, Wananchi Online, SwiftGlobal, Africa Online, ISP Kenya, Nairobi Net
Data Network	7	Africa Spinoff Limited, Airwaves Communications Limited, Broadband Access Limited, Comtec Integration Systems Limited, Donico Limited, Geonet Communications Limited, IGO Wireless Limited
Satellite / VSAT	6	Commcarrier Satellite Services Limited, Telkom Kenya Limited, AFSAT Communications Kenya Limited, Simbanet Com Limited, Alldean Satellite Networks Limited, Harun International Limited
Value Added Services	3	E M Communications Ltd, Next Generation Ltd, Soliton House
Internet backbone and gateway	8	Comtec Integration Systems Limited, Geonet Communications Limited, UUNET Communications Limited, Internet Africa Network Limited, Jamii Telecommunications Limited, Telkom Kenya Limited-Jambonet, Kenya Data Networks Limited, Sopanet Technologies Limited
Local Loop	19	Adtel Mobile Limited, Africa Spinoff Limited, African Link Agency Limited, Broadband Access Limited, Comtec Training And Management Services Limited, Converged Information Service Limited, EM Communications Limited, Flashcom Limited, Genco Limited, Kenya Data Networks Limited

Source: EPZ, 2005e

The growth of the fixed line telephone network has been declining since the opening up of the market in 2000 when the government registered two mobile phones operators. By 2007, there were only 264, 882 fixed lines, down from 300,000 in 2000. This presents a penetration of only 0.9%.

Table 26 shows the trend in the fixed line network subscribers over the period 2003 to 2007. One observes that although Telkom fixed line network had stagnated below 300,000 subscribers over the years recorded; the introduction of fixed wireless systems has lead to an increase of 66, 236 number of fixed line subscribers in one year alone.

Table 26:   Fixed line network subscribers from 2003 to 2007

Year	2003	2004	2005	2006	2007
Fixed line capacity	508,000	508,236	517,131	518,423	503,903
Fixed line tele-density	1.021	0.86	0.86	0.86	0.90
Fixed line subscribers	328,158	279,884	286, 729	293,364	264,882
wireless subscribers	-	-	-	-	66,236
Number of payphones	9,964	9,273	8,273	7,913	5,805
Subscribers in urban areas	309,070	265,598	271,925	279,079	243,875
Subscribers in rural areas	19,288	14,446	14,803	14,285	26,668

Source: CCK (2008b)

The observed decline in payphones can be attributed to availability of affordable mobile handsets, lower calling charges, increased network coverage, and diminished returns stemming from market dynamics among other factors. In addition vandalism and obsolescence of technology rendered most of the payphones non-operational forcing Telkom to phase them out.

Although the protection of Telkom Kenya by the government was aimed at improving access in rural areas, 90% of fixed lines are within urban areas leaving the rural areas poorly served (CCK, 2008b). The government has licensed local loop operators (LLO) to address the problem of unequal access between urban and rural areas. Local loop operators are small local companies that complete the calls within a local area e.g. geographic district. Although 24 LLO have been registered, only two are operational and these are still operating in urban areas. The situation may however improve following introduction of fixed wireless technology.

Mobile phones were introduced in Kenya in 1992 but the costs of handsets were too high for most Kenyans. Between 1992 and 1999, less than 20,000 users subscribed to the service. However, in 2000, following the enactment of the Kenya Communication Act, the government registered two operators to compete with TelKom Kenya.

The opening up of the market and declining cost of handset has led to rapid growth in the number of subscribers and in the last five years, the number of subscribers has increased from 1.5 M in 2003 to 11.4 M in 2007. By March 2008, there were 11.9 M subscribers representing a penetration rate of 35%. Table 27 shows the mobile phone subscriber growth for the period 2003 to 2008. The data for 2008 covers only the first quarter of the year i.e. January to March.

Table 27:   Mobile phone subscriber's growth – 2002 to 2008

	2002	2003	2004	2005	2006	2007	2008*
Subscribers ('000)	1,325	1,591	2,546	5,264	7,340	11,440	11,986
No. of payphones	NA	1,628	3,404	20,666	29,888	20,822	NA
Penetration rate (%)	4.2	5.0	7.8	15.7	21.6	33.7	35.3

CCK (2008b)   Notes: * Data for 2008 only till March, NA = Not Available

The number of mobile community pay phones has started to decline as handset prices go down and more people buy their own sets. Table 28 shows the average cost of making mobile phone calls and sending SMS within the same network and from one network to another. Overall, the cost of making mobile phone calls has been decreasing, standing at around 16 Kshs (0.16 Euros) when calling within the same network and 23 Kshs (0.24 Euros) when calling another network or a fixed line. Cost of SMS has remained at around 5 Kshs (0.05 Euros) but its use for social and commercial information dissemination has rapidly increased.

Table 28:   Cost (Kshs.) of making mobile phone call and sending SMS

	2004	2005	2006	2007
Call to same mobile network	20.2	19.2	18.9	16.2
Call to another mobile network	32.4	27.4	26.7	22.6
Call to fixed line network	28.8	27.5	25.5	22.6
International calls	99.8	99.8	98.3	94.0
SMS to same mobile network	5.0	5.0	5.0	3.9
SMS to another network	5.0	5.0	5.0	5.0
International SMS	10.0	10.0	10.0	10.0

Source: CCK (2008b)

The mobile phone network is concentrated within urban areas and along major highways although competition among operators has led to expansion into areas that would be considered uneconomical. The network currently reaches 77% of the population but only 27% of the land area. This means that although a large population is served, there are remote areas that are still not served (CCK, 2008b).

2.3.3 Computers and the Internet

The number of personal computers in active use at the beginning of 2004 was estimated to be about 520,000 i.e. 16 computers per 1000 people (EPZ, 2005e). The upsurge of cyber cafes has rapidly increased the number of people with access to computers, although this increase is limited to towns and urban centres in the rural areas.

Unlike mobile phones, the uptake of Internet services has been slow, increasing from 1,054,920 users in 2005 to 1,712,191 users by end of 2007 (CCK, 2008b), representing a rate of penetration of only 5%. An Internet market study conducted by CCK in May 2007 estimated the number of Internet users at 2,770,296 in 2007 (CCK, 2007a). The Internet market study also revealed that limited use of Internet is attributed to low ICT literacy within the population, lack of infrastructure in some of the urban centres and in almost all rural areas and limited availability of local content (CCK, 2007a).

To address this problem, CCK has streamlined data network licensing processes and licensed 22 DNOs by 2007. Subsequently, demand for data services in the country has led to a threefold increase in the international gateway bandwidth, from 160 mbps in 2005 to 485 mbps in 2007.

Competition between DNOs has resulted in the cost of a 1024 kbps connection to Internet backbone by ISPs falling from Kshs 455,600 (4,789 Euros) in 2005 to 390,000 (4,105 Euros) in 2007 (see Table 29) which in turn has translated into lower costs for the Internet end users. More recently, Internet service providers have taken advantage of the competitive market environment to develop more affordable products for their clients. In some of the cybercafés, one can browse for one hour for a cost of Kshs 30 (0.32 Euros). The same innovation is taken further by tenants in estates where they install a shared Internet connection and share the cost.

Table 29:   Connection cost to Internet backbone by ISP in Kshs

Connection speed (kbps)	2005	2006	2007
32	17,000	14,740	12, 480
64	34,850	29,905	24,960
128	62,900	56,410	49,920
256	111,900	109,420	99,840
512	231,200	215,440	119,680
1024	455,000	422,800	390,000

Source: CCK (2007b)

At present there are 72 licensed ISPs. Table 30 shows the popular ISP among individual and corporate clients in the country.

Table 30: Popular Internet Service Providers in Kenya

1.	Name	Africa Online Limited
	Contacts	Box 63017 00200 Nairobi
		Tel: +254 20 2792100, 2110173/5/6
		Fax: +254 20 2792130
		Email: info@africaonline.com
	Branch Offices	NA
	Services	Internet Access, Email, Web Hosting
	Website	http://www.africaonline.com/
2.	Name	Wananchi Online Limited
	Contacts	Box 10286 00100 Nairobi
		Tel: +254 20 313985 Cell: +254 722 204981 / +254 733 204981
		Fax: +254 20 313922
		Email: web@wananchi.com
	Branch Offices	Mombasa, Nakuru, Nyeri
	Services	Internet Access, Messaging, Web Services and E-Consulting
	Website	http://www.wananchi.com/
3.	Name	Nairobinet (K) Limited
	Contacts	Box 61758 00200 Nairobi
		Tel: +254 20 2217406
		Fax: +254 20 2243512
		Email: info@nbnet.co.ke
	Branch Offices	Branch Offices
	Services	Internet Access, Web Services (Domain name Registration, Web Hosting, Web Design, Development, Web mail), Mail Scan, VOIP, Internet Consulting
	Website	http://www.nbnet.co.ke/
4.	Name	Kenyaweb
	Contacts	Box 38797 00100 Nairobi
		Tel: +254 20 2245630
		Fax: +254 20 240870
		Email: info@kenyaweb.com
	Branch Offices	Mombasa, Nakuru, Eldoret, Naivasha
	Services	NA
	Website	http://www.kenyaweb.com/
5.	Name	Swift Global (Kenya) Limited
	Contacts	Box 42164 00100 Nairobi
		Tel: +254 20 69021000
		Fax: +254 20 6921500
		Email: sales@swiftkenya.com
	Services	NA

	Website	http://www.swiftglobal.co.ke/ (Under Construction)

6. Name — UUNET Kenya Limited
   Contacts — Box 12170 00100 Nairobi
   Tel: +254 20 6988000
   Fax: +254 20 6988001
   Email: info@ke.uu.net
   Branch Offices — NA
   Services — VOIP, Server Hosting, Broadband VSAT, Network Management, Dial-up Internet Access
   Website — http://www.ics.uunet.co.ke/

7. Name — Jambo Telkom Limited
   Contacts — Box 41951 00100 Nairobi
   Tel: +254 20 4220000
   Fax: +254 20 3232801
   Email: info@jambo.co.ke
   Services — Broadband Internet, Dial up Internet, Web hosting, Email
   Website — www.jambo.co.ke

8. Name — Access Kenya
   Contacts — Box 43588 - 00100 Nairobi
   Tel: +254 20 3749599, 3750200, 3600000
   Fax: +254 20 3742107
   Email: info@accesskenya.com
   Branch Offices — Mombasa
   Services — Broadband MAX (Double Downlink) & Broadband Max 2 (Quadruple Downlink) – Tailor Made Internet Solutions
   Website — http://www.accesskenya.com/

9. Name — Callkey Kenya Limited (representing iWay Africa)
   Contacts — Box 43588 - 00100 Nairobi
   Tel: +254 20 608 617 Cell: +254 733 400024 or +254 722 474 829
   Fax: +254 20 602 826
   Email: marketing@iwayafrica.com
   Branch Offices — NA
   Services — iWay Broadband, iWay Dedicated and iWay Corporate Networks
   Website — http://www.iwayafrica.com/

10. Name — Virtual Sat Ltd
    Contacts — Box 43588 - 00100 Nairobi
    Tel: +254 20 3873341 or 3872191 Cell: +254 722 204689
    Fax: +254 20 3876248
    Email: marketing@iwayafrica.com
    Branch Offices — Mombasa, Ongata Rongai, Thika, Nyeri, Meru, Maua, Nakuru, Nyahururu, Kericho, Kisii
    Services — High Speed Satellite Broadband Internet Access through the iWAY service, a direct connection to the Internet Backbone via Satellite.
    Website — www.virtuasat.co.ke

11. Name — Safaricom Kenya Limited
    Contacts — Box 46350 00100 Nairobi.
    Tel: +254 20 427 3272
    Fax: NA
    Email:
    Branch Offices — NA
    Services — Dial up Internet, Broadband Internet
    Website — www.safaricom.co.ke

12. Name — Celtel Kenya (Now Zain Kenya)

Contacts	Box 46350 00100 Nairobi.
	Tel: +254 20 6910000 Cell: +254 734 10000
	Fax: NA
	Email:
Branch Offices	Mombasa, Kiisumu, Eldoret
Services	Dial up Internet, Broadband Internet
Website	http://www.ke.zain.com/

The cost of dial up Internet accounts varies from one provider to the other, depending on the duration for which the service is paid for and whether the service is for email alone or email and Internet. The longer the contract period, the cheaper the cost of service, for example, Wananchi Online monthly Internet access cost varies from Kshs 894 (9 Euros) for a 1 year contract to kshs 1,233 (13 Euros) for a six month contract to kshs 2320 (24 Euros) if paid on a monthly basis. Cost also varies between providers and service configuration; for example Kshs 2,320 (24 Euros) for Wananchi Online limited Internet and email account, Kshs 3,500 (37 Euros) for Pwani Online limited Internet and email account to Kshs 12,000 (126 Euros) for Africa Online unlimited Internet and email account.

