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LUDEWA DISTRICT COUNCIL SOCIO-ECONOMIC PROFILE, 2013



July, 2014



The United Republic of Tanzania

LUDEWA DISTRICT COUNCIL SOCIO-ECONOMIC PROFILE, 2013

Jointly prepared by

Ministry of Finance,
National Bureau of Statistics

and

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National Bureau of Statistics
Dar es Salaam



Ludewa District Council
Njombe Region

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Foreword



The goals of Tanzania's Development Vision 2025 are in line with United Nations Millennium Development Goals (MDGs) and are pursued through the National Strategy for Growth and Reduction of Poverty (NSGRP) or MKUKUTA II. The major goals are to achieve a high-quality livelihood for the people, attain good governance through the rule of law and develop a strong and competitive economy. To monitor the progress in achieving these goals, there is need for timely and accurate data and information at all levels.

Problems especially in rural areas are many and demanding. Social and economic services require sustainable improvement. The high primary school enrolment rates recently attained have to be maintained and so is the policy of making sure that all pupils who pass standard seven examinations join Form One. The food situation is still precarious; infant and maternal mortality rates continue to be high and unemployment triggers mass migration of youths from rural areas to the already overcrowded urban centres.

Added to the above problems, is the menace posed by HIV/AIDS, the prevalence of which hinders efforts to advance into the 21st century of science and technology. The pandemic has been quite severe among the economically active population leaving in its wake an increasing number of orphans, broken families and much suffering. AIDS together with environmental deterioration are the new developmental problems which cannot be ignored.

Our efforts to meet both the new and old challenges are hampered by many factors including ill prepared rural development programs followed by weak implementation, monitoring and supervision of these programs. The shortcomings in policy formulation, project identification, design and implementation due to the lack of reliable and adequate data and information on the rural development process have to be addressed to. The availability of reliable, adequate and relevant qualitative and quantitative data and information at district level is a prerequisite for the success of the formulating, planning, implementation, monitoring and evaluation of districts' development programs.

Ludewa District Council prepares this Socio-Economic by using its own funds. The publication of the Ludewa District Social-Economic Profile series by the Ministry of Finance in collaboration with the National Bureau of Statistics and District Management Team should be viewed as a modest attempt towards finding solutions to the existing problem of data and information gap at district level.

The District Profile covers a wide range of statistics and information on geography, population, social-economic parameters, social services, economic infrastructure, productive sectors and cross cutting issues. Such data have proved vital to many policy makers, planners, researchers, donors and functional managers.

This Ludewa District Socio Economic Profile has taken advantage of the experience gained in the production of the Regional and District Socio Economic Profiles covering the whole country. It provides valuable information to our clients. Constructive views and criticisms are invited from readers to enable a profile like this become a better tool in the implementation of the country's policies.

I would like to take this opportunity to acknowledge with thanks, the contribution made by the Ludewa District Council Director's Office, National Bureau of Statistics and other staff of the District who devoted their time to ensure the successful completion of this assignment.



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Acronyms

AIDS	Acquired Immune Deficiency Syndrome
ARI	Acute Respiratory Infections
BCG	Bacillus Calmet Guerin (TB Vaccine)
CBO	Community Based Organization
CBPP	Contagious Bovine Plural Pneumonia
CPR	Classroom Pupil Ratio
DPR	Desk Pupil Ratio
DPT3/HB3	Diphtheria Pertusis Tetanus 3 rd doze/ Haemoglobin Level
ECF	East Cost Fiver
RVF	Rift Valley Fever
Govt.	Government
HIV	Human Immune Virus
IGAs	Income Generating Activities
IMR	Infant Mortality Rate
MMR	Maternal Mortality Rate
NCD	New Castle Disease
OPV3	Oral Polio Vaccine 3 rd Doze
PLHA	People Living with HIV/AIDS
PMTCT	Prevention Mother to Child Transmission
PR	Pass Rate
SACCOS	Savings and Credit Cooperative Societies
Sq. Km.	Square Kilometre
STD VII	Standard Seven
TB	Tuberculosis
TBAs	Traditional Birth Attendants
TPR	Toilet Pupil Ratio /Teacher Pupil Ratio
TT2	Tetanus Toxoid 2 nd doze
U5MR	Under Five Mortality Rate

VCT	Voluntary Counselling and Testing
VHC	Village Health Committee
VHWs	Village Health Workers
VWC	Village Water Committee
VWF	Village Water Fund
WWF	World Wildlife Foundation
WUG	Water User Group

CHAPTER ONE

Land, Climate, Agro-Ecological Zones and People

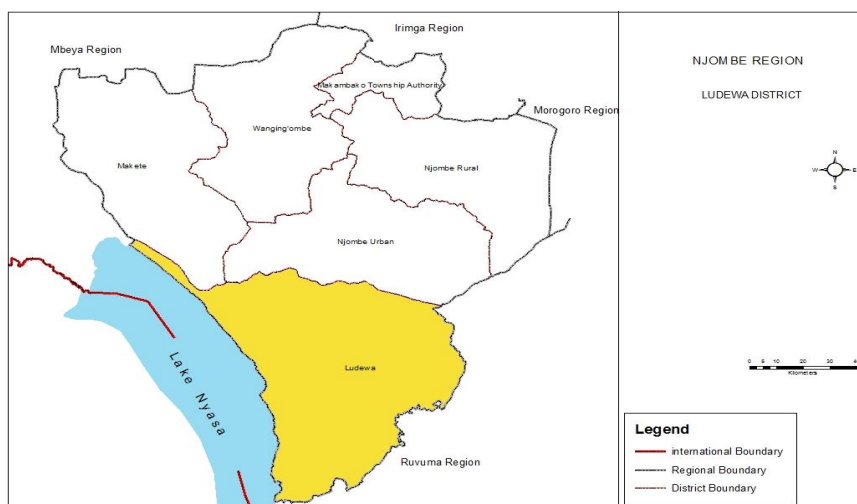
1.0 An Overview

Chapter One gives information about the geographical location, land area, administrative units, climate and agro-ecological zones of Ludewa District. Information about ethnic groups, population distribution, size and other demographic characteristics is also given.

1.1 Geographical Location



Map 1: Geographical Location of Ludewa District; 2012



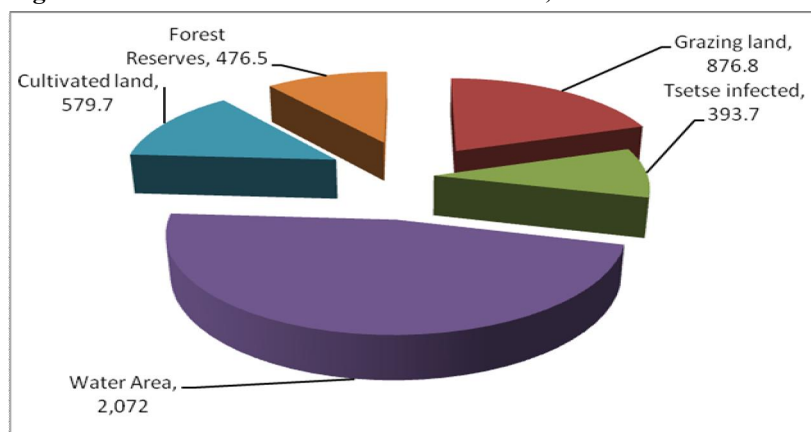
Source: National Bureau of Statistics, Cartographic Section, Field Operations Department, 2013

Ludewa District is among the three districts of Njombe Region and was established on July 1 1975 by His Excellency Rashid Mfaume Kawawa. The name Ludewa comes from the word Ludeva, the headquarters of the Chief of the Wapangwa tribe where the people went to report their cases and wait for an answer, which was wrongly pronounced by colonials as Ludewa. The District shares borders with Njombe District in the North, Songea District in the East, Mbinga District in the South, and Makete District in the North West while Lake Nyasa lies on the Western side of the District. In terms of international identification, the District lies between latitudes $9^{\circ}30'$ and $10^{\circ}30'$ south of the Equator and between longitudes $34^{\circ}35'$ and $35^{\circ}10'$ east of Greenwich.