ANNEX 3.   PROFILE OF INSTITUTIONS

3.1 List of institutions involved in agriculture and rural development

Name and Contacts	Type	Role
Name: Forest Action Network (FAN) Postal Address: P.O Box 380 Uhuru Gardens – 00517 Nairobi, Kenya Tel: +254 (20) 891035/891907 Fax: NA Email: fan@fanworld.or.ke Website: www.fankenya.org	REG	PP, IN, RD, RG
Name: Kenya Network for Dissemination of Agricultural Technologies (KENDAT) P.O. Box 2859-00200, City Square, Nairobi, Kenya. Tel/Fax: +254-20-6766939 Email: kendat@africaonline.co.ke or info@kendat.org Website: http://www.kendat.org/	REG	IN, TR, RG
Name: Kenya Association of Forest Users Postal Address: P. O. Box 44597 - 00100, Nairobi, Kenya Tel: 254-20-607048 Fax: NA Email: info@kafuworld.org Website: www.kafuworld.org	AS-F, REG	EX, IN, PP, TM
Name: ACDI-VOCA - Kenya Maize Development Programme Postal Address: P. O. Box 1308, 00606, Sarit Centre Nairobi, Kenya. Tel: 254 20 4443254 Fax: 254 20 4450785 Email: collins@acdivoca-kenya.or.ke Website:www.acdivoca.org	AS-F, REG	TM, EX, IN, PS-E
Name: Catholic Relief Services – Kenya Program Postal Address: PO Box 49675-00100, Nairobi Tel: + 254-20-3751246/ 4442086 Fax: +254-20-4440310 Email: info@crs.org Website: http://crs.org/kenya/	CHU	RU, IN, TR, EX
Name: Christian Community Services Postal Address: P.O. Box 40502 Nairobi Tel: +254 20 2718801, Fax: +254 20 2711782 Email: ackdev@africaonline.co.ke Website: http://www.ackenya.org/development.htm	CHU	RU, IN, TR, EX
Name: Community Management of Protected Areas Conservation Postal Address: P. O. Box 144-10400 Nanyuki, Kenya Tel: +254-762-31328/31297 Fax: +254-762-31323 Email: NA Website: NA	NGO	FS, RU, IN
Name: Empowering Civil Society for Participatory Forest Management in East Africa (EMPAFORM) Postal Address: P.O. Box 380-00517, Nairobi, Kenya Tel: +254-020-891035/891907 Fax: NA Email: aochino@fankenya.org Website: www.empaform.org/	NGO	IN, PP, EX

Name and Contacts	Type	Role
Name: Cereal Growers Association Postal Address: P.O. Box 818 Ngong Hills Ngong Kenya Tel: +254 20 2720466, Cell: +254 20 722 527601 Fax: +254 20 2720466 Email: cga@wananchi.com Website: NA	AS-F	IN, EX, TR, PS-E
Name: Africa Centre for Technology Studies Postal Address: P.O. Box 45917 Nairobi Tel:(254-20) 7224700/7224000, Fax: (254-20) 7224701/7224001 E-mail: acts@cgiar.org Website: www.acts.or.ke/	NGO	PP, RD, IN, EX
Name: African Union Inter Africa Bureau for Animal Resources Postal Address: PO Box 30786-00100 Nairobi, Kenya Tel: +254 - 20-250762 Fax: +254 -20-220546 Email: +254 20 Website: www.au-ibar.org/		
Name:CABI - Africa Postal Address: P.O. Box 633-00621, Nairobi, Kenya Tel: +254 20 72 24450 Fax: +254 20 71 22150 E-mail: africa@cabi.org Website: www.cabi.org	NGO, REG	IN, RD, TR
Name: Deutsche Gesellschaft für Technische Zusammenarbeit Postal Address: P.O. Box 41607 00100 Nairobi Tel: +254 20 4228 000 Fax: +254 20 4228 999 Email: gtz-kenia@gtz.de Website: http://www.gtz.de/en/index.htm	NGO, REG	IN, PP, RD
Name: Food and Agriculture Organization (FAO) - Kenya Postal Address: P.O Box 30470, Nairobi, Kenya Tel: +254 20 725069 Fax: +254 20 727584 Email: NA Website: NA	REG, NGO	EX, IN, PP, RD, TR, RU
Name: International Centre for Insect Physiology and Ecolgoy (ICIPE) Postal Address: P.O. Box 30772-00100 Nairobi Tel: +254 (20) 8632000 Fax: +254 (20) 8632001/8632002 E-mail: icipe@icipe.org Website: www.icipe.org/	REG, NGO	RD, IN
Name: International Committee for the Development of the People Postal Address: PO Box 1428 80200 Malindi Kenya Cell: +254 720 225001 Fax: +254 42 4230092 Email: NA Website: NA	NGO	RD
Name: International Livestock Research Institute (ILRI) Postal Address: P.O.Box 30709 Nairobi 00100, Kenya Tel: + 254-20 422 3000 + 1-650 833 6660 (USA direct) Fax: + 254-20 422 3001 + 1-650 833 6661 (USA direct) Email: ILRI-Kenya@cgiar.org Website: www.ilri.org	REG, NGO	RD, IN, EX, PP

Name and Contacts	Type	Role
Name: Institute of Policy Analysis and Research (IPAR) Postal Address: P.O. Box 45843-00100, GPO, Nairobi, Kenya. Tel: +254-20 251179 Fax: +254-20 251162 Email: info@ipar.or.ke Website: www.ipar.or.ke	NGO, REG	RD, IN, TR, EX
Name: World Agro forestry Center Postal Address: PO Box 30677-00100 GPO Nairobi Kenya Tel: +254 20 722 4000 or via USA +1 650 833 6645 Fax: +254 20 722 4001 or via USA +1 650 833 6646 Email: ICRAF@cgiar.org Website: www.worldagroforestrycentre.org/	REG	RD, IN, EX, PP, TR
Name: Kenya Agricultural Commodity Exchange Postal Address: Mpaka Road, Westlands, Nairobi Kenya Tel: +254 20 444 1829 / 30 Fax: +254 20 444 1831 Email: Website: www.kacekenya.co.ke	PRV	IN, TM
Name: The Kenya Indexing Project Postal Address: P. O. Box 14893 Westland's 00800 Nairobi, Kenya Tel: 254-20-445-1661 Fax: 254-2-4181472 Email: Info@IndexKenya.org Website: www.indexkenya.org	NGO	IN,
Name: Africa Harvest Biotech International (AHBIF) Postal Address: P.O Box 642 00621 Village Market Nairobi Tel: +254-20-7121652, 254-20-7124083 Fax: +254 NA -20-7124078 Email: NA Website: www.ahbfi.org/	NGO, PRV	IN, RD, PP
Name: The Organic Farmer Postal Address: P.O. Box 14352 00800 Nairobi Tel: + 254 (0)20 445 03 98 Fax: NA Email: info@organickenya.com Website: http://www.organicfarmermagazine.org/	MED	IN, RU
Name: TechnoServe Postal Address: P.O Box 14821 00800 Nairobi Tel: +254 20 3754333 Fax: +254 20 3751028 Email: info@technoserve.or.ke Website: www.technoserve.org	PRV, NGO	EX, IN, TM, FS, RU
Name: Arid Lands Information Network (ALIN) - Eastern Africa Postal Address: P.O. Box 10098, 00100 G.P.O. Nairobi, Kenya, Tel: +254 20 2731557 Fax: +254 20 2737813 Email: info@alin.or.ke Website: www.alin.or.ke	REG	IN, RU, EX, TR
Name: Community Research in Environment and Development Initiatives (CREADIS) Postal Address: P.O. *Box* 641, 50200 Bungoma, Kenya Tel: +254 55 30488 Fax: NA Email: creadis2006@yahoo.com Website: http://kenya-creadis.com/	NGO	PP, IN

Name and Contacts	Type	Role
Name: Education Centre for Women in Democracy (ECWD) Postal Address: PO Box 62714, 00200 Nairobi Tel: +254 20 570386/562304 Fax: +254 20 561316 Email: NA Website: www.ecwd.org	NGO	TR, IN, RD
Name: Practical Action - Eastern Africa Postal Address: P.O. Box 39493 - 00623 Nairobi Tel: +254 20 2713540 / 2715299 / 2719313 / 2719413 Fax: +254 20 20 2710083 Email: kenya@practicalaction.or.ke Website: www.practicalaction.org/	NGO	RD, RU, IN, EX
Name: KickStart - Kenya Postal Address: P.O. Box 64142 00620 Nairobi Tel: +254-20 3740175 Fax: +254-20 3740175 Email: kickstart@kickstart.org Website: www.kickstart.org/	NGO, PRV	RU, TM, RD
Name: Kenya Organic Agriculture Network (KOAN) Postal Address: P.O. Box 72461, Nairobi Tel: +254 20 576114, 576154 Fax: +254 20 562175 Email: koansecretariat@elci.org Website: www.koan.co.ke/	REG, AS-F	IN, RG, EX, TM, PP
Name: Baraka Agriculture College Postal Address: P. O. Box 52, Molo 20106, Kenya Tel: 051-721091 Fax: 051-721310 Email: NA Website: http://www.sustainableag.org/farmer-extension.html	PRV, NGO	TR, RD, IN, EX
Name: The National Museums of Kenya - Kenya Resource Centre for Indigenous Knowledge (KRCIK) Postal Address: P.O. Box 40658, Nairobi Tel: +254 20 742131 / 742161 Fax: +254 20 741424 Email: NA Website: NA	NGO	IN, RD
Name: Manor House Agricultural Center (MHAC) Postal Address: Private Bag Kitale 30200, KENYA Tel: 254 733 837 157 or 722 221 532 Fax: NA Email: mhac@africaonline.co.ke Website: http://www.mhacbiointensive.org/	PRV, NGO	EX TR
Name: Sustainable Agriculture Centre for Community Development Postal Address: P.O. Box 1134, Thika, Kenya Tel: +254 067-30541 Fax: NA Email: sacdepkenya@iconnect.co.ke Website: NA	NGO	TR, RD, EX
Name: Sustainable Agriculture Centre for Research, Extension and Development in Africa Postal Address: P. O. Box 2248, Bungoma Kenya Tel: +254 55 30788/9 Fax:+254-55-30818 Email: sacred@africaonline.co.ke Website: www.acts.or.ke/sacred	NGO	EX RD

Name and Contacts	Type	Role
Name: Farmer's Journal Postal Address: P.O. Box 44787, Nairobi, Tel:+254 20 217965 Fax: NA Email: NA Website: NA	MED	IN
Name: Nation Media Group Postal Address: .P. O. Box 49010-00100 Nairobi Tel: +254 20 3208800 Fax: +254 (0) 20 214531 Email: NA Website: www.nationmedia.com/	MED, PRV	IN
Name: Royal Media Services Postal Address: P.O. Box 2345667 00200 Nairobi Tel: +254 20 272 1415 / 6 Fax: NA Email: info@royalmedia.co.ke Website: http://www.royalmedia.co.ke	MED, PRV	IN
Name: Effective Micro-organisms Technologies Postal Address: P.O. Box 1365-60100 EMBU, *KENYA* Tel: +254 68 41074 Fax: +254 68 41074 Email: embu@emteckenya.com Website: www.emteckenya.com/	PRV	PS-P, PS-S
Name: Agricultural Information Resource Centre Postal Address: P. O Box 66730 00800 Nairobi Tel: +254 20 4446464 Fax: NA Email: agriinfocentre@gmail.com Website: http://www.kilimo.go.ke/	GOV	IN, EX
Name: Ministry of Regional Development Authorities Postal Address: P.O. Box 10280, 00100 Nairobi Tel: +254 20 272 4646 Fax: + 254 20 273 7693 Email: info@regional-dev.go.ke Website: www.regional-dev.go.ke/	GOV	PP, RD, RU, TR, IN, EX
Name: Egerton University Postal Address: P.O Box 536 20115 Egerton Kenya Tel: +254 51 221792 Fax: NA Email: info@egerton.ac.ke Website: www.egerton.ac.ke/	EDU	TR, RD, EX, IN
Name: Jomo Kenyatta University of Agriculture and Technology (JKUAT) Postal Address: P.O Box 6200 00200 Nairobi Tel: +254 67 52711 Fax: +254 67 52164 Email: NA Website: www.jkuat.ac.ke	EDU	TR, RD, EX, IN
Name: Kenya Agricultural Research Institute (KARI) Postal Address: P.O Box 57811 00200 Nairobi Tel: +254 20 583301-20 Fax: +254-020-4183344 Email: Resource.center@kari.org Website: www.kari.org	GOV	RD, EX, IN, TR, RU

Name and Contacts	Type	Role
Name: Kenya Forestry Research Institute Postal Address: P. O. Box 20412, 00200 Nairobi Tel: +254-20-2010651/2 Fax: NA Email: director@kefri.org Website: www.kefri.org	GOV	RD, EX, IN, TR, RU
Name: Kenya Forest Service Postal Address: P.o. Box 00100-30513,Nairobi Tel: +254 20 20707 Fax: Email: mail.forestry.go.ke Website: www.kfs.go.ke	GOV	PP, EX, IN, RU
Name: Kenya National Library Services Postal Address: P.O. Box 30573-00100 Nairobi Tel: 254-20-2725550/1, 2718177, 2718012/3 Fax: 254-20-2721749 Email: knls@nbnet.co.ke Website: www.knls.or.ke	GOV	IN, TR
Name: Ministry of Agriculture Postal Address: P.O. Box 123456-00100, Nairobi Tel: +254 20 2718870 Fax: NA Email: NA Website: http://www.kilimo.go.ke/	GOV	PP, RD, RU, TR, IN, EX
Name: Ministry of Environment and Natural resources Postal Address: PO Box 30126 - 00200 Nairobi Tel: +254 20 2730808 Fax: +254 20 2725707 Email: www.environment.go.ke Website: http://www.environment.go.ke/	GOV	PP, RD, RU, TR, IN, EX
Name: Ministry of Information and communications Postal Address: P.O BOX 10756-00100, Nairobi Tel: +254 20 251152 Fax: NA Email: NA Website: www.information.go.ke	GOV	PP, RD, RU, TR, IN
Name: Ministry of Livestock Postal Address: P.O. Box 34188 – 00100 Nairobi, Kenya Tel: +254 20 2718870 Fax: +254 20 316731 Email: NA Website: www.livestock.go.ke	GOV	PP, RD, RU, TR, IN, EX
Name: Ministry of Planning and National development Postal Address: P.O. BOX 30005 Nairobi Tel: +254-020-2252299 Fax: +254-020-218475 Email: NA Website: www.planning.go.ke	GOV	PP, RD, RU, TR, IN
Name: Ministry of Science and Technology Postal Address: P.O. *Box* 30040-00100, Nairobi Tel: +254(20) 228 753 Fax: +254(20) 222 218 Email: info@scienceandtechnology.go.ke. Website: www.scienceandtechnology.go.ke	GOV	PP, RD, RU, TR, IN

Name and Contacts	Type	Role
Name: Moi University Postal Address: P.O. Box 3900 30100 Eldoret, Kenya Tel: 254-(0)53-43620 Fax: +254-(0)53-43047 Email: cmu@mu.ac.ke Website: http://www.mu.ac.ke/	EDU	TR, RD, EX, IN
Name: National Agriculture and Livestock Extension Programme Postal Address: P. O. Box 30028 00100, Nairobi Tel: +254 20 2714867 Fax: NA Email: NA Website: www.livestock.go.ke	GOV	EX, IN, TR
Name: National Environmental Management Authority Postal Address: P.O.BOX 67839-00200 NAIROBI Tel: 254)-020-605522/6/7 Fax: (254)-020-608997 Email: info@nema.go.ke Website: www.nema.go.ke	GOV	RG, PP, IN, RD
Name: Tea Research Foundation of Kenya Postal Address: P.O BOX 820 20200 Kericho Tel: 254-052-20598/9 Fax: 254-052-20575. Email: ib-trfk@kenyaweb.com Website: www.tearesearch.or.ke	GOV	RD, IN, EX
Name: Tegemeo institute of agricultural policy and development Postal Address P.O. Box 20498 00200, Nairobi Tel: +254-20-2717818 Fax: +254-20-2717819 Email: egerton@tegemeo.org Website: www.tegemeo.org	EDU	RD, PP, EX, IN
Name: University of Nairobi Postal Address: P.O. Box 30197 00100, Nairobi Tel: +254-20 318262 Fax: +254-20 245566 Email: NA Website: www.unonbi.ac.ke	EDU	TR, RD, EX, IN
Name: Coffee Research Foundation Postal Address: P.O. Box 4 Ruiru Tel: (+254 151) 21047 / 21492 / 54027/48 / 54132 Fax: (+254 151) 22657 / 54133 Email: crf@kenyaweb.com Website:	MED	RD, IN, EX
Name: Communications Commission of Kenya Postal Address: P.O. Box 14448, 00800 Westlands NAIROBI, Kenya Tel: 254-20-4242000 / 254- 20-4349111, Fax: 254-20-4451866/43482046 Email: NA Website: www.cck.go.ke/	GOV	RG
Name: Sagana Fish Research Station Postal Address: P.O. Box 26 Sagana, Kenya Tel: +254 60 46041 Fax: NA Email: saganafish@africaonline.co.ke Website: NA	GOV	RD, EX, IN, TR

Name and Contacts	Type	Role
Name: Fresh Produce Exporters Association of Kenya (FPEAK) Postal Address: P.O. Box 40312 - 00100, Nairobi, Kenya Tel: +254 4451488/4450442 Fax**:** +254 20 445189 Email: info@fpeak.org website: www.fpeak.org		

Note: NA = Not available

The following abbreviations are used in the above table:

Type of institution:

AS-F   Farmers' association (includes co-ops)
AS-W Women's association
AS-Y Youth association
BNK   Bank or credit institution
CCI   Chamber of commerce and industry
CHU   Church-based group
EDU   Educational institution
GOV   Government department / ministry
MED   Media
NGO   Non-government organisation
PRV   Private Enterprise, company
REG   Regional organisation or network
STA   Statutory body
TE   State enterprise
OT   Other (define)

Role of institution:

EX   Extension and outreach
IN   Information services
FS   Financial services
PP   Policy and planning
PS-E Exporter (fresh, frozen and dried produce)
PS-M Manufacturer (e.g. tannery, bottler, refiner, roaster)
PS-P Producer (e.g. commercial farm, fishing company)
PS-S Supplier (e.g. chemicals, seeds)
RD   Research and development
RG   Regulation (compliance, standards)
RU   Rural Development
TR   Training (tertiary and vocational level)
TM   Trade and marketing (include development)
OT   Other (define)

3.2 List of institutions interviewed

Name of institution:

Agricultural Information Resource Centre (AIRC)
Managed by the Ministry of Agriculture

Postal address: Box 66730 - 00800
Physical address: KARI – National Agricultural Research Laboratories (NARL)
                         Waiyaki Way, Westlands
Tel: +254 20 4446464
Tel/Fax: +254 20 445080
E-mail: agriinfocentre@gmail.com
Web site: www.kilimo.go.ke

Type: GOV, TE
Role: EX, IN,TR

Objective / mission statement:

MoA Mission
The mission of the Ministry is: "To promote sustainable and competitive agriculture through creation of enabling environment and provision of support services, to enhance food security, incomes and employment."

AIRC Mission
To provide quality agricultural information to the farming community and extension skills to extension providers in order to enhance agricultural productivity and development in Kenya and beyond.

AIRC Objectives
The main objectives are to:
- Enhance Kenya's farmer's ability to increase agricultural output through more effective information and training.
- Improve extension and management skills of extension workers in ministry departments and other organizations through training and provision of training materials.
- Improve the overall quality of agricultural information and training through close collaboration with other development agencies.
- Generate financial resources to support its operations and programmes and to become financially sustainable.

Field of specialisation:
- Collecting ,repackaging and disseminating agricultural information
- Formulating and implementing client oriented courses

Number of staff professional, clerical, technical, etc; permanent / temporary):

Management / Administration	18
Training	7
Mass media	1
Printing	2
Video	3
Radio	3
Monitoring and evaluation	1
Marketing	1
KADOC	5
Library services	7
Total	**48**

All these are permanent government employees.

Of the 48 members of staff 30 are directly involved in ICM most of them with qualifications either in agriculture and related disciplines or Information studies.

Branches, other sites:

Ministry Headquarters (Kilomo House) - Kilimo Library– offers library services for agricultural information.

At every District Agricultural Office there is an Agricultural Information Officer who answers user's questions and provides basic information and referral services

Annual budget: (in local currency with Euro equivalent)

Kshs. 19,172,420 (202,668 Euros)

Source of funding, incl. main donors / sponsors:

- Recurrent fund
- Revolving fund

Programme / projects undertaken:

Documentation Services
- Acquisition and storage of unpublished agricultural documents and publications. These include various reports, conference proceedings, thesis, journals /articles, statistical and development materials as well as other scientific and technical information on Kenyan agriculture.
- Indexing and abstracting acquired documents using WEB AGRIS.
- Production of '*Agricultural Information and Technology Guide*' –a directory for agricultural information sources in Kenya.

Library Services
- A collection of monographs(30,000 volumes currently), periodicals (12000 volumes currently), and unpublished (grey) literature on Kenyan Agriculture (10,000 documents currently)
- The Library is also a depository of FAO and Centres of consultative group on international agriculture research (CGIAR) documents
- Offers reference services to researchers, students and extension staff, however borrowing of books is restricted to ministry staff.

Media Services
- *Radio Section* – produces purpose built radio programs that address the immediate needs of target clients. These aim at complementing the activities of extension service by the MoA.
- *Video Section* (previously a filming section) - It produces videos and documentaries that have been screened locally and in promotional trade fairs around the world.
- *Publication* – Undertakes prepress activities, printing and publication of handbooks, brochures, newsletters, posters, reports, product catalogue etc
  For a listing of AIRC video and radio productions, training series and publication titles go to: www.kilimo.go.ke

Training Services

- Address the problem of inadequate extension and management / communication skills of extension providers. It offers short courses in these areas.

Monitoring and evaluation
- Monitoring ensures that targets and outputs are achieved within the time allocated while evaluation determines the sustainability and impact of the centres products and services.

Marketing
- Seeks to expand the market of AIRC products and services, carries out market research and promotion of client and partners relations.

Target audience (plus number, actual or estimated):
- Farmers
- Extension providers
- Policy makers and planners
- Government ministries and state corporations
- Research and training institutions
- International organizations and NGOs

Extent of interaction with CTA – *Spore Magazine,* SDI, QAS, DORA, seminars, consultants, publications, training, :
The institution previously received the *Spore, CTA publications (DORA)* and *Radio Resource Pack*. For about two years now these materials have not been received despite sending various enquires to CTA.

Appreciation of CTA's products and services:
CTA resources are relevant to Kenyan agriculture in terms of appropriate technology and use of available resources.

Extent of collaboration / interaction with other institutions (name, nature):

AIRC works closely with government departments, other governments, International Organizations and Non Governmental Organizations in the provision of agricultural information to extension workers, farmers and other users. Some of its partners are:

KARI – Research technology, information repackaging and dissemination
Kenya Tea Research Foundation (KTRF) - Research technology, information repackaging and dissemination.
RAIN ASARECA – Capacity building and backstopping
FAO - Capacity building and backstopping
SIDA, GTZ, ODA - Programme funding

National / sectoral policies impacting ICT use / information and communication within the institution:
National ICT policy will increase demand for centre's products and services but also open up competition with private players.

How information needs are currently met, and from where or by whom:

AIRC obtains its information resources from the MoA, national research institution Such as KARI, KEFRI etc, Regional networks such as ASARECA/RAIN, UN agencies such as FAO, and international research institutions such as CGIAR.

AIRC information products and services are available at a fee and this ensures sustainability of its various programmes.

	AIRC

Main information needs not satisfied (including types and format of information):

- Lack of content in some emerging subjects such as Mushrooms and Aloe Vera.
- Lack of a formal mechanism for collecting grey literature from researchers
- Up-to-date statistical data is often unavailable e.g. Maize productions per district

Successes/main problems faced in terms of information and communication management:

Successes
- LAN installation
- Internet connection
- Compilation of a products catalogue and farm input suppliers directory
- Well equipped media section
- Qualified personnel
- Strong partnerships

Main problems
- Lack of information policy and communication strategies that narrows down to AIRC. The institution awaits the completion of an information policy by the ministry now at draft zero from where they can derive their own.
- Lack of direct control of the centres section on the ministry's website makes it difficult to keep it up-to-date
- Lack of essential skills e.g. Web design, database development
- Unreliable LAN configuration
- Unreliable Internet connectivity
- Inadequate computers (requires about 10 computers to launch an Internet service within the centre).

Successes/main problems faced in terms of knowledge management (e.g. availability list of organisations / clients using your products, databases, etc.):
Successes
The institution maintains a directory of input suppliers

Why institution selected
AIRC has:

- National mandate for agriculture development
- National reach with offices down to divisional level
- Direct links with farmers through extension programmes (National Agriculture and Livestock Extension Programme – NALEP)
- Influence on policy formulation and implementation
- Capacity to reach, influence and mobilize farmers

Other observations:
NA

Name of institution:

Ministry of Livestock Development (MLD)

Postal address:	Box 34188 – 00100 Nairobi, Kenya
Physical address:	Kilimo House – Cathedral Road
Tel:	+254 20 2718870
Fax:	+254 20 316731
E-mail:	NA
Web site:	www.livestock.go.ke

Type: GOV
Role: EX, IN,PP,RD,RG,RU,TR,TM

Objective / mission statement:

Mission
To create a favourable policy and framework for sustainable development of the livestock industry and to provide support services that increase productivity, value addition and market access for the sub sector products.

Mandate:
To disseminate appropriate animal production, range management and livestock marketing technologies and information to farmers and pastoralists through extension services in collaboration with research institutions and other stakeholders.