1.2 Land Area, Land Use Pattern and Administrative Units

Ludewa District has a total area of (8,397 sq. kms) out of which land area is 6,325 sq. kms and water area is 2,072 sq. kms. Ludewa District is about 34% the total area of Njombe Region most of which is steep land with very many hills and valleys. The arable land available is 6,289.50 sq. kms. Out of the arable land in the District, only 2,107.50 sq. kms are actually cultivated annually, leaving the remaining 4,070.6 sq. kms for grazing, as forest reserve or lying idle for some reason such as soil leaching infestation, mountain ridges or being edges and river beds. About 476.5 sq. kms are forest reserves while normal forests/grassland used for grazing cover about 717.19 sq. kms. Figure 1 shows land use pattern of the district.

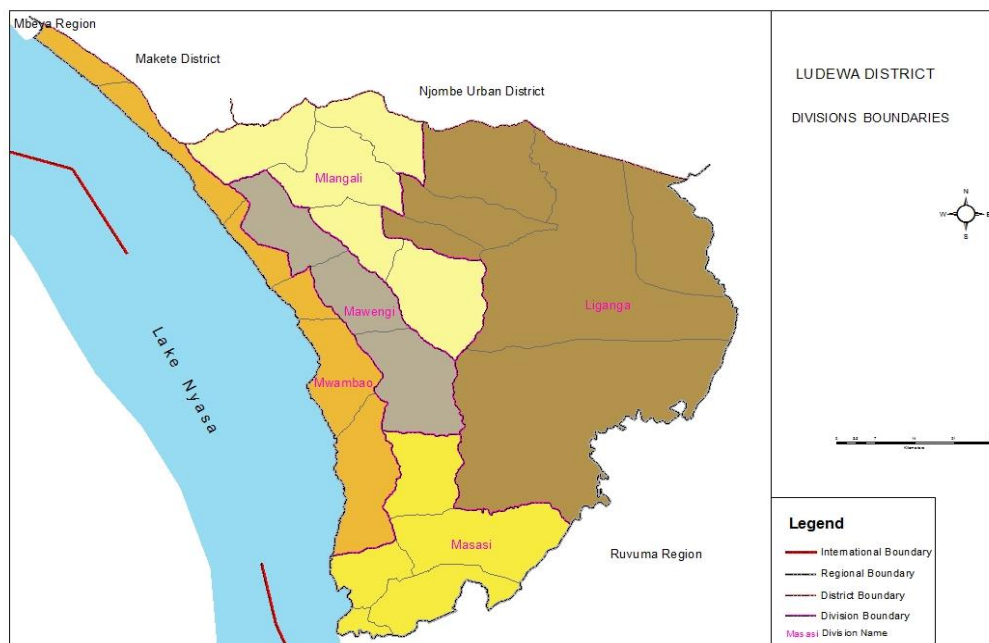
Figure 1: Land Use Pattern in Ludewa District; 2012



Source: Ludewa District Executive Director's Office & Land, Natural Resources and Environment Department, 2013

Administratively, Ludewa District is divided into 5 divisions and 25 wards with a total of 77 villages and 342 hamlets distributed unevenly as shown in Table 1.1 and Figure 2. Liganga division covers about 26.1 percent of total land area of the district followed by Masasi division with about 21.1 percent of the total land area. Mawengi division has the smallest land area in the district constituting only 16.0 percent of the total land area.

Map 2: Showing Ludewa District Division Boundaries, 2012

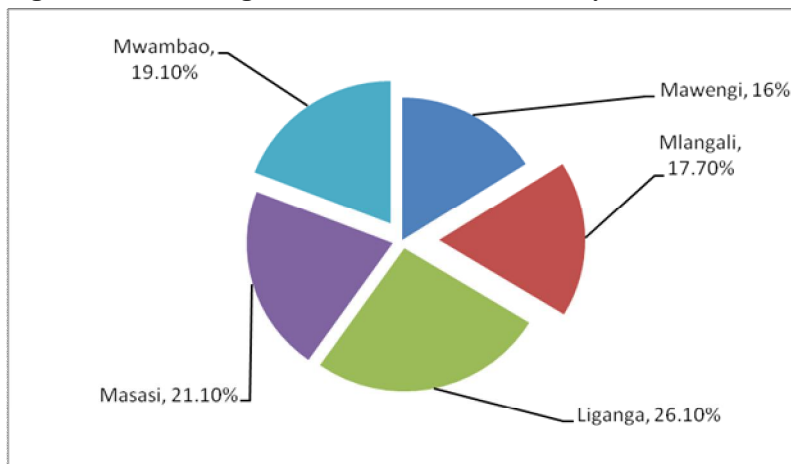


Source: National Bureau of Statistics, Cartographic Section, Field Operations Department, 2013

Table 1. 1: Land Area and Administrative Units by Division, Ludewa District; 2012

Division	Area .sq Kms.	Number of Wards	Number of Villages	Number of Hamlets	Percent Land Area
Mawengi	1015.1	3	10	61	16.0
Mlangali	1117.6	5	19	86	17.7
Liganga	1649.9	6	18	77	26.1
Masasi	1337.3	5	15	59	21.1
Mwambao	1205.1	6	15	59	19.1
Total	6325	25	77	342	100.0

Source: Ludewa District, Human Resource Management Department, 2013

Figure 2: Percentage Distribution of Land Area by Division, Ludewa District, 2012

Source: Ludewa District Executive Director's Office -Land Natural Resources and Environment Department, 2013

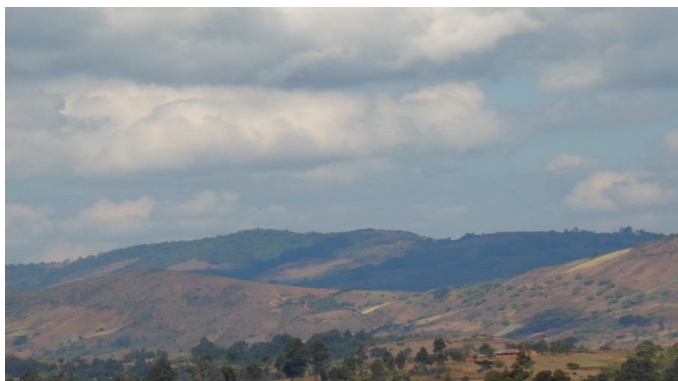
1.3 Climate, Soil and Topography

1.3.1 Climate

The climate of the District is closely associated with three landscape zones, the Highlands Zone at an altitude of 2,400 meters above sea level with an average temperature of 16⁰C, the Midland Zone with an average temperature of 25⁰C and the Lowlands Zone which lies at an altitude of 900 meters above sea level and an average temperature of 27⁰C.

1.3.2 Topography

The District receives rainfall of between 900mm and 1,600mm annually, falling between the months of October or November and April or sometimes May and a dry season from May to September or October.



Because of the low altitude, Ludewa District experiences tropical climate

1.4 Drainage System

Ludewa District forms part of the vast southern plateau of Njombe Region, an area of steep and gently undulating plains broken in places by hills or mountains. Most parts of the District lie between 900 meters and 2,400 meters above sea level and form the main watershed separating rivers flowing south eastwards into the Lake Nyasa and tributaries which join Great and Little Ruaha rivers that run into the Rufiji River Basin. The central plateau divides the two river systems into a northern drainage and a southern drainage. Most parts of Ludewa District drains into Lake Nyasa, which through the Shire in Malawi and Zambezi rivers is connected to the Indian Ocean.

1.5 Agro – Ecological Zones (AEZ)

Basically the District has three distinctive agro-ecological zones, namely, the Highlands Zone, the Midlands Zone and the Lowlands Zone. These zones are differentiated by the type of rainfall, climate, altitude and soil characteristics which also dictate the type of activity to be undertaken.