Core Functions
- Formulation, implementation and monitoring of livestock production policies.
- Production and coordination of livestock production programmes.
- Facilitation of livestock marketing and value addition of livestock products and by-products.
- Facilitate regulatory management and quality control of livestock inputs, produce and products.
- Provision and facilitation of livestock extension services
- Setting livestock research agenda, liaison and coordination.
- Enhance and promote production of emerging livestock such as crocodiles and ostriches.
- Promote management of livestock information and setting the agenda for monitoring and management of food security.
- Promote management and conservation of the natural resource base.
- Mainstreaming gender and HIV/AIDS concerns into livestock production programmes

Field of specialisation:

- Animal Production
- Rage Management
- Livestock Marketing Services
- Apiculture and Emerging Livestock
- Livestock Extension Services
- Training and Development
- Project Monitoring and Evaluation.
- Veterinary services
- Value Addition and Agribusiness.

Number of staff professional, clerical, technical, etc; permanent / temporary):

The ministry has a total of 2374 staff members

ICT department
Degree holder   1
Diploma holders   3
Certificate holder   1
Total   5

All these are permanent employees.

Branches, other sites:

- Department of Livestock Production (Hill Plaza)
- Department of Veterinary Services - Kabete

Annual budget: (in local currency with Euro equivalent)

Approximately Kshs. 1.8 M (18,947 Euros) allocated to ICT department

Source of funding, incl. main donors / sponsors:

Government

Programme / projects undertaken:

In order to fulfil its mandate, the Ministry has been implementing a number of development projects/programmes through its various departments.

- The ASAL based Livestock and Rural Livelihoods Support Project
- The National Agriculture and Livestock Extension Programme (NALEP)
- Central Kenya Dry Areas Programme (CKDAP)
- Implementation of Fisheries Management Plan (IFMP)
- Smallholder Dairy Commercialization Programme
- Pan-African Tsetse and Trypanosomosis Eradication Campaign Programme (PATTEC)
- Pan-African Control of Epizootics (PACE)
- The Kenya Agricultural Productivity Project (KAPP)
- South Nyanza Community Development Project

For more details visit: www.livestock.go.ke

Target audience (plus number, actual or estimated):

Farmers, pastoralists and ranchers. Processors, industrialists, CBOs, NGOs, Other government organizations including ADC, AFC, KDB, KMC, religious organizations, research institutions, learning institutions, traders in livestock and livestock products, equipment manufacturers, feed millers, stockists , hatchers, livestock breeders, micro finance and credit institutions.

Extent of interaction with CTA – *Spore Magazine,* SDI, QAS, DORA, seminars, consultants, publications, training:

Institution not previously aware of CTA or its products and services

Appreciation of CTA's products and services:

The institution's extension and ICT staff could benefit from CTA's
- Publications
- Web resources and portals
- Technical advice in the formulation of information policies
- Capacity building in terms of trainings and provision of equipment

Extent of collaboration / interaction with other institutions (name, nature):

- Min of Agriculture – Joint extension services
- KARI – Setting the research agenda
- ILRI – Research and information exchange

National / sectoral policies impacting ICT use / information and communication within the institution:
NA

How information needs are currently met, and from where or by whom:

The ministry currently obtains information needed to service its programmes from universities (JKUAT, Egerton and Nairobi university faculty of Agriculture), National research institutions(KARI), International research institutions(ILRI), Meetings with beneficiaries (e.g PATTEC on TseTse Fly). Other sources are publications, Electronic media (Internet), exhibitions and trade fairs.

Main information needs not satisfied (including types and format of information):

The ministries would benefit from the following categories of information as rated

Technical information
- Grading systems (livestock) **1**
- Equipment sourcing/availability **3**
- Transportation (sea, land, air) **2**
- Integrated pest management (livestock) **4**

Economic information
- Credit and micro-credit **3**
- Market data **1**
- Identification of markets **2**

Training Needs
- Application of communication technologies in extension services. Specify use of SMS and setting up Tele-centres **1**
- Management of information within the organisation **2**

Broad rural development information
- Farm problems **4**
- Non-farm livelihoods **5**
- Social development issues **6**
- Gender issues **7**
- Government and International regulations **1**
- Conferences and meetings **8**
- Trade fairs **2**
- Development and funding programmes **3**

The ministries extension staff would benefit from relevant information in the following format
- Journal articles, Briefings/ summaries, Statistical data, Standards, Patents
- Material suitable for mass distribution
- Material in appropriate languages
- Visual or pictorial information
- Cartographic information (e.g. maps)

Successes/main problems faced in terms of information and communication management:

Successes

- Development of the website
- Set up of an ICT department
- LAN installation at the ministries HQ at Kilimo and at the production department at Hill plaza
- Internet connection at the ministries HQ at Kilimo and at the production department at Hill plaza
- Development of a livestock statistics database (on going)
- Training of officers on basic computer skills completed

Main problems

- Lack of an ICM department
- Lack of ICM facilities such as documentation centres, libraries
- Lack of specialised ICM skills and limited ICT skills
- Lack of information communication policies to specifically address the needs of the ministry

Successes/main problems faced in terms of knowledge management (e.g. availability list of organisations / clients using your products, databases, etc.):

NA

Why institution selected – MLD has:

- National mandate for Livestock
- National reach with offices down to district levels
- Direct links with livestock farmers through extension programmes. (National Agriculture and Livestock Extension Programme – NALEP)
- Capacity to influences policy formulation and implementation
- Capacity to reach, influence and mobilize farmers

Other observations:
NA

Name of institution: **Ministry Of Youth And Sports (MOYS)** Postal address: Box 34303-00100 Nairobi, Kenya Physical address: 3rd Floor Kencom House - Nairobi Tel: +254 20 240068/245268 Fax: +254 20 312351 E-mail: youthaffairs@vice-president.go.ke Web site: www.youthaffairs.go.ke Type of Institution: GOV Role: EX, IN,PP,RD

Objective / mission statement: Mission To maximize the full potential of the youth through participatory engagements that serves their needs and aspirations in building a better Kenya.

Field of specialisation:
 	
   ▪   Youth and Employment
   ▪   Youth Empowerment and Participation
   ▪   Youth and Health
   ▪   Youth Crime and Drugs
   ▪   Youth and Environment
   ▪   Youth Education and Training
   ▪   Youth Leisure and Recreation
   ▪   Youth and ICT and
   ▪   Youth and Sports

Number of staff professional, clerical, technical, etc; permanent / temporary): 5 officers in the ICT department

Branches, other sites:
 	
   ▪   Department of Youth Development - Uchumi House, Agkan Walk, 16th floor
   ▪   Department of Youth Training
   ▪   Department of Sports
   ▪   National Youth Service – Utalii, Thika Road

Annual budget: (in local currency with Euro equivalent): NA

Source of funding, incl. main donors / sponsors:

Government

Programme / projects undertaken:

- Establishment of YECs in 210 constituencies
- Implementation of Youth and ICT plan of action

Target audience (plus number, actual or estimated):

Youth between ages 15-30 years contacted through the regional officers of the ministry. The youth usually organizes themselves into youth groups that are registered and recognized as legal entities.

Extent of interaction with CTA – *Spore Magazine,* SDI, QAS, DORA, seminars, consultants, publications, training, ….:

Previously the institution was not aware of CTA or its products and services

Appreciation of CTA's products and services:

- Youth Empowerment Centres (YECs) could be a suitable point of access for CTA's products and services.
- CTA could partner with MOYS in the implementation of Youth and ICT Plan of Action.

Extent of collaboration / interaction with other institutions (name, nature):

The ministry partners with UN-Agencies (UNICEF, UNCHR, UNFPA, UNDP) and Microsoft East Africa in implementing joint projects involving the youth such as environmental conservation, peace building and conflict resolution, construction of Youth Empowerment Centres (YECs), supply of computers to YECs etc.

National / sectoral policies impacting ICT use / information and communication within the institution:
NA

How information needs are currently met, and from where or by whom:

To service its programmes MOYS obtains information from relevant government ministries and departments (Ministry of Information and Communications, directorate of E-Government, Government Information Technology Service (GITS), Ministry of Planning and National Development, Ministry of Science and Technology, Ministry of Education, Central Bureau of Statistics etc), UN agencies, public universities etc.

Main information needs not satisfied (including types and format of information):

Ministry could benefit from all categories of information available with CTA since some of the youth groups are agricultural based.

The ministry would also appreciate information in the following format:
- Journal articles
- Briefings/ summaries
- Abstracts
- Statistical data
- Standards
- Patents
- Material suitable for mass distribution
- Material in appropriate languages

Successes/main problems faced in terms of information and communication management:

Successes
- Launch of Youth and ICT Plan of Action
- Development of a database on youth groups and activities
- Launch of youth magazine
- Development of the website
- Development of Youth Empowerment Centres (YECs) concept paper

Main Problems
- Lack of ICM resources e.g. Libraries
- Lack of ICM skills (no professionals in information and communication management)
- Inadequate ICT personnel (currently the ministry has only five officers)
- Low level of ICT in the country poses a problem for the launch of YECs planned at constituency level
- Lack of adequate funds to implement Youth and ICT Plan of Action and setup YECs in 210 constituencies.

Successes/ main problems faced in terms of knowledge management (e.g. availability list of organisations / clients using your products, databases, etc.):
NA

Why institution selected – MOYS has:

- Mandate for youth employment; empowerment and participation
- Responsibility for a newly formed revolving fund to support youth enterprises
- National importance, although new ministry since youth make up a large proportion of Kenya working (agriculture) population
- Interest to champion involvement of youth the ICT development in Kenya

Other observations:

Name of institution:

TechnoServe Inc (TNS)

Postal Address: Box 14821   00800   Nairobi, Kenya
Physical address: Parklands Rd, Sclaters Building 2nd Floor
Tel:
Fax: +254 20 3751028
Email: info@technoserve.or.ke
Website: www.technoserve.org

Type of Institution: NGO
Role: RU,TR,TM

Objective / mission statement:

Mission
TechnoServe helps entrepreneurial men and women in poor rural areas of the developing world to build businesses that create income, opportunity and economic growth for their families, their communities and their countries.

Practices
- Developing Entrepreneurs
- Building Businesses and Industries
- Improving the Business Environment

Sectors
- Agriculture & Agribusiness (cashew, coffee, dairy, horticulture)
- Alternative Energy
- Tourism
- Other Sectors

Field of specialisation:

- Agribusiness
- Investment & Banking
- Entreprenuership
- Monitoring & Evaluation
- Value Chain Management
- Micro finance

Number of staff professional, clerical, technical, etc; permanent / temporary):

Permanent staff	30
Clerical	3
Part-time	5
Volunteers	5
Total	**43**

Technserve Kenya has no ICM/ICT professionals. None of the 43 staff members is specifically assigned ICM/ICT roles.

Branches, other sites:

Annual budget: (in local currency with Euro equivalent):

NA

Source of funding, incl. main donors / sponsors:

Donor and private equity

Programme / projects undertaken:

Developing Entrepreneurs

Business Plan Competitions
TechnoServe is helping aspiring entrepreneurs to turn business ideas into viable business plans through national business plan competitions.

Entrepreneurship Training
TechnoServe's Young Women in Enterprise (YWE) program is helping several hundred young women to learn entrepreneurship and other important skills such as personal finance.

Building Businesses and Industries

Cashew
TechnoServe is helping revitalize Kenya's cashew-nut industry, working with entrepreneurs to establish processing plants in struggling rural areas. One plant has already opened, and four more are planned.

Coffee

TechnoServe is working with smallholder coffee farmers to improve their cultivation, milling and marketing practices in order to increase the quality and quantity of their coffee and command higher prices.

Dairy

More than 800,000 households rely on Kenya's dairy industry as a source of income, but poorly organized markets keep farmer incomes low. To address this, TechnoServe has been driving the development of sustainable, rural-based milk cooling plants based on a business hub model.

Horticulture

TechnoServe is helping thousands of banana farmers to increase the quality and quantity of their produce and organizing them into business groups that can benefit from economies of scale. We are also helping processors and wholesalers to improve their bottom line, leading to better prices and stable incomes for thousands of suppliers. We also run events to increase the competitiveness of the overall industry.

Improving the Business Environment

Capital Access

TechnoServe is working with several leading financial institutions to help them to better understand the creditworthiness of small- to medium-sized clients.

Target audience (plus number, actual or estimated):

Entrepreneurial men and women in poor rural areas In Kenya.

Extent of interaction with CTA – *Spore Magazine,* SDI, QAS, DORA, seminars, consultants, publications, training, ….:

Institutions not previously aware of CTA or its products and services

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Appreciation of CTA's products and services:

- CTA's information resources (publications and web resources) would help Technoserve service its programmes.
- CTA's information resources (publications and web resources) would also help Technoserve clients who are mainly farmers improve production.
- Tecnnoserve and its clients would also benefit from CTA's capacity building activities.