1.5.1 The High Rainfall Zone

This zone includes mainly Mlangali and parts of Mawengi and Liganga divisions of Ludewa District. The Highlands zone in most cases has temperatures below 15⁰C and receives plenty of rainfall ranging between 1,000mm and 1,600 mm per year. The zone is also characterized by humid forest remnants, extensive grassland and miombo woodlands. Maize is the staple food and widely cultivated. Other food crops grown include, bananas, beans, wheat, sorghum, sweet potatoes, finger millet, etc. Cash crops are tea, coffee, sunflower and pyrethrum. Fruits of temperate type of climate thrive as well. Both beef and dairy cattle are reared in the Highlands Zone. Other types of animals like goats and sheep are also found in this zone.

1.5.2 The Midlands Zone

This zone lies in the central part of Ludewa District and is covered with alluvial soils. The areas that fall within this zone include most parts of Mawengi Division. The average annual temperature of this zone is 25⁰C with an average annual rainfall of 1,200mm. This zone is typified by extensive grasslands characterized by clump shrubs on stiff and remains of miombo and many other species. Grasses are perennial, with low nutritional value and not prone to overgrazing. Both hybrid and local types of maize are grown as staple food. Bean and sweet potatoes are other food stuff grown. Sunflower and coffee are grown as cash crops. Like in the Highlands Zone, beef and dairy cattle, sheep, rabbits and pigs are kept. Goats are also common in the zone.

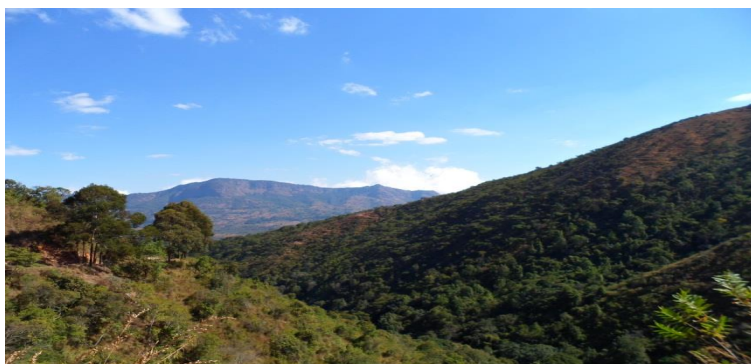
1.5.3 The Lowlands Zone

This zone lies in the southeast part of Ludewa District and is covered with alluvial soils. It includes mainly Masasi Division and part of Mwambao Division in Ludewa District. Temperature in this zone is about 27⁰C with an average annual rainfall of 900mm. The zone is typified by extensive grasslands characterized by clump shrubs on thick grasses and remnants of miombo with other species. Grasses are perennial with low nutritional value and not prone to overgrazing. Cassava and finger millet are grown as staple food. Sweet potatoes, paddy, maize, groundnuts, bananas are other foods crops grown. Cashew nuts, tobacco and coconuts are grown as cash crops. The important livestock found in the lowlands zone includes indigenous cows, sheep, goats, sheep, pigs and rabbits.

1.5.4 Temperature

The temperature ranges from 16⁰C ó 27⁰C and highest temperature is experienced between September and October just before the start of rainfall. Temperature gradually falls in December, and then remains relatively constant up to May. From May to August the district experiences low temperatures.

1.5.5 Vegetation



Ludewa District is covered by Miombo woodlands mixed with wetland vegetation of mbuga wooded grassland and mbuga grasslands. The Miombo woodlands are natural forests, which are found in Madope ward and some parts of Madilu, Lugarawa and Mlangali wards.

1.6 Population

1.6.1 Ethnic Groups

The District has three main ethnic groups namely: Pangwa, Manda, and Kisi. The Pangwa mainly occupy the north eastern part of the District which cover Liganga, Mlangali and Mawengi divisions, while the Manda occupy most of southern parts of the District mainly

Masasi, Manda, Ruhuhu, Iwela and Luilo wards. In addition, the District is also occupied by a small group of Ngoni tribe. On the western side you will find the Kisi who mainly occupies Lupingu, Lifuma, Makonde, Kilondo and Lumbila wards. Table 1.2 portrays ethnicity of indigenous people by ward in Ludewa District.

Table 1. 2: Ethnicity of Indigenous People by Ward, Ludewa District; 2012

Ward	Number of Major Ethnic Groups	List of three Name of Major Ethnic Groups
Lumbila	1	Kisi
Kilondo	1	Kisi
Mawengi	1	Pangwa
Lupanga	1	Pangwa
Mlangali	1	Pangwa
Milo	1	Pangwa
Lugarawa	1	Pangwa
Madope	1	Pangwa
Madilu	1	Pangwa
Mundindi	1	Pangwa
Mavanga	1	Pangwa
Ibumi	1	Pangwa
Nkomangómbe	1	Pangwa
Luilo	1	Manda
Masasi	1	Manda
Manda	1	Manda
Iwela	1	Manda
Lupingu	1	Kisi
Ludewa	1	Pangwa
Ludende	1	Pangwa
Luana	1	Pangwa
Makonde	1	Kisi
Mkongobaki	1	Pangwa
Lifuma	1	Kisi
Ruhuhu	1	Manda

Source: Ludewa District Executive Director's Officer- District Planning Office, 2013

1.6.2 Population Size and Growth

The population of Ludewa District has experienced significant growth. According to the 2002 Population and Housing Census the District had 128,155 people compared to 100,216 inhabitants counted in 1988 Population Census resulting in a big increase of 27,939 people and average annual growth rate of 1.8 percent during the intercensal period. The preliminary data for 2012 put the district population at 133,218 persons out of which, females account for 52.4 percent of the population or 69,776 persons. Table 1.3 shows the population sizes growth rates for Njombe region and its districts for the 1988, 2002 and 2012 censuses.

Compared to other districts of Njombe Region, Ludewa District is the second largest rural district in terms of land area but had the third largest population after Njombe and Makete districts according to the 1988 Census results. According to the 2002 Population and Housing Census, Ludewa District was the second populous rural district in the region after overtaking Makete District by 22,380 people and contributed 19.6 percent of the regional population. Between 1988 and 2002 the district's population grew at an average annual growth rate of 1.8 percent compared to the regional growth rate of 1.6 percent and national average growth rate of 2.4 percent.

Table 1. 3: Population Size and Growth by District, Njombe Region; 1988, 2002 and 2012 Censuses

District	Land Area (sq. kms.)	1988 Pop. Census		2002 Pop. Census		2012 Pop. Census		Growth Rate		
		Number	Percent	Number	Percent	Number	Percent	1978-1988	1988-2002	2002-2012 projection
Makete	5,800	102,614	19.9	105,775	16.2	97,266	13.8	1.2	0.2	0.1
Njombe	9,868	313,991	60.8	419,115	64.2	471,613	67.2	2.8	2.1	1.3
Ludewa	6,325	100,216	19.4	128,155	19.6	133,218	19	2.8	1.8	1.4
Total	22,018	516,821	100.0	653,045	100.0	702,097	100.0	2.6	1.6	1.1

Source: National Bureau of Statistics, Computed Data from 1988 and 2002 Population Censuses Reports.

1.6.3 Population Density

Ludewa District, with an average population density of 21 persons per sq. km is the second densely populated district in Njombe Region. The Population density of Ludewa relatively high population density of Ludewa District is attributed to its high fertility rate and low out migration. The small increase in the population size has caused the population density of the district to have a small increase as in 2002 it was only 20 persons per sq. km.