Extent of collaboration / interaction with other institutions (name, nature):

TNS current partnerships include:

- ICRISAT & CRS - Legumes project
- Africa Harvest - Banana project
- SIFE - Young Women in Enterprise project
- Michigan University, ILRI, Heifer , ABS and ICRAF- Dairy project

Key supporters of Tecnoserve Programmes are:

- Business Plan Competitions - Lenovo, Kenya Pipeline Company and Kenya Commercial Bank Ltd.
- Entrepreneurship Training - Nike Foundation
- Agriculture & Agribusiness › Cashew - International Fund for Agricultural Development (IFAD) and the East African Development Bank (EADB)
- Agriculture & Agribusiness › Dairy - U.K. Department for International Development, the Evangelical Lutheran Church in America, The Patrick and Anna M.Cudahy Fund, the Patton Foundation and Heifer International
- Agriculture & Agribusiness › Horticulture - Rockefeller Foundation, The Kirkhouse Trust, Norfund and the East African Development Bank

National / sectoral policies impacting ICT use / information and communication within the institution:
NA

How information needs are currently met, and from where or by whom:

Technoserve currently obtains information it requires to service its programmes from the Internet, Other NGOs and private institutions, journals, the government, consultants etc.

Main information needs not satisfied (including types and format of information):

TNS would appreciate information on:

Broad rural development information
- Farm problems **3**
- Non-farm livelihoods
- Social development issues **4**
- Gender issues **3**
- Government and International regulations
- Conferences and meetings
- Trade fairs
- Development and funding programmes **1**
- Available agricultural /development networks (regional and international) **2**

Technical information
- Grading systems **2**
- Post-harvest technology **2**
- Crop varieties **3**
- Packaging **3**
- Equipment sourcing/availability **4**
- Transportation (sea, land, air) **7**
- Waste utilization **4**
- Patents **5**
- Industrial profiles **6**
- Integrated pest management **8**
- Other. Specify ---- Certifications e.g. EUROGAP **1**

Economic information
- Credit and micro-credit **2**
- Market data **1**
- Identification of markets **1**
- Commodity profiles **1**
- Crop insurance systems **3**
- Other. Specify ----- Daily Insurance **3**

Training Needs
- Application of communication technologies in extension services.
  Specify.---- SMS APIs **2**
- Management of information within the organization **1**
- Editing of reports **4**
- Participative methodologies **3**

Successes/main problems faced in terms of information and communication management:

Successes

- ICT in dairy management (tasks at the daily plants have been automated),
- ICT in lucrative legumes project (An Ms access database has been developed to manage the projects data but further training is required to ensure that the system is effectively utilized),

GIS mapping (has been done for daily and horticulture projects)

 Main Problem

- Lack of ICT/ICM unit (ICT tasks are mainly outsourced while ICM tasks are incorporated in the administration department)

Successes/main problems faced in terms of knowledge management (e.g. availability list of organisations / clients using your products, databases, etc.):
NA

Why institution selected – TNS is:

- Targeting communities in rural poor areas to build businesses that create income, opportunity and economic growth
- Working directly with local communities on project focusing on many areas of agriculture and livestock development including dairy production, coffee, banana, fruits and nuts, legumes, etc
- Collaborating with different partners including research institution developing agricultural technologies

Other observations:

Name of institution:

Kenya Organic Agriculture Network (KOAN)

Postal address: Box 72461-00200 Nairobi, Kenya
Physical address: ICIPE Complex, Kasarani
Tel: +254 20 8566172/3/4
 Fax: +254 20 856175
E-mail: koansecretariat@elci.org
Web site: www.koan.co.ke

Type: NGO
Role: EX,IN,PP,RU,TR,TM

Objective / mission statement:
To coordinate, facilitate and provide leadership and professional services to all
members and other stakeholders in the organic agriculture industry in Kenya

Field of specialisation:

- Facilitate provision of technical advisory services in the areas of production,
  training, certification and marketing.
- Coordinate organic certification and inspection services acceptable at both the
  national and international levels
- Coordinate, harmonize and facilitate unified training programmes in organic
  agriculture in Kenya.
- Create public awareness on the benefits of organic agriculture. Validate,
  document and disseminate key research findings in organic agriculture.
- Facilitate access to organic markets and co-ordinate the establishment of viable
  businesses within the organic industry.
- Lobby and participate in the formulation and implementation of pro Organic
  Agriculture policies.

Number of staff professional, clerical, technical, etc; permanent / temporary):

Technical staff   7 (Full time)
Consultants   2 (Part time)
Total   9

Annual budget: (in local currency with Euro equivalent):

Kshs 1,153,930 (1, 2192 Euros) for Telephone, Internet, Newsletter, website
maintenance, ICT support

	KOAN

Source of funding, incl. main donors / sponsors:
- Donor funds, Membership fees, Consultancies fees

Programme / projects undertaken:
NA

Target audience (plus number, actual or estimated):

KOAN works with its members
- NGOs
- CBOs (Community Based Organizations), FBOs (Faith Based Organizations), Self Help Group (SHGs), Farmers Groups (FGs))
- Governments Departments/Organs (KARI, Tea research Foundation)
- Private companies
- Universities and other interested
- Organic producers and producer groups

Extent of interaction with CTA – *Spore* Magazine, SDI, QAS, DORA, seminars, consultants, publications, training, :
Institution not previously aware of CTA or its products and services

Appreciation of CTA's products and services:
Institution could benefit from relevant CTA's information products (the *Spore*, CTA publications, web resources and portals) and capacity building activities.

Extent of collaboration / interaction with other institutions (name, nature)
KOAN current partners include:
- International centre for insect physiology and Ecology (ICIPE) - Joint projects
- International Federation Of Organic Agriculture Movements (IFOAM) Information dissemination
- KARI - Joint project
- JKUAT - Joint Projects and Information dissemination
- Kenya Institute of Organic Farming (KIOF) - Joint projects, Membership
- National Organic Agriculture movement of Uganda -Joint projects, Information dissemination
- Tanzania Organic Agriculture movement - Joint projects, Information dissemination
- Participatory Ecological Land Use Management-Kenya (PELUM) - Joint projects
- Sustainable Agriculture Community Development Programme - Joint projects, Membership
- Sustainable agriculture Community empowerment Programme - Joint projects, Membership

National / sectoral policies impacting ICT use / information and communication within the institution:
Zero rating of computer hardware will reduce cost of hardware. National ICT policy and the Freedom of Information policy will increase access to information.

	KOAN

How information needs are currently met, and from where or by whom:

KOAN information sources include:
- Universities (JKUAT, UoN , MACGUIU University Canada)
- Ministry of Agriculture
- KARI
- ICIPE
- Green Banks
- Organic Input suppliers
- International Trade Centre ,
- International Federation of Organic Agriculture Movements (IFOAM)
- CBI

Other sources includes (publications, the Internet and fairs and exhibitions, etc.)

Main information needs not satisfied (including types and format of information):

KOAN would appreciate information on:

Broad rural development information
- Farm problems **3**
- Social development issues **1**
- Gender issues **6**
- Government and International regulations **4**
- Trade fairs **7**
- Development and funding programmes **2**
- Available agricultural /development networks (regional and international) **5**

Technical information
- Grading systems **9**
- Post-harvest technology **3**
- Crop varieties **7**
- Packaging **6**
- Equipment sourcing/availability **8**
- Transportation (sea, land, air) **5**
- Patents **4**
- Integrated pest management **2**
- Other. Specify ----- Organic Certification **1**

Economic information
- Credit and micro-credit **4**
- Market data **1**
- Identification of markets **2**
- Commodity profiles **3**

	KOAN

Training Needs
- Application of communication technologies in extension services. Specify.----
  SMS APIs 1
- Management of information within the organisation **2**
- Editing of reports **4**
- Participative methodologies **3**

KOAN would also appreciate information in the following format
- Journal articles
- Abstracts
- Statistical data
- Material in appropriate languages

Successes/main problems faced in terms of information and communication management:

Successes

- Website Development
- Launch of the Newsletter (Kilimo Ohai)
- Conducting access to market trainings (3 per year)
- On-farm trainings to smallholder farmer groups (3 per year)
- Participation in the international trade fairs - Biofach, Germany.
- Participation in local agriculture fairs - NITF, MITF
- Compilation of a market catalogue
- Development of technical training manuals

Main problem

Lack of ICM/ICT department and professionals (however there are plans to establish a resource centre)

Successes/main problems faced in terms of knowledge management (e.g. availability list of organisations / clients using your products, databases, etc.):
NA

Why institution selected – KOAN is:

- Targeting local farming communities in Kenya (Quarterly magazine)
- Dealing in a new emerging agricultural areas i.e. organic farming
- Integrating different levels of members (farmers groups and CBO)
- Involved in farmers training
- Grassroots orientated

Other observations:
NA

Name of institution:	

Kenya Agricultural Commodity Exchange (KACE)

Postal address	Box 59142 00200 Nairobi, Kenya
Physical address:	Brick court Building Second Upper Floor, Mpaka Road/WoodValle Groove Westlands
Tel:	+254 20 4441829/30
Fax:	+254 20 4448486
E-mail:	kace@kacekenya.com
Web site:	www.kacekenya.com

Type of Institution: NGO
Role: EX,IN,TM,RU(to a small extent),RD(to a small extent)

Objective / mission statement:

To establish a Commodity Exchange in Kenya of the highest integrity, available to Kenyan as well as regional and international traders based upon an open free market system for the mutual benefit of sellers and buyers, and to facilitate the marketing of any commodity provided or desired by any consenting parties through the auspices of the exchange.

Field of specialisation:

- Acquisition/collection, analysis, consolidation of data and information for dissemination
- Provision of timely and relevant market information which includes prices to farmers and market intermediaries (traders, brokers, processors and consumers)
- Harness and apply the power of information and communication technologies as a strategic tool for rural empowerment.

Number of staff professional, clerical, technical, etc; permanent / temporary):

Professional	2
Technical	3
Total	**5**

	KACE

Branches, other sites:
- Bungoma Market Resource Centre (MRC)
- Eldoret MRC
- CHWELE MRC
- Machakos MRC
- KITALE Market Information Point (MIP)

Annual budget: (in local currency with Euro equivalent):

20% of KACE budget is allocated to ICM

Source of funding, incl. main donors / sponsors:
Various sources including:
- RF: USD 399, 330 (June 2007 – May 2008)
- USAID/KMDP USD 30,303 (Jan – Dec 2008)
- CTA USD 27,751(Jan 2008 – June 2008)
- KACE USD 50, 000 (Jan – Dec 2008)

Programme / projects undertaken:

- CTA -KACE project: Harnessing FM radio as a tool for linking small holder farmers to input and output markets in Kenya.
- CTA - KACE project: Linking small holder farmers to better markets in Kenya thru market information
- KACE - CABI project: promotion of knowledge centres, one of which is in Machakos
- KACE - KMDP Project: promotion of Maize farming and marketing for small holder farmers.
- KACE - Rockefeller project: collection and dissemination of market information and promotion of market linkages.
- KACE - ICRISAT (International Crops Research Institute for Semi-Arid Tropics) Project: promotion of grain legumes.
- KACE – KBDS (Kenya Business Development Services) Project: promotion of tree crops in Embu, Muranga and Karatina.

Target audience (plus number, actual or estimated):

- Small scale farmers
- Traders
- Brokers
- Producers
- Consumers

Extent of interaction with CTA – *Spore* Magazine, SDI, QAS, DORA, seminars, consultants, publications, training: KACE has previously received the *Spore* and Rural Radio Resource Packs (RRRP)
Appreciation of CTA's products and services: KACE rates CTA's products and services as very useful.

Extent of collaboration / interaction with other institutions (name, nature):
 	
KACE current partnerships are:
 	
    ▪ ACDI-VOCA /KMDP - joint Projects
    ▪ FIPS (Farm Inputs Promotion) - information
    ▪ CTA - joint projects and information
    ▪ CGA (Cereals Growers Association) - information
    ▪ CABI   - joint projects
    ▪ Rockfeller - joint projects
    ▪ ICRISAT - joint projects
    ▪ KBDS - joint projects

National / sectoral policies impacting ICT use / information and communication within the institution: NA

How information needs are currently met, and from where or by whom:
 	
KACE obtains information to service its programmes from:
 	
    ▪ CTA
    ▪ ASARECA/RAIN
    ▪ National research institution – KARI
    ▪ Commodity/Farmer Associations
    ▪ Meeting with beneficiaries – KACE Clients
    ▪ Input Suppliers
    ▪ Primary commodity markets
    ▪ Internet
    ▪ Fairs and exhibitions

Main information needs not satisfied (including types and format of information):

Type of Information
- Market data
- Commodity profiles
- Application of ICT in Extension services
- Post harvest technologies

Format of information
- Materials in appropriate languages
- Journal articles

Successes/main problems faced in terms of information and communication management:

Successes
- Mobile phone and Mobile phone short messaging services used for information delivery to clients. The service is provided in partnership with Safaricom Kenya ltd.
- Interactive voice response service – uses voice mail for information delivery where a user dials a special phone no (0900552055) to access information through simple menu steps. This service is provided in partnership with Interactive media services ltd.
- KACE and KBC radio are disseminating price information on a limited no of commodities in selected daily markets except on Sundays. The program is broadcasted both in English and Kiswahili at 8:30 and 10:00 pm respectively.
- Soko Hewani radio program – a platform for small holder farmers to match offers and bids for selling their produce and purchasing farm inputs in western Kenya
- Regional commodity Trade and Information system (RECOTIS) – An electronic database for clients interested in buying, selling, importing, exporting or distributing agricultural commodities, currently the database has 500 records from 26 countries all over the world. Majority from eastern Africa.
- Establishment of MRCs and MIPs

Main problems

- Lack of communication strategy (at draft stage)
- Unreliable Internet connection (dial-up connection)
- Lack of skill (web design and development) to upgrade the website and make it the core of KACE activities.
- Lack of adequate funds to fully automate ICM activities

	KACE
Successes/main problems faced in terms of knowledge management (e.g. availability list of organisations / clients using your products, databases, etc.): NA	
Why Institution selected - KACE is: • Only institution dealing with agricultural community market information on a daily basis. • Collaborating with KBC to provide market information on Radio on a daily basis. • Extending its market information dissemination model to the rural areas • Providing the same information by SMS	
Other observations:	

Name of institution:

University of Nairobi (UoN)
College of Agriculture and Veterinary Services(CAVS)

Postal address: Box 29053 00625 Nairobi, Kenya
Physical address: Upper Kabete
Tel: +254 20 631353
Fax: NA
E-mail: principal_cavs@uonbi.ac.ke
Web site: www.uonbi.ac.ke

Type of Institution: EDU, STA
Role: EX,IN,PS-S,RD,RU

Objective / mission statement:

To maintain a leadership role in pursuit of knowledge through relevant and quality research, teaching, training for sustainable development, consultancy and outreach and to contribute to increased human resources, agricultural productivity, agribusiness development, poverty reduction and food security using environmentally sustainable technologies.

Field of specialisation:

Faculty of Agriculture
- Agric Economics
- Food Technology and nutrition
- Crop protection
- Crop Science

Non Academic
- Clinical studies
- Animal production
- Public health pharmacology and toxicology
- Range Management
- Soil Science
- Animal Production
- Environ. Biosys. Eng.

Faculty of Veterinary Services
- Veterinary Medicine
- Biomedical technology
- Veterinary pathology microbiology and parasitology
- Applied veterinary parasitology
- Veterinary pathology and diagnostics
- Applied microbiology

	UoN – CAVS

Number of staff professional, clerical, technical, etc; permanent / temporary):

NA

Branches, other sites:

Demonstration Farms (Kibwezi dryland, Ngong Farm, Malindi Farm and Kanyariri Farm)

Annual budget: (in local currency with Euro equivalent):

NA

Source of funding, incl. main donors / sponsors:

NA

Programme / projects undertaken:

NA

Target audience (plus number, actual or estimated):

- Students
- Lecturers/Teachers/Trainers
- Agric and Veterinary stakeholders (Researchers, policy makers, Farmers, extension workers etc)

Extent of interaction with CTA – *Spore Magazine,* SDI, QAS, DORA, seminars, consultants, publications, training, ….:

The institution previously received the *Spore,* CTA publications.

Appreciation of CTA's products and services:

Rates CTA's products as useful.

The institution could benefit from CTA capacity building initiatives in establishing the proposed Agricultural Information Resource Centre.

Extent of collaboration / interaction with other institutions (name, nature):

The institutions current partners are:

- KARI – research and training
- KEFRI – information sharing
- ASARECA universities and research institutions – research and information exchange and training
- SIDA – Research and training in environment and sustainability

National / sectoral policies impacting ICT use / information and communication within the institution:

National ICT policy has increased awareness of the role of ICT at the management level.

How information needs are currently met, and from where or by whom:

UoN – CAVS currently obtains information to service its programmes from
- Regional Research Institutions –ASARECA (RAIN)
- National Research Institutions – KARI /KEFRI
- Ministry of Agriculture
- International Research Institutions – ILRI. ICIPE, ICRAF
- Input suppliers – KTDA, KFA

Main information needs not satisfied (including types and format of information):

UoN – CAVS have found it difficult to obtain information in the following format:
- Journal articles
- Briefings/ summaries
- Abstracts
- Statistical data
- Standards
- Patents
- Material suitable for mass distribution
- Material in appropriate languages
- Visual or pictorial information
- Cartographic information (e.g. maps)

Successes/main problems faced in terms of information and communication management:

Successes

- Appointed by ASARECA to establish a training centre for Agricultural Information Communication and Management (AICM) for the region. In line with these three courses in AICM has been developed and approved by senate (MSc in AICM, Post graduate diploma in AICM, and a certificate course in AICM targeting practitioners). The training centre will also include an Agricultural Information Resource Centre.
- Establishment of a biometry lab in the department of crop science
- Establishment of an ICT department for the college
- Installation of LAN
- Internet connection

Main problems

- Lack of ICM component in the structure of CAVS apart from library services
- Lack of ICM budget policies
- Lack of ICM professional apart from Librarians
- Lack of necessary infrastructure for ICM

Successes/main problems faced in terms of knowledge management (e.g. availability list of organisations / clients using your products, databases, etc.):

NA

Why institution selected – UON-CAVS has:

- Mandate for training and research in agriculture, livestock, range management, environment and natural resources management
- Many courses in agriculture, livestock and related fields
- Generates a lot of data and information on agriculture, livestock and related areas.

Other observations:

Name of institution:

Jomo Kenyatta University of Agriculture and Technology   (JKUAT)
Faculty of Agriculture
Library and Information Services

Postal address: Box 62000 00200 Nairobi, Kenya
Physical address: Thika Road
Tel: +254 67 52711
Fax: +254 67 52164
E-mail: NA
Web site: www.jkuat.ac.ke

Type of Institution: EDU
Role: EX,IN,PP,RD,TR

Objective / mission statement:

Library and Information services mission

To provide relevant information services to meet teaching, learning and research needs
of the university.

Specific Objectives
- Develop a book collection and other information resources in all formats needed
  for teaching, learning and research
- Ensure that these resources are preserved for posterity
- To provide leadership and coordination of staff recruitment and development
- To develop and implement a plan to provide user education
- To develop and support library extension services
- To facilitate access to various library collections
- To maximize the use of electronic information resources
- To provide leadership for optimum use of available library space and extension

Field of specialisation:

- Agriculture Engineering
- Horticulture
- Food Science
- Post Harvest Technology
- Biotechnology Research
- Science and Technology

Number of staff professional, clerical, technical, etc; permanent / temporary):

NA

Branches, other sites:	
Annual budget: (in local currency with Euro equivalent): Over Kshs 3 M (31,578 Euros) – Budget allocated to the Library and Information Services p.a	

Source of funding, incl. main donors / sponsors:

- Government
- University enterprises
- Donors

Programme / projects undertaken:

Academic programmes in the faculty of Agriculture:

Department of Horticulture
  Master of Science In Horticulture
  Bachelor of Science In Ornamental Science and Landscaping
  Bachelor of Science In Horticulture

Food Science and Technology
  Master of Science In Food Science and Post-harvest Technology
  Bachelor of Science In Food Science and Post harvest Technology
  Bachelor of Science In Food Science and Nutrition

JKUAT's Extension Department
The goal of the extension department is to promote technology transfer and community outreach services for rapid agricultural and industrial development in the country.

Objectives:
- Documenting & disseminating research findings & technologies to enhance development.
- Promoting adoption of the university's technologies by farmers and industries.
- Promoting and enhancing community services so as to inform the public about our technologies, services and resources.
- To create an interface between the university and the general public extension service.
- Developing and implementing training programmes for various target groups

To achieve these goals we participate in numerous activities such as agricultural shows, trade fairs, exhibitions, periodic training programmes and many more.

	JKUAT

Target audience (plus number, actual or estimated):

- Students
- Lecturers
- Researchers
- Policy Makers
- Administrators
- Farming rural community

Extent of interaction with CTA – *Spore* Magazine, SDI, QAS, DORA, seminars, consultants, publications, training, ….:

The institution's library and information services section has previously received the *Spore* and CTA publications.

Appreciation of CTA's products and services:

The few materials we have received have been very useful.

The institution would appreciate further collaboration with CTA:
- The extension department could benefit from CTA's practical guide series, web resources and portals, video documentaries etc.
- The agricultural information services section of the JKUAT's library could benefit from CTA publications.
- The library and information services section could benefit from CTA capacity building initiatives in terms of equipments, technical advice and training.

Extent of collaboration / interaction with other institutions (name, nature):

Some of the institutions current partnerships include:

- Other Local universities (UoN, Egerton, Moi) - information exchange / research
- KARI – joint research programs
- ICIPE – training
- ICRAF – training
- ILRI – training
- KEFRI – training
- Min of Agriculture - information exchange
- AIRC- information exchange

National / sectoral policies impacting ICT use / information and communication within the institution:

- Increased awareness of IT application and hence its inclusion in key strategy documents
- Prolonged lack of government policy has resorted to use of diverse technologies that posses a challenge when it comes to efforts of integration and sharing with stakeholders and partners.
- Zero rating of ICT equipment in the government budget has made them affordable.

How information needs are currently met, and from where or by whom:

To service it academic and non-academic programmes the institution obtains information from

- Regional Research Institutions -ASARECA
- National Research Institutions – KARI / Others
- International Research Institutions – ILRI. ICIPE, ICRAF
- Commodity/farmer associations – Agriculture Society of Kenya (ASK)
- Meetings with beneficiaries
- Input suppliers – KTDA, KFA
- Other: book suppliers and donors

Main information needs not satisfied (including types and format of information):

- Lack of content on emerging subjects such as Mushroom farming.
- Gaps in serial publications such journal and books due to inconsistency in the subscription.

The institution has found it difficult to obtain information in the following formats:
- Journal articles
- Statistical data
- Standards
- Patents
- Material suitable for mass distribution
- Material in appropriate languages
- Visual or pictorial information
- Cartographic information (e.g. maps)

	JKUAT

Successes/main problems faced in terms of information and communication management:

Successes
- A growing Library and Information Services section
- Establishment of the extension services department that ensures technology transfer and dissemination of research findings for national development.
- The launch of the AgriTech News magazine.
- Installation of a Campus-Wide Network

Main problems
- Lack of ICT/ICM policies and strategies.
- Limited budgetary allocation
- Lack of ICM staff apart from librarians
- Lack of skills to develop internal databases
- Unreliable infrastructure – Network, Internet

Successes/main problems faced in terms of knowledge management (e.g. availability list of organisations / clients using your products, databases, etc.):
NA

Why institution selected – JKUAT has:

- Strong orientation to agriculture and agriculture technology training and research - but has been expanded to offer other course
- Agriculture and rural development technology that have been taken up and commercialized at farmers level
- Field training centres that target local community to provided them with the skills required to setup and manage agro-business
- Started paid short courses for farmers

Other observations:

Name of institution:

Kenya Agricultural Research Institute (KARI)

Postal address: Box 57811 00200 Nairobi, Kenya
Physical address: Kaptagat Road , Loresho
Tel: +254-20-4183720, 4183301-20
Fax: +254-20-4183344
E-mail: resource.centre@kari.org
Web site: www.kari.org

Type of Institution: GOV
Role: EX,RD

Objective / mission statement:

To contribute, together with its partners, agricultural innovations and knowledge towards improved livelihoods and commercialization of agriculture through increasing productivity and fostering value-chains while conserving the environment.

Field of specialisation:

- Biotechnology
- Food Crops
- Horticultural & Industrial Crops
- Land & Water Management
- Livestock & Range Research
- Regional Adaptive Research
- Seed Research
- Socio-Economics & Biometrics
- Veterinary Vaccines Production

Number of staff professional, clerical, technical, etc; permanent / temporary):

Professional   3
Technical   11
Total   14

Branches, other sites:

Annual budget: (in local currency with Euro equivalent):   Kshs 7 M (73,684 Euros) for ICM per annum

Source of funding, incl. main donors / sponsors:

- GOK funds
- Development partners (World bank, European Union)

Programme / projects undertaken:
NA

Target audience (plus number, actual or estimated):

- Researchers
- Extension workers
- Farmers
- Policy Makers
- Trainers and students

Extent of interaction with CTA – *Spore* Magazine, SDI, QAS, DORA, seminars, consultants, publications, training, ….:

KARI is currently a recipient of (*Spore*, CTA publications, DORA, CD-ROM/Database subscriptions, and QAS)

KARI staff has also attended (CTA Annual Seminars (international meetings on key topics of interest e.g. soil fertility, food security), Co-seminars (i.e. co-sponsored by CTA with other agencies such as IICA, FAO, etc.) and CTA training programmes or non-CTA training programmes).

Appreciation of CTA's products and services:

KARI rates CTA products and services as very useful and relevant to its activities and for the Kenyan agriculture.