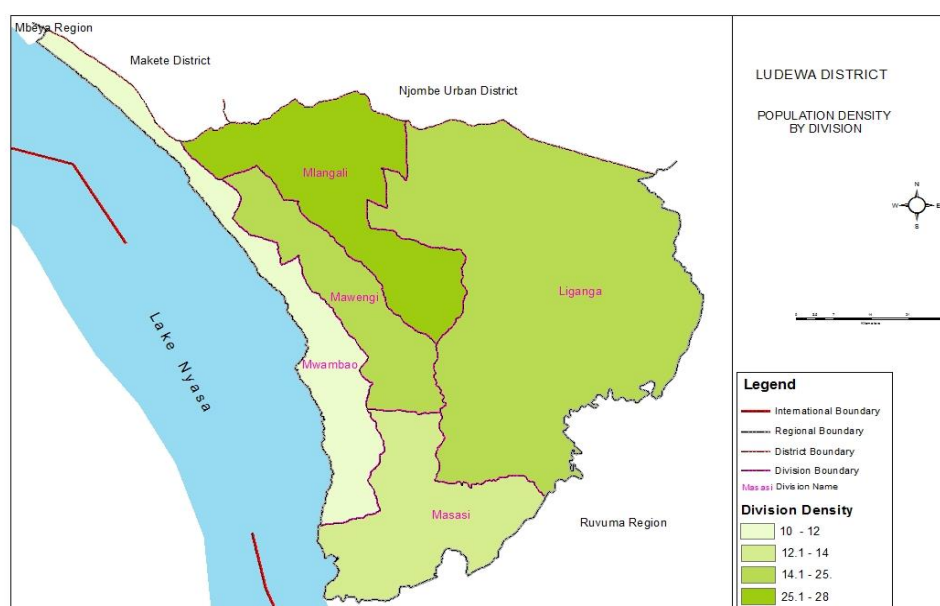
Table 1. 4: Population Density by District, Njombe Region During 1988, 2002 and 2012 Censuses

District	Land Area (sq. km)	1988	2002	2012	Population Density		
		Population	Population	Population	1988	2002	2012
Makete	5,800	102,614	105,775	97,266	18	18	17
Njombe	9,868	313,991	419,115	471,613	32	42	48
Ludewa	6,350	100,216	128,155	133,218	16	20	21
Total Region	22,018	516,821	653,045	702,097	23	30	32

Source: NBS, Computed Data from 1988, 2002 and 2012 Population Censuses Reports.

Table 1.5 gives the population density at division level for the census years of 2002 and 2012. In 2002, Mlangali Division with a population density of 30 persons per sq. km was the most densely populated division in the District; followed by Liganga Division with 24 persons per sq. km. Mwambao Division was the least densely populated division as it had only 12 persons per sq. km. In 2012, Mlangali Division continued to be the most densely populated division with population density of 28, followed by Liganga and Mawengi (25 each) and Masasi (14). Mwambao division remained the least densely populated division with 12 persons per sq. km.

Map 3: Showing Population Density by Division, Ludewa District; 2012



Source: National Bureau of Statistics, Cartographic Section, Field Operations Department, 2013

Table 1.5: Population Density by Division, Ludewa District; 2002 and 2012

Division	Land Area (sq. km.)	Population		Population Density	
		2002	2012	2002	2012
Mawengi	1,015.10	23,572	25,580	23	25
Mlangali	1,117.64	33,785	31,775	30	28
Liganga	1,649.87	38,891	41,676	24	25
Masasi	1,337.25	18,028	19,236	13	14
Mwambao	1,205.14	14,244	14,951	12	12
Total	6,325.00	128,520	133,218	20	21

Source: NBS Computed Data from 2002 and 2012 Population Censuses Reports.

1.6.4 Population Trend

Table 1.6 shows that from 2002 to 2012 the District population increased by about 4,698 persons from 128,520 in 2002 to 133,218 persons in 2012. However, at division level there were significant differences in the level of population change with one division (Mlangali) registering population decrease of more than five percent while in other divisions there was a population increase ranging between five and 8.5 percent. The decrease in population in Mlangali Division is attributed to high out migration of active age population seeking employment or other means of living elsewhere.

Table 1. 6: Population Trend by Division, Ludewa District; 2002 and 2012 Censuses

Division	Land Area (Sq.km.)	Population		Population Increase	
		2002	2012	Number	Percent
Mawengi	1,015.10	23,572	25,580	2,008	8.5
Mlangali	1,117.64	33,785	31,775	-2,010	-5.9
Liganga	1,649.87	38,891	41,676	2,785	7.2
Masasi	1,337.25	18,028	19,236	1,208	6.7
Mwambao	1,205.14	14,244	14,951	707	5.0
Total	6,325.00	128,520	133,218	4,698	3.7

Source: NBS Computed Data from 2002 and 2012 Population Censuses Reports.

1.6.5 Dependency Ratio

The Age Dependency Ratio gives the number of persons aged 0 ó 14 years and those of age 65 years and above for every 100 persons aged 15 ó 64 years. Table 1.7 shows that in Ludewa District the number of dependants for every 100 persons of the active age group decreased slightly from 109 in 1988 to 101 in 2002. This means that while there were 100 people in age 15-64 to support 109 people in age groups 0-14 and 65 years and above in 1988, in 2002 such 100 people supported 101 people. This means that the burden for the economically active population had decreased from 109 persons to 101 persons. The results show that, the District was not in a better position since its dependency ratio was above the regional average of 107 and 94 persons in 1988 and 2002 respectively.

Table 1. 7: Dependency Ratio by District, Njombe Region; 1988 and 2002

	1988 Population		Dependency Ratio	2002 Population		Dependency Ratio
	Number of Dependants	Economically Active		Number of Dependants	Economically Active	
Makete	53,000	49,344	107	51,672	54,103	96
Njombe	160,477	152,169	105	200,685	218,430	92
Ludewa	52,181	47,877	109	64,453	63,702	101
Total Region	265,658	249,390	107	316,810	336,235	94

Source: National Bureau of Statistics, Computed Data from 1988 and 2002 Population Censuses Reports.

Table 1.8 indicates the magnitude of dependence ratio for each division in Ludewa District based on the 2002 Population Census results. At division level, Mawengi Division had the lowest dependency Ratio of 94 persons for every 100 persons of the active population, followed by Liganga and Masasi (101 persons each), while less labour force to support more dependants was experienced at Mlangali and Mwambao divisions with 102 and 113 persons for every 100 persons each respectively.

Table 1.8: The Dependency Ratios by Division, Ludewa District; 2002

Division	2002 Population Number of		
	Dependants	Economically Active	Dependency Ratio
Mawengi	11,369	12129	94
Mlangali	17040	16639	102
Liganga	19456	19326	101
Masasi	9046	8924	101
Mwambao	7542	6684	113
Total District	64,453	63,702	101

Source: NBS, Computed Data from 2002 Population Censuses Report

1.6.6 Population Distribution and Sex Ratio

The populations of Ludewa District of 1988 and 2002 are categorized as broad based population pyramid indicating high fertility with the decline or constant mortality rates. The 2002 District Profile of Ludewa reveals that Ludewa has Sex Ratio of 89 males for every 100 females. This means that, very few females in Ludewa District are mobile. Currently, few of the males have migrated outside Ludewa District to look for employment in industries and other businesses.

During 2002 census, Ludewa was dominated by young population aged under 19 years who were 73,325 (36,657 males and 36,668 females) or 57.2 percent of the total population, followed by the young population aged between 20 ó 34 years estimated to be 26,655 persons (11,617 males and 15,038 females) or 20.8 percent of total population. Persons aged 60 years and above were 7,069 (3,109 males and 3,960 females) or 5.5 percent of the total population.

At ward level, the 2012 Population Census preliminary results indicated that Mlangali was the most populous rural ward in the district, by having 12,977 persons (ten percent of the total district population) followed by Ludewa ward eight percent, Madilu and Mawengi wards each with seven percent of the district population. The least populous ward was Iwela with a total number of 1,193 inhabitants or one percent. At division level however, Liganga leads with 29 percent followed by Mlangali at 28 percent. The division with the smallest

population is Mwambao with 12 percent of the total district population. The uneven distribution of Ludewa residents is mostly influenced by the landscape and availability of natural resources including arable land and grazing areas that is suitable for cultivation and livestock keeping as well as the accessibility of infrastructure. Table 1.9 gives the population distribution by ward according to the 2002 and 2012 Population Censuses.

Table 1. 9: The 2002 and 2012 Populations by Ward, Ludewa District

Ward	2002 Population		2012 Population	
	Total	Percent Share of Population	Total	Percent Share of Population
Ludewa	8,747	6.8	10,115	7.6
Luana	4,455	3.5	4,570	3.4
Mawengi	9,123	7.1	9,083	6.8
Mawengi Div.	22,325	17.4	23,768	17.8
Ludende	5,855	4.6	5,498	4.1
Milo	7,086	5.5	6,861	5.2
Lupanga	6,235	4.9	6,439	4.8
Mlangali	14,609	11.4	12,977	9.7
Madope	4,912	3.8	5,442	4.1
Mlangali Div.	38,697	30.2	37,217	27.9
Lugarawa	12,019	9.4	8,535	6.4
Ibumi	1,247	1.0	1,812	1.4
Madilu	9,259	7.2	9,172	6.9
Mundindi	6,798	5.3	7,346	5.5
Mavanga	5,903	4.6	7,651	5.7
Mkongobaki	0	0.0	3,530	2.6
Liganga Div.	35,226	27.5	38,046	28.5
Nkomangómbe	2,793	2.2	3,649	2.7
Luilo	3,729	2.9	3,976	3.0
Masasi	2,302	1.8	2,293	1.7
Manda	8,084	6.3	4,304	3.2
Ruhuhu	0	0.0	3,821	2.9
Masasi Div.	16,908	13.2	18,043	13.5
Makonde	5,715	4.5	3,952	3.0
Lifuma	0	0.0	2,224	1.7
Lumbila	2,058	1.6	1,880	1.4
Kilondo	2,060	1.6	2,053	1.5
Lupingu	4,411	3.4	4,842	3.6
Iwela	1,120	0.9	1,193	0.9
Mwambao Div.	15,364	12.0	16,144	12.1
Total	128,520	100.0	133,218	100.0

Source: NBS, the 2002 Village/Street Statistics Report for Ludewa District, 2002 and 2012 Census

1.6.7 Households and Household Size

Ludewa District had the smallest number of households in Njombe Region in both 1988 and 2002 censuses. With a population of 128,155 in 2002 census, there were 27,729 private households, equivalent to 18.0 percent of the total 154,316 private households in the region. Also the district had the largest average household size of 4.5 persons per household. Table 1.10 shows the distribution of households and the average household size by district in Njombe region.

Table 1. 10: Distribution of Households and Average Household Size by District, Njombe Region; 1988 and 2002

District	1988 Census			2002 Census		
	Number of Households	Average Household Size	Total Population	Number of Households	Average Household Size	Percent Share of Household
Makete	25,148	4.6	105,775	27,762	3.7	18.0
Njombe	65,075	4.9	419,115	98,825	4.0	64.0
Ludewa	19,981	5.0	128,155	27,729	4.5	18.0
Total Region	110,204	4.9	653,045	154,316	4.2	100.0

Source: National Bureau of Statistics, Computed Data from 1988 and 2002 Population Censuses Reports.

Table 1.11 shows the distribution of households and average household size by ward for Ludewa District based on the 2002 census data. At ward level, Mlangali ward with 3,209 households was leading with an average household size of 4.6 persons. In total, 10 wards had their average household size above the district value. These include, Mlangali, Mavanga, Kilondo, Mundindi, Masasi, Lupanga, Lugarawa, Madope, Ludewa and Makonde wards. Iwela ward with 4.4 persons per household had the smallest number of households (254). Ludende ward, with the least average household size of 4.2 had 1,386 households which was the eighth ward in total number of households.

Table 1. 11: Population, Households and Average Household Size by Ward, Ludewa District; 2002

Ward	Total Population	Total Households	Average Household Size
Lumbila	2,058	444	4.6
Kilondo	2,060	406	5.1
Mawengi	9,123	2,046	4.5
Lupanga	6,235	1,278	4.9
Mlangali	14,609	3,209	4.6
Milo	7,086	1,648	4.3
Lugarawa	12,019	2,510	4.8
Madope	4,912	1,026	4.8
Madilu	9,259	1,992	4.6
Mundindi	6,798	1,370	5.0
Mavanga	5,903	1,146	5.2
Ibumu	1,247	292	4.3
Nkomangómbe	2,793	620	4.5
Luilo	3,729	828	4.5
Masasi	2,302	457	5.0
Manda	8,084	1,741	4.6
Iwela	1,120	254	4.4
Lupingu	4,411	974	4.5
Ludewa	8,747	1,881	4.7
Ludende	5,855	1,386	4.2
Luana	4,455	1,005	4.4
Makonde	5,715	1,216	4.7
District	128,520	27,729	4.6

Source: NBS, Computed Data from 1988 and 2002 Population Censuses Reports.

CHAPTER TWO

District Economyj

2.0 Introduction

Chapter Two highlights the economic performance of Ludewa District and its poverty status. The economic indicators used include the Gross Domestic Product (GDP), Per Capita Gross Domestic Product and the main sources of income for the residents of Ludewa District. The poverty indicators cover demographic characteristics, health and education status, access to drinking water and housing conditions.

2.1 GDP and Per Capita GDP

Ludewa District which is endowed with Lake Nyasa makes significant contribution to the Regional GDP and per capita GDP. According to the Iringa Region GDP report of 2008, the GDP of Ludewa District was TShs 161,486 million while per capita income was TShs. 1,116,838. Fishing made a contribution of TShs 119 million to the total GDP of Ludewa District. Ludewa was under Iringa Region before the region was divided to form the Njombe Region.

2.2 Poverty Indicators

As stated earlier, beside GDP and per capita GDP, there are a number of indicators that portray the poverty level. These indicators include gini coefficient, poverty gap, percent of households below basic needs poverty line, main source of cash income, food consumption patterns, net enrolment, adult literacy rate, health indicators and access to safe drinking water. They also include housing conditions in terms of types of toilets, roofing materials, household assets, and sources of lighting and cooking energy.

2.3 Income Poverty Rate, Poverty Gap and Gini Coefficient

Ludewa District was among the best 20 districts on Tanzania Mainland in regard to the least number of people living below the basic needs poverty line, and at regional level, it is considered to be one of the best districts according to the 2005 Poverty and Human Development Report (by that time Ludewa was a district under Iringa Region). The Report indicates that only 24 percent of Ludewa District residents were below the basic needs poverty line. Ludewa and Makete had the same percentage of 24 percent of population below the poverty line, followed by Njombe 25 percent.

The Districts of Mufindi and Iringa Rural which are now under Iringa Region had the worse percentages of 32 and 31 respectively. With respect to poverty gap, Ludewa and Njombe had a poverty gap of 6 each, followed by Makete with a poverty gap of 7.

With regard to Gini Coefficient Rate, Makete was the worst with 43 percent variations in the Distribution of wealth among its people, Ludewa was worse with 36 percent and Njombe District was better with 32 percent.

Table 2. 1: Selected Poverty Indicators by District, Njombe Region; 2005

District	Percent of People living below Poverty Line	Poverty Gap	Gini Coefficient Rate	Number of Poor
Ludewa	24	6	36	5
Makete	24	7	43	6
Njombe	25	6	32	9
Total	73			

Source: Poverty and Human Development Report, 2005

2.4 Main Sources of Cash Income

The 2007/08 National Sample Census of Agriculture Report shows that Ludewa as a rural district has vast economic opportunities. Selling of food crops was reported to be the main source of income of the rural agricultural households in the District. It was followed by off farm income, selling of forest products, selling of permanent crops and finally other casual cash earnings and business income. The report further indicates that 25% of households in Ludewa District were involved in fishing.