Extent of collaboration / interaction with other institutions (name, nature):

Some of KARI's current collaborations include:

- Kenya Forestry Research Institute (KEFRI), Ministry of Agriculture (Kilimo Library and AIRC) and Jomo Kenyatta University of Agriculture and Technology (JKUAT) and FAO - Joint Agris pilot project
- CTA - Question and Answer Service
- Member of the Kenya Library Information service Consortium (KLISC) - acquisition of online resources and resource sharing
- Local universities (University of Nairobi, Egerton University, Baraton University) – Research and information exchange.
- Kenya Forestry Research Institute (KEFRI), Kenya Institute of Organic Farming (KIOF), International Livestock Research Institute (ILRI), World Agroforestry Centre (ICRAF), The International Centre of Insect Physiology and Ecology (ICIPE), Kenya National Federation of Agricultural Producers – KENFAP, The National Agricultural Research Organisation (NARO) – Uganda, Ethiopian Agricultural Research Organization (EARO), Department of Research and Development (DRD) Tanzania – joint research projects/information exchange

National / sectoral policies impacting ICT use / information and communication within the institution:

- Lowered the Internet cost
- E-agriculture has improved information access and dissemination

How information needs are currently met, and from where or by whom:

KARI's current sources on Information includes:

- CTA
- FAO
- Local Universities
- ASARECA, RAIN, SADCC, UNEMO/CEDEAO
- Ministry of Agriculture
- Publications and the Internet.

	KARI

Main information needs not satisfied (including types and format of information):

KARI would appreciate the following information types
Broad rural development information
- Farm problems
- Non-farm livelihoods
- Social development issues
- Gender issues
- Government and International regulations
- Conferences and meetings
- Development and funding programmes
- Available agricultural /development networks (regional and international)

Technical information
- Grading systems
- Post-harvest technology
- Crop varieties
- Packaging
- Equipment sourcing/availability
- Waste utilisation
- Integrated pest management

Economic information
- Credit and micro-credit
- Market data
- Identification of markets
- Commodity profiles
- Crop insurance systems

Training Needs
- Application of communication technologies in extension services - APIs
- Management of information within the organization
- Editing of reports
- Participative methodologies

Successes/main problems faced in terms of information and communication management:

Successes
- The implementation of the WAN connecting the HQ with other centres
- Implementations of the WEBAGRIS system (A web based database system)
- Posting website updates
- National focal point of the Question and Answer Service (QAS) which is sponsored by CTA
- Coordinator of the Kenya Agris Project. The project started in 2006 and is currently in phase III.
- Member of the Kenya Library Information service Consortium (KLISC).

Main Problems
- ICM strategy just a draft
- ICT policy also at draft zero
- Lack of adequate ICT skills
- Lack of Knowledge management policy
- Poor Internet connectivity at KARI Headquarters due to low bandwidth.
- Lack of Internet connectivity in most KARI satellite centres.
- Inadequate or lack of computers in most KARI centres.

Successes/main problems faced in terms of knowledge management (e.g. availability list of organisations / clients using your products, databases, etc.):
NA

Why institution selected – KARI has:

- National mandate for agriculture and livestock research
- Presence right across the country with many research centres representing different agro-ecological conditions
- Developed important agricultural and rural development technologies and a good number of its research products have been adopted widely by farmers
- Large wealth of data and information

Other observations:

Name of institution:	

Kenya Forest Service (KFS)

Postal address:	Box 30513 00100 Nairobi, Kenya
Physical address:	Off Kiambu Road opposite CID Headquarters
Tel:	+254 020 375 4904/5/6
Fax:	+254 020 235 512
E-mail:	ccf@wananchi.com, ccf@forestry.go.ke, kfs@wananchi.com
Web site:	www.kfs.go.ke

Type of Institution: GOV,STA, TE
Role: IN,PP,PS-P,PS-S,RD,RG,RU,TR,TM

Objective / mission statement:

Mandate of KFS
To contribute to the growth of the natural resource sector by enhancing development, conservation and management of all forest resources base in the country. This entails ensuring an increasing supply of forestry products and services for meeting the basic needs of the present and the future generation.

Mission
To enhance conservation and sustainable management of forests and allied resources for environmental stability and socio-economic development.

Field of specialisation:

- Forest plantation establishment
- Protection and conservation of existing forests
- Regulation of harvesting of forest produce
- Increasing forest cover
- Policy formulation and regulation

Number of staff professional, clerical, technical, etc; permanent / temporary):
NA

Branches, other sites:

Has offices at the conservancy (Provincial) level, district level and divisional level

Annual budget: (in local currency with Euro equivalent):

NA

Source of funding, incl. main donors / sponsors:

- Government
- Donors
- Internally generated revenue

Programme / projects undertaken:

- Intensified Social Forestry Project (ISFP)
- Greenzones Development Support Project (GZDSP)
- Natural Resource Management Project (NRM)
- FAO Netherlands Partnership Programme (FNPP)
- Tree Biotechnology project (TBP)
- National Forest Programme (NFP)
- Community partnership projects
- Miti Mingi Maisha Bora(MMMB)

More information on www.kfs.go.ke

Target audience (plus number, actual or estimated):

- General public
- Forest adjacent communities
- Central Government
- NGOs, CBOs
- Wood industry
- Other forest stakeholders

Extent of interaction with CTA – *Spore Magazine,* SDI, QAS, DORA, seminars, consultants, publications, training, ….:

Institution not previously aware of CTA or its products and services

Appreciation of CTA's products and services:

- KFS forestry extension department could benefit from CTA's information products that are relevant to forestry management and conservation.
- KFS could also benefit from CTA capacity building (equipment provision and training in information management)
- KFS would appreciate CTA technical advice in formulating information policies and strategies

Extent of collaboration / interaction with other institutions (name, nature):

Current partners include:
- KEFRI - a sister organisation that does research on forestry, joint projects, information exchange
- FAO - supports our activities e.g. TV programmes, organising consultative forums on forestry
- KFWG - supports our activities e.g. TV programmes, organising consultative forums on forestry
- UNEP -supports our activities through sponsorship of programmes
- FAO - supports our activities through sponsorship of programmes
- Saw millers association - they are our customers
- World Bank - they fund various forestry programmes
- African Development Bank - they fund various forestry programmes

National / sectoral policies impacting ICT use / information and communication within the institution:

How information needs are currently met, and from where or by whom:

KFS main source of information required to service its programmes is KEFRI. KFS also obtains information from UN agencies such as UNEP.

Main information needs not satisfied (including types and format of information):

- Information on how forestry is managed elsewhere (forestry best practises)
- General information on forestry

Successes/main problems faced in terms of information and communication management:

Successes

- Website development
- LAN installation and Internet connection at the HQ
- Launch of the staff newsletter (Twigs and Branches), a quarterly publication to include the wider audience in the forestry sector is coming soon.
- Held workshops to educate staff on the new forest act

Main problems

- Lack of a specialised ICM department (KFS PR department is responsible for communication and not forestry information dissemination)
- Establishment of an ICT department in the planning stage.
- Lack of ICM/ICT policies and strategies (a communication strategy being developed by the public relations department is at draft zero).

	KFS
Successes/main problems faced in terms of knowledge management (e.g. availability list of organisations / clients using your products, databases, etc.): NA	

Why institution selected as a key:

- National mandate for forestry Management - Kenya forest cover is below recommended average
- Developing forest products and services for the whole country - both farm and natural forest in both high and low potential areas - in addition to the head quarters, has other centers across the country
- Provides an information documentation and dissemination service.

Other observations:

KFS information needs could not be established as the person in charge of forestry extension was not available for interview.

Name of institution:

Kenya Forestry Research Institute (KEFRI)

Postal address:	Box 20412 – 00200, Nairobi, Kenya
Physical address:	Muguga, Waiyaki Way
Tel:	+254 20 10651/2
Mobile:	+254 724 259781/2
Fax:	NA
E-mail:	director@kefri.org
Web site:	

Type of Institution: STA
Role: IN,RD

Objective / mission statement:

To conduct research and provide information and technologies for sustainable development of forest and allied natural resources.

Field of specialisation:

Forestry research mainly in
- Plantations
- Agro-forestry
- Natural forestry
- Dry lands forestry and
- tree seed technology collection and distribution

	KEFRI

Number of staff professional, clerical, technical, etc; permanent / temporary):

NA

Branches, other sites:

Regional Research Centre
- Gede   Box 1078 80200, Malindi
- Kitui   Box 892-902200, kitui
- Londiani   Box 382-20203, Londiani
- Maseno   Box 5199-40108, Otonglo, Kisumu
- Muguga   Box 20412-00200 Nairobi
- Karura Forest Products Research Centre Box 64636 -00620, Mobil plaza, Nairobi

Forest Research Sub-Centres
- Turbo   Box 5, Turbo
- Nyeri   Box12069, Nyeri
- Turkana   Box 468, Lodwar
- Baringo   Box 57, Marigat
- Kuja River   Box 223, Awendo
- Kakamega   Box 462, Kakamega
- Kibwezi   Box 87, Kibwezi

Annual budget: (in local currency with Euro equivalent):

NA

Source of funding, incl. main donors / sponsors:

Government of Kenya

Programme / projects undertaken:

- Farm Forestry
- Natural Forests
- Dryland Forests
- Industrial forest plantations
- Service and technology dissemination
  o Information services
  o Social forestry training
- Tree seed programmes

	KEFRI

Target audience (plus number, actual or estimated):
- General public
- Trainers and Students
- Kenya Forestry Service
- Policy Makers
- Forestry related bodies both national and international

Extent of interaction with CTA – *Spore* Magazine, SDI, QAS, DORA, seminars, consultants, publications, training:

The institution has previously received The *Spore* and some CTA publications.
Some of the KEFRI staff has attended CTA training or non-CTA training programmes.

Appreciation of CTA's products and services:

Very useful. The *Spore* has very useful information for KEFRI clients.

KEFRI would appreciate further collaboration with CTA to enhance management and dissemination of forestry information and technology transfer to stakeholders and other users, For instance

- Technical advice in the formulation of ICM/ICT policies and strategies
- Financial support in setting up ICM facilities
- Access to more of CTA information products and services

Extent of collaboration / interaction with other institutions (name, nature):

Some of our partners include:
- KARI - joint projects, information exchange
- CABI - joint projects, information exchange
- ICRAF - information exchange
- FAO - joint projects, information exchange
- KWS - information exchange
- KFS - joint projects, information exchange
- NMK - joint projects
- Moi University - information exchange
- Nairobi University - information exchange

National / sectoral policies impacting ICT use / information and communication within the institution:

The e-government strategy has increased awareness and application of ICTs by institutions.

How information needs are currently met, and from where or by whom:

- KEFRI researchers
- National Institutions e.g. KARI
- International Institutions e.g. ICRAF, CABI
- On line resources e.g. AGORA

Main information needs not satisfied (including types and format of information):

- Editing and production of scientific information
- Management of scientific information

KEFRI has found it difficult to obtain information in the following format
- Full text journal articles
- Books relevant to our filed of research: they are bought outside the country or are very expensive

Successes/main problems faced in terms of information and communication management:

Successes
- Installed local area network at the HQ and Muguga centre
- Provided Internet connectivity at the HQ and at all the regional centres.
- Currently working with Kenya Agricultural Research Institute to come up with a network to avail forestry information to the clients through a database.

Main problems
- Lack of ICM facilities such as libraries and documentation centres.
- Lack of ICM strategies and policies (ICM strategy at draft stage)
- Lack of ICM skills (ICM tasks currently being carried out by researchers)

Successes/main problems faced in terms of knowledge management (e.g. availability list of organisations / clients using your products, databases, etc.):

.NA

Why institution selected – KEFRI has:

- National mandate for forestry research - Kenya forest cover is below recommended average
- Programs developing forest products and services for the whole country - both farm and natural forest in both high and low potential areas - in addition to the head quarters, has four other centres across the country
- An information documentation and dissemination service.

Other observations:

A meeting with the respondent was not possible.

	KBC
Name of institution: **Kenya Broadcasting Corporation (KBC)** Postal address: Box 30456 – 00100 Nairobi Physical address: Harry Thuku Road Tel: +254 20 318824 Fax: +254 20 341173 E-mail: kbc@kbc.co.ke Web site: www.kbc.co.ke Type of Institution: MED, GOV Role: IN

Objective / mission statement:
Mission "The leading broadcaster, providing quality programmes". We are committed to excellence in broadcast services to our audience, customers, the public and the government. Aim and Objectives To inform, educate and entertain the public through radio and television services and thereby propagate all that consolidates national unity, peace, love and development.

Field of specialisation:
Broadcasting of TV programmes (English/Swahili) and Radio programmes (English/Swahili and vernacular languages)

Number of staff professional, clerical, technical, etc; permanent / temporary):
NA

Branches, other sites:
NA

Annual budget: (in local currency with Euro equivalent):
NA

Source of funding, incl. main donors / sponsors:
- Advertisements revenue   - Revenue generated by Pay channel (KBC Channel 2)

Programme / projects undertaken:

Agricultural based programmes:

TV programmes
- Mkulima – a TV documentary programme broadcast every Mon day at 8:30 pm for 30 minutes
- Current affairs programme – sometimes covers Agriculture as a development issue (aired on Monday at 8:00 am) it is interactive where viewers call in and ask question. Experts are invited.