2.5 Health Indicators

Though the residents of Ludewa District are said to have relatively good access to social services like health and education the HIV/AIDS pandemic is among the diseases that have had a negative impact to the health of its residents resulting in high rate of morbidity, mortality, orphanhood and widowhood. The orphanhood rate of 2.06 percent was the third and widowed rate of 5.7 percent was also the third highest in the Region. The health situation of the Ludewa people can also be observed through other proxy health indicators shown in Table 2.2. They include Infant Mortality Rate (number of infant deaths per 1,000 infants), Children under Five Years Mortality Rate (infants and children deaths per 1,000 live births) and Doctor/Population Ratio (number of people per doctor). According to the results of the 2002 Population and Housing Census, the Infant Mortality Rate for Ludewa District was 98 compared to 110 in 1988 Census. However, the U5MR for Ludewa District in the same year was 160 as compared to 183 in 1988. Data from the Health Department in

Ludewa District however show that IMR in 2009 was 25:1,000. As for U5MR the data from the Health Department also shows that the rates were 51:1,000. These data should be read with caution as they are doubtful.

Table 2. 2: Selected Health Indicators for Ludewa District

Indicator	Ludewa District (2009)	Tanzania Mainland (2004)
Orphaned Rate (percent)	2.06	1.2
Widowed Rate (percent)	5.7	5.1
Infant Mortality Rate (IMR)	25	83
Children Under Five Mortality Rate (U5MR)	51	133
Doctor/Population Ratio	171,610	Na

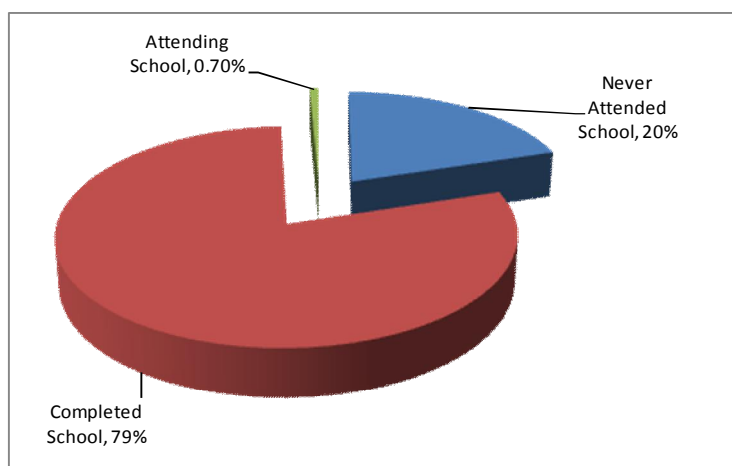
Na: Not available

Source: NBS Compiled Data Based on: Demographic and Health Survey; Agriculture Survey 2007/08; the 2002 Population Census Results; and Ludewa District Council Reports.

2.6 Literacy Rate and Level of Education

According to the 2007/2008 National Sample Census of Agriculture results, the literacy rate for persons aged five years and above for Ludewa District was 78.9 percent. In 2003 Agriculture Sample Census Ludewa had a literacy rate of 79 percent. This situation is not good as it shows that the rate of literacy in Ludewa District is not increasing. Literacy rate of heads of households was higher for males than females. With regard to the education attainment for household members in the District the report shows that 0.7 percent was attending school, 79 percent had completed school and 20 percent had never attended school.

Figure 3: Percentage Distribution of Heads of Households by Level of Education, Ludewa District, 2007/2008

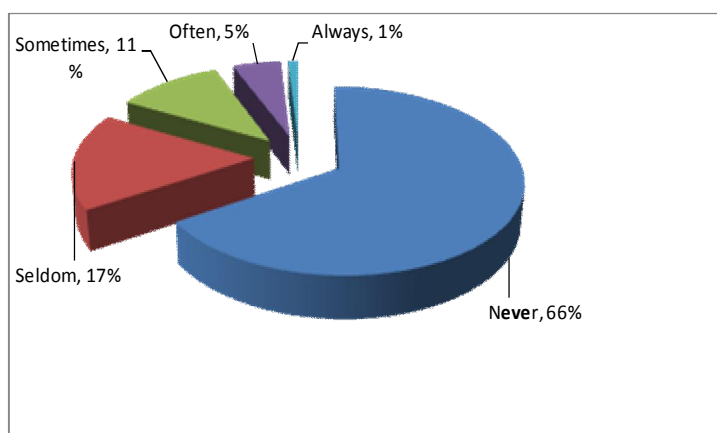


Source: NBS, National Sample Census of Agriculture, Iringa region, 2007/2008.

2.7 Food Security

In Ludewa District, according to the 2007/2008 National Sample Census of Agriculture, Iringa Region, about 17,537 (66 percent) of the total households said they never experienced problems in satisfying the household food requirements, while 4,483 or 17 percent said they seldom experienced problems in satisfying the household food requirements, 2,967(11 percent) sometimes had problems and 1,319(5 percent) often experienced problems where as 396 (1 percent) always experienced problems in satisfying the household food requirements.

Figure 4: Percentage Distribution of Rural Agricultural Households by Status of Food Satisfaction, Ludewa District, 2007/2008



Source: NBS National Sample Census of Agriculture 2007/08, Iringa Region

2.8 Food Consumption Patterns

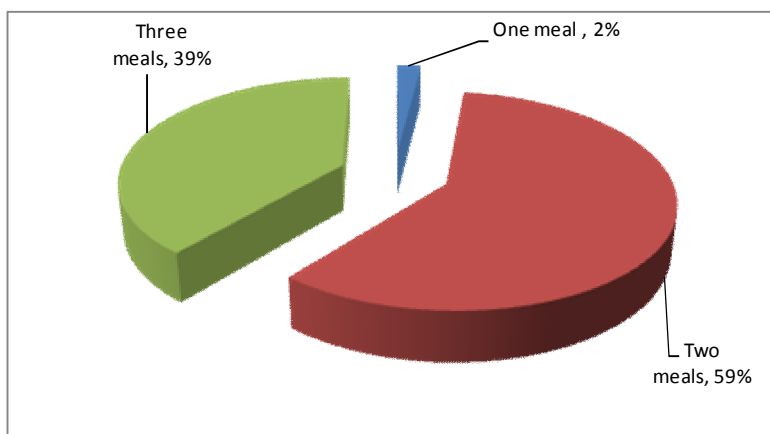
The level of food consumption is also an indicator of the poverty level of the households. The number of meals consumed in a day and the frequencies of protein intake per week, particularly meat and fish, are most superior in measuring poverty levels of the households.

2.9 Number of Meals per Day

The National Sample Census of Agriculture 2007/08 reveals that the majority of rural agricultural households in Ludewa District said they had two meals per day (15,823 households or 59 percent), while 10,417 households (39 percent) had three meals. Moreover, the results also indicate that very few households had one meal (461 households or 2.0

percent). Those results indicate that food insufficiency affects a very small proportion of rural households in the District.

Figure 5: Percentage Distribution of Rural Agricultural Households by Meals Taken per Day, Ludewa District; 2007/2008

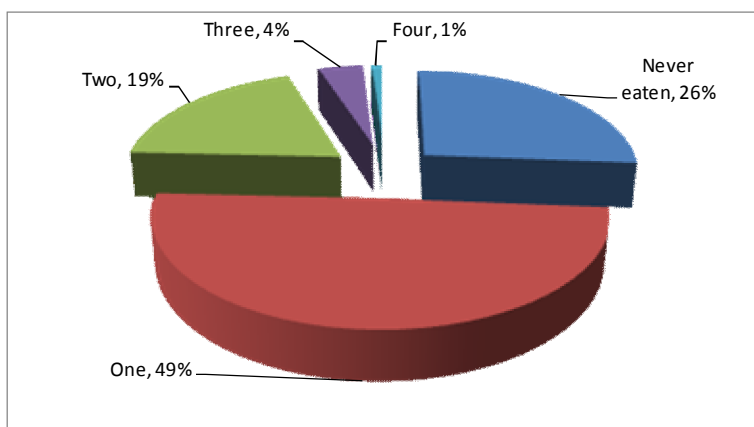


Source: NBS, National Sample Census of Agriculture, Iringa region, 2007/08.

2.10 Protein (Meat and Fish) Consumption Frequencies

Figure 6 shows that most of the households ate meat once per week (13,054 households or 49 percent), followed by those that ate meat two times (4,945 households or 19 percent), and then 1,121 households or 4% who ate meat three times, and 330 or 1% who ate meat four times a week. As many as (6922 households or 26 percent), did not eat meat during the week prior to the enumeration.

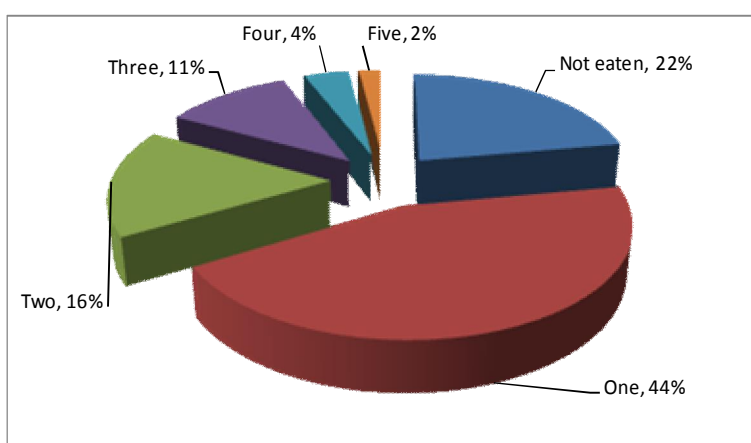
Figure 6: Percentage Distribution of Rural Agricultural Households by Frequency of Meat Consumption per Week by Households, Ludewa District, 2007/2008



Source: NBS, National Sample Census of Agriculture, Iringa region, 2007/08.

Although Ludewa District had 25 percent of household involved in fish farming, (the largest number compared to other districts in the region) the observation regarding fish consumption was that 22 percent of households did not eat fish during the week prior to the enumeration. However, as Figure 7 shows that about 44 percent of the households ate fish once and 16 percent ate fish twice per week and those who ate fish three times per week were 11 percent. About 4 percent of households ate fish four times in the week while 2 percent ate fish five times a week and less than one percent ate fish six to seven times per week.

Figure 7: Percentage Distribution of Rural Agricultural Households by Frequency of Fish Consumption per Week by Households, Ludewa District, 2007/08

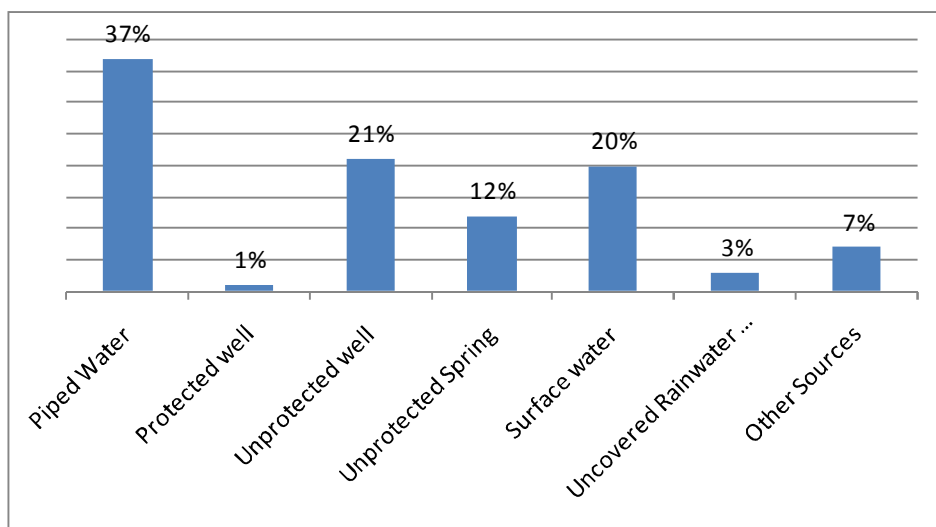


Source: NBS, National Sample Census of Agriculture, Iringa region, 2007/0

2.11 Access to Clean Drinking Water

The topography and the existence of a permanent drainage system are the main reasons for the reliable sources of water in the District. Since there is insignificant variation in the sources of water during wet and dry seasons we will concentrate on sources of water during the wet season only. Data from the 2007/08 National Sample Census of Agriculture show that piped water was the main source of drinking water in Ludewa District (37 percent) followed by unprotected well (21 percent), surface water 20 percent, unprotected spring (12 percent) uncovered rainwater catchments (3 percent) while a small percentage of 1 used protected well and as much as 7 percent used water from other sources.

Figure 8: Percentage of Households by Type of Water Source during the Wet Season, Ludewa District, 2007/08



Source: NBS, National Sample Census of Agriculture, Iringa Region 2007/08

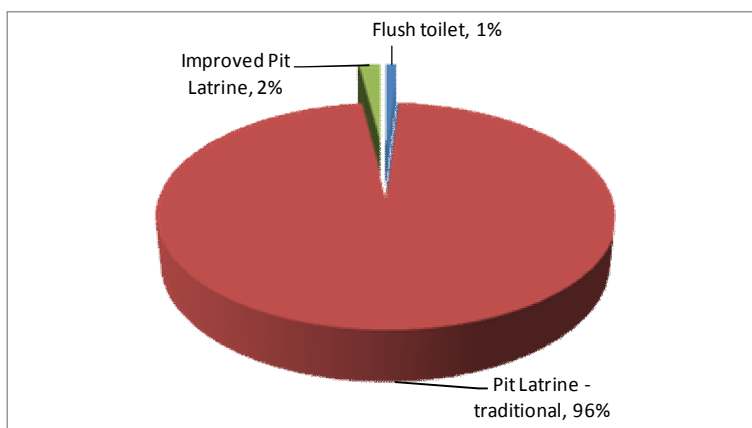
2.12 Types of Toilets



Traditional pit latrines are the most common toilets used in Ludewa district

With respect to availability of toilets, the National Sample Census of Agriculture 2007/08 reveals that almost all households in Ludewa District (96 percent) use traditional pit latrines followed by those with improved pit latrine (2 percent), flush toilets (1.0 percent), a very small percentage of the population (132 households, 1.0 percent) had no toilet (Figure 9).

Figure 9: Percentage of Households by Type of Toilet Facility, Ludewa District, 2007/08



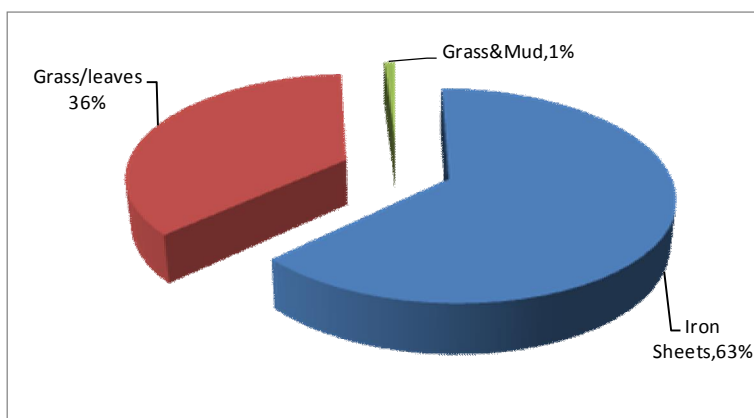
Source: NBS, National Sample Census of Agriculture, Iringa Region 2007/08