Radio Programmes
- Mali Shambani – Interactive radio programme broadcast every Monday at 8 pm for one hour.

Target audience (plus number, actual or estimated):

All members of the public
However there specific programs intended for various categories of viewers e.g.

- Children
- Learning institutions
- Professional bodies
- Farmers and agricultural experts
- Policy makers
- etc.

Extent of interaction with CTA – *Spore Magazine,* SDI, QAS, DORA, seminars, consultants, publications, training:

KBC radio unit has previously received the Rural Radio Resource Packs (RRRP)

Appreciation of CTA's products and services:

RRRP were very useful.

KBC would appreciate agricultural content to use in preparing radio and TV programmes.

Extent of collaboration / interaction with other institutions (name, nature):

KBC current partners in agricultural based programmes are:
- KARI
- JKUAT
- AIRC

Together they package agricultural information for dissemination/broadcast to the public.

National / sectoral policies impacting ICT use / information and communication within the institution:
NA

How information needs are currently met, and from where or by whom:

To produce agricultural programmes KBC works with experts in the field and institutions such as KARI, JKUAT, ICIPE, AIRC, and AATF. Books, journals and the Internet have also been sources of information.

Main information needs not satisfied (including types and format of information):
- Information on latest agricultural techniques
- A database of experts in agriculture in the country

Successes/main problems faced in terms of information and communication management:

Main problems
- Lack of adequate facilities e.g. Cameras. These are shared by producers of all categories of information.
- Lack of facilitation funds to go out and research on agricultural and development topics
- Lack of skills, that is, all production staff are journalists and not subject specialists.
- Relying on subject experts for guidance. These are sometimes difficult to engage or find.
- Lack of content. One has to go out and create content.

Successes/main problems faced in terms of knowledge management (e.g. availability list of organisations / clients using your products, databases, etc.):
NA

Why institution selected – KBC has:
- A national wide coverage with offices and representation through out the country
- Both radio and television services
- Services in English and Kiswahili (Radio service also in local languages)
- Capacity to provide service targeting rural communities

Other observations:

Agricultural information needs and gaps could not be established as the person in charge of the agricultural programmes was not available for interview.

Name of institution:

Kenya National Library Service (KNLS)

Postal Address: Box 30573 00100 Nairobi, Kenya
Physical address: Community Area – Ngong road
Tel:
Fax: +254 20 2721749
Email: director@knls.or.ke , knls@nbnet.co.ke
Website: www.knls.or.ke

Type of Institution: STA, TE Other: (Service Organisation)
Role: IN,RD,RU

Objective / mission statement:

Mission statement
To lead in knowledge management by adopting best technologies in establishment of
library facilities for a sustained reading culture and facilitate participation in national
development

Objectives

Field of specialisation:

- Information dissemination
- Preservation of national documentary heritage
- Research and development
- Literary development

Number of staff professional, clerical, technical, etc; permanent / temporary):

Professional   43 (degree and higher qualifications holders)
Paraprofessional   756 (diploma holders)
Technical   43 (certificate holders)
Total   869

All staff is permanent government employees.
All paraprofessionals are librarians.

Branches, other sites:
KNLS has 8 provincial branches, 7 District branches, 31 Divisional (community based) libraries:

Provincial Libraries
- Head Office and Nairobi Area Library - Box 30573, Nairobi. Tel. + 254 - 20 - 725550/1 Fax + 254 - 2 0– 721749 Email: knls@nbnet.co.ke
- Embu - Box 201 Embu Tel: 254 0161 20243
- Garissa - Box 245 Garissa Tel: 254 0131 2233
- Kisumu - Box 1727 Kisumu Tel: 254 035 44067
- Kakamega - Box 736 Kakamega Tel: 254 0331 20256
- Mombasa - Box 90283 Mombasa Tel: 254 011 226380
- Nakuru - Box 253 Nakuru Tel: 254 037 41463
- Nyeri - Box 1312 Nyeri Tel: 254 0171 2589

District Libraries
- Eldoret - P.O Box 82 Eldoret Tel: 254 0321 33394
- Kabarnet - P.O Box 487 Kabarnet Tel: 254 0328 22300
- Kisii - P.O Box 388 Kisii Tel: 254 0381 31094
- Meru - P.O Box 1692 Meru Tel: 254 0161 30683
- Kericho - P.O Box 634 Kericho Tel: 254 0361 20290
- Laikipia (Community based) - P.O Box 166 Nanyuki Tel: 254 0176 32018
- Wundanyi - P.O Box 1096 Wundanyi Tel: 254 0148 2359
- Thika - P.O Box 1557 Thika Tel: 254 0151 22883
- Wajir (community based) - P.O Box 217 Wajir Tel: 254 0136 21424

Camel mobile library service
The service was launched in Garissa town (North Eastern Province of the in country) 1996 and was replicated in Wajir town in 1999. It is meant to serve the pastoralists in these areas which are geographically isolated because they experience difficulties in using directly the available library facilities at the static library branches

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Annual budget: (in local currency with Euro equivalent):

Kshs 30 M (315, 789 Euros)

Source of funding, incl. main donors / sponsors:

- GOK
- Generates limited internal revenue
- Funding in Kind by donor agencies

Programme / projects undertaken:

- Extension of the library network – on going
- Computerization of library services in all the branches – on going
- Provision of access to the Internet and online databases in all the branches – on going
- Development of KNLS website
- Development of OPAC database
- Compilation of, the Kenya National Bibliography (KNB) and Kenya Periodicals Directory (KPD) every two years
- Development of a database of rare books – still under construction

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Target audience (plus number, actual or estimated):

All members of the public

Currently there are a total of 3,396 registered readers who use the services in the entire system.

Extent of interaction with CTA – *Spore Magazine,* SDI, QAS, DORA, seminars, consultants, publications, training, ….:

Previously the institution was not aware of CTA or its products and services

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Appreciation of CTA's products and services:

Previously the institution was not aware of CTA or its products and services

Assistance by CTA required

- Technical assistance in formulating Communication and ICT policies and strategies.
- Research clientele could benefit from CTA's web resources and portals
- CTA publications would be a resource in for the library network
- KNLS staff could benefit from information management seminars sponsored by CTA.

Extent of collaboration / interaction with other institutions (name, nature):

- INASP – Subscription of Online Journals
- Book Aid International UK - Suppliers
- World Bank and - Donations
- Computers for schools Kenya – joint projects
- Public universities – Information exchange
- Kenya National bibliography – information exchange
- Capital development projects – Joint projects e.g. library building such as children's library extension project within the Kisumu library

National / sectoral policies impacting ICT use / information and communication within the institution:

Government Information Policy and ICT strategy released recently – impact not yet measurable

How information needs are currently met, and from where or by whom:

KNLS library collection is built through acquisitions from book suppliers and book donations.

Main information needs not satisfied (including types and format of information):

Since the institution seeks to satisfy information needs of a diverse nature it was difficult to bring out needs specific to agricultural information.
The institution have found it difficult to obtain information in the following format
- Journal articles esp. online journals – currently only subscribes to CLISK
- Statistical data
- Patents
- Standards
- Materials suitable for mass distribution
- Materials in appropriate languages
- Visual and pictorial info
- Cartographic information

	KNLS

Successes/main problems faced in terms of information and communication management:

Successes

- Website development
- Installation of a LAN at the headquarters
- Computerization of Library services at the headquarters
- Internet connection at the headquarters and some branches providing Internet search services and access to online journals

Main problems

- Funds to: buy ICT hardware and software required to replicate services at the headquarters in all the branches, extend the LAN to a WAN,
- Limited IT skills – (very few IT professionals and these only at the headquarter)
- Lack of an ICT strategy complicates the implementation of ICT
- Limited skills for developing and organising local content for dissemination
- Format of storage of the content and medium of dissemination to meet user requirement
- Lack of equipment for preserving documented heritage for posterity

Successes/main problems faced in terms of knowledge management (e.g. availability list of organisations / clients using your products, databases, etc.):
NA

Why institution selected – KNLS has:

- Service with a very wide reach across the whole country – every district has a library
- Mobile camel service targets pastoralists who do not settle in one place but always on the move to search for water and pasture
- Service free and open to all age, race, sex, religion, nationality, language or social status
- Special arrangement for schools and other public institutions so that they can borrow in bulk
- Unique information dissemination facility especially in the rural areas

Other observations:

Note: NA = Not Available

ANNEX 4.   LIST OF PERSONS INTERVIEWED

Name	Designation	Institution (Acronym)	Postal / Physical address	Telephone	Email Address
Stephen K. Rono	Information Acquisition and Processing Officer	AIRC	P.O. Box 66730 00800 Nairobi KARI-NAL, Waiyaki Way	+254 20 4446464	ronsteve@yahoo.com ronosteve@gmail.com
Moses M. Mburu	Head of Planning Unit	MLD	P.O. Box 34188 00100 Nairobi Kilimo House, Cathedral Road	+254 20 2718870	momburu2002@yahoo.com
Joyce Wachira	ICT Officer	MLD	As above		
Stephen Jalenga	Deputy Director of Youth Development	MOYS	P.O. Box 34303 00100, Nairobi Kencom House (3rd flr),Moi Avenue	+254 20 2062846	sjalenga@yahoo.com
Kamwati Mwaura	Chief Youth Development Officer	MOYS	As above	+254 20 240068	mkamwati@yahoo.co.uk
Kenneth Matonya	Business Advisor	TNS	P.O. Box 4821 00800 Nairobi Sclater's House, Parklands Rd, Westlands	+254 20 3754333-5 +254 20 3754337	matonya@technoserve.or.ke
John Macharia	Business Advisor/ICT Advisor	TNS	As above	As Above	jmacharia@technoserve.or.ke
Gloria Mwakio	Monitoring and Evaluation Specialist	TNS	As above	As Above	gmwakio@technoserve.or.ke
Samuel K. Ndung'u	Assistant Technical Organic Advisor	KOAN	P.O. Box 72461, Nairobi ICIPE Complex, Duduville, Kasarani Rd, Kasarani	+254 20 8566172 +254 20 8566173 +254 20 8566174	samndungu@yahoo.com ndungus@elci.org
Jack M. Juma	Standard and Certification Manager	KOAN	As above		kajuma@elci.org
Stella M. Wasilwa	Outreach Officer	KACE	P.O. Box 59142 00200, Nairobi Brick Court Building (2nd flr), Mpaka Road, Westlands	+254 20 4441829 +254 20 4441830	stella@kacekenya.com
Wycliffe	IT Manager	KACE	As above	As Above	wycliffe@kacekenya.com
James Kundu	Managing Director	KACE	As above	As Above	james@kacekenya.com
Fred. I. Mugivane	Senior Lecturer	UON - CAVS	P.O. Box 30197 00100, Nairobi Lower Kabete	+254 20 631353	

Name	Designation	Institution (Acronym)	Postal / Physical address	Telephone	Email Address
Patrick M. Maina	College Librarian	UON - CAVS	As above	As Above	
Bivorn Mogire	ICT officer	UON - CAVS	As above	As Above	
P.M. Mativo	University Librarian	JKUAT	P.O. Box 6200 00200 Nairobi Thika Road - Juja	+254 67 52711	mativo2002@yahoo.co.uk
John Logovane	Head - Agric Information Services	JKUAT	As above	+254 67 52711	john_2001ke@yahoo.com
Patrick Maina	Librarian	KARI	P.O. Box 57811 00200 Nairobi Kaptagat Rd, Waiyaki Way - Loresho	+254 20 4183720 +254 20 4183301 +254 20 4183320	pmaina@kari.org
Richard Kedemi	System Administrator	KARI	As above	As above	rkedemi@kari.org
Leakey Sonkoyo	Corporate Communications Officer	KFS	P.O. Box 00100 30513, Nairobi Kiambu Road - Karura	+254 20 3754904 +254 20 3754905 +254 20 3754906	sonkoyo@forestry.go.ke
Paul K. Tuwei	Senior Research Scientist	KEFRI	P. O. Box 20412, 00200 Nairobi Nairobi Nakuru highway - Muguga	+254 20 10651/2	ptuwei@yahoo.com
Rachael N. Onyango	Senior TV Producer	KBC	P. O. Box 30456, 00100 Nairobi Broadcasting House, Harry Thuku Road, Nairobi	+254 20 318824	rachealnakitare@yahoo.co.uk racheal.nakitare@kbc.co.ke
Richard M. Atuti	Deputy Director (Finance and Administration)	KNLS	P.O. Box 30573, 00100 Nairobi Upperhill Road, Community	+254 20 2725550 +254 20 2725552	rmatuti@yahoo.com

ANNEX 5.   LIST OF REFERENCES

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