2.13 Roofing Materials



Iron sheets are the common roofing materials in Ludewa rural areas

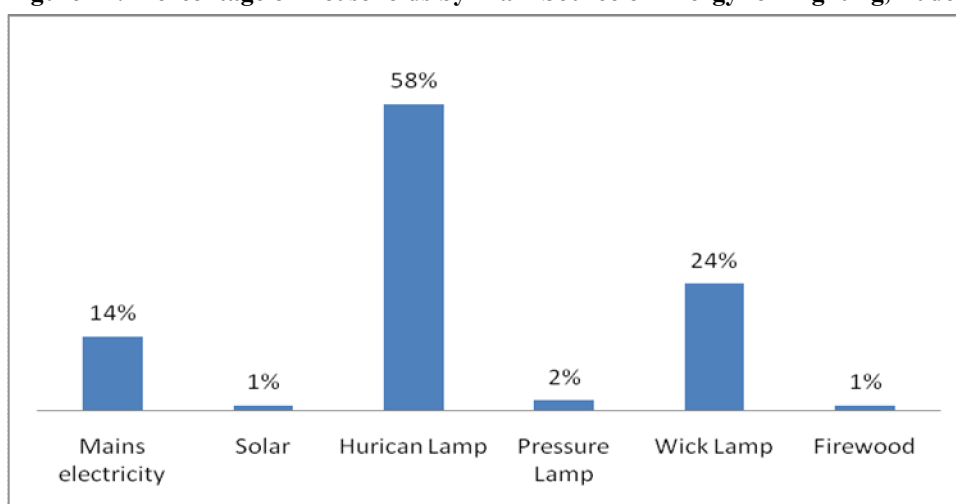
The National Sample Census of Agriculture 2007/08 indicates that grass and leaves are the most common roofing materials in rural areas in the country. The situation is a bit different in Ludewa District where only the most common roofing material was iron sheets (63 percent) followed by grass or leaves (36 percent), grass and mud (1 percent) while concrete were used for less than one percent. Figure 10 shows the percentage of households by type of roofing material.

Figure 10: Percentage of Households by Type of Roofing Material, Ludewa District, 2007/2008

Source: NBS, National Sample Census of Agriculture, Iringa region, 2007/2008

2.14 Sources of Lighting Energy

The National Sample Census of Agriculture 2007/08 reveals that only about four percent of households use electricity for lighting. Hurricane lamp was found to be the main source of lighting energy in Ludewa District. About 58 percent of total households use this source of energy, followed by wick lamp (24 percent), pressure lamp (2 percent), solar and fire wood were used by (1 percent) each. Other sources such as gas candles were used by very few (less than 1 percent each) households in the District. Figure 11 shows the percentage of households by main source of energy for lighting in Ludewa District.

Figure 11: Percentage of Households by Main Source of Energy for Lighting, Ludewa District, 2007/08

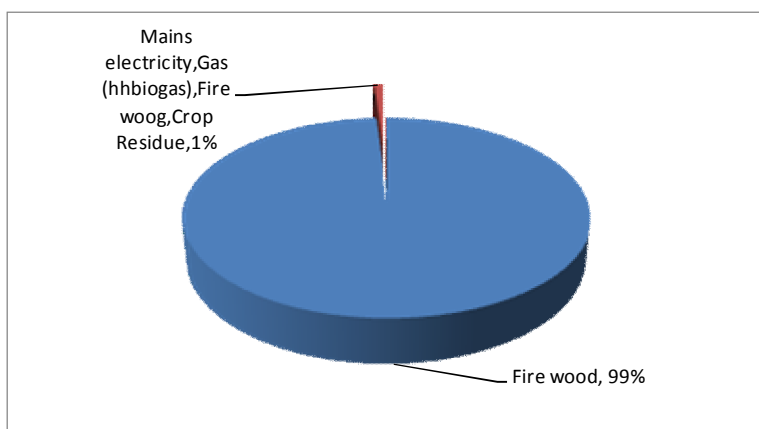
Source: NBS, National Sample Census of Agriculture, Iringa region, 2007/2008

2.15 Sources of Energy for Cooking



In Ludewa District firewood remains the most prevalent source of energy for cooking. This is illustrated by the National Sample Census of Agriculture 2007/08, where 99 percent of the households in the District used it. Other sources like mains electricity, gas (household biogas) and crop residue are used by a total of 1 percent with each being used by less than one percent. Therefore an insignificant number of the households reported using modern and/or environmental friendly source of energy for cooking such as electricity, solar energy and bottled gas. If the current practice continues, deforestation and depletion of natural vegetation through using firewood and charcoal will destroy the nature and ecology of Ludewa District. Measures should be taken to ensure that natural vegetation and ecology of the district are restored.

Figure 12: Percentage of Households by Main Source of Energy for Cooking, Ludewa District, 2007/08



Source: NBS, National Sample Census of Agriculture, Iringa region, 2007/2008

2.16 Land Development

Land use planning is a key aspect of development for both urban and rural areas of any district in the country. The land needs in urban areas are dominated by the demand for building plots for residential, commercial, institutional or industrial purposes. In rural areas agriculture and other production activities are the major needs for land.



Grazing area is available for both indigenous and improved cattle in Ludewa District

The demand for surveyed land plots in urban centres has exceeded the supply in the last five years in Ludewa District. By the end of 2009 there was no building plots surveyed in all the urban centres of Ludewa District despite the high demand. In 2012 however, the number of plot surveyed was 140 but there were no plots allocated. Other urban centers of Manda, Mawengi, Mlangali and Lugarawa had no surveyed plots in 2012 although the demand for plots was high. It is obvious that lack of surveyed building plots in most cases create a problem of crowded environment and mushrooming of slums or shanty towns at the end.

Table 2. 3: Demand and Supply of Building Plots in Urban Centers by Ward, Ludewa District; 2009 and 2012

Ward	1 st Jan. to 31 st Dec.2009			Plot Allocated as 31 st Dec. 2009	1 st Jan. to 31 st Dec.2012			Plot Allocated as 31.12.2012
	No. of Urban Centres	Demand for Plots	Plot Surveyed		No. of Urban Centres	Demand for Plots	Plot Surveyed	
LUDEWA	1	214	-	-	1	350	140	-
MANDA	1	58	-	-	1	110	-	-
MLANGALI	1	54	-	-	1	95	-	-
MAWENGI	1	86	-	-	1	170	-	-
LUGARAWA	1	76	-	-	1	134	-	-
Total	5	488	-	-	5	859	140	-

Source: Ludewa District Executive Director's Office of Land, Natural Resources and Environment Department, 2013

In the planning of farms, grazing areas and human settlements in rural areas, the village is the first step. Ludewa District authorities in collaboration with the Ministry of Land have managed to survey all the villages in the District with the exception of one village in

Mlangali Ward which was established recently. Among 76 villages surveyed 69 villages (89.6 percent) were given land certificates, implying that the villagers can now obtain loans from financial institutions.

Table 2. 4: Village Land Planning in Rural Areas by Ward, Ludewa District; 2012

Ward	Number of Villages	Number of villages surveyed	Percentage of villages already surveyed	Villages with village land certificates	Percentage of villages offered certificates
Ludewa	2	2	100	-	-
Luana	3	3	100	3	100
Mawengi	5	5	100	4	80
Mlangali	7	6	100	4	57
Madope	3	3	100	3	100
Mawengi	2	2	100	2	100
Masasi	3	3	100	3	100
Luiilo	4	4	100	4	100
Manda	3	3	100	2	67
Ruhuhu	3	3	100	3	100
Iwela	1	1	100	1	100
Lupingu	4	4	100	4	100
Lifuma	2	2	100	2	100
Makonde	3	3	100	3	100
Kilondo	2	2	100	2	100
Lumbila	3	3	100	3	100
Lupanga	3	3	100	3	100
Milo	3	3	100	3	100
Ludende	3	3	100	3	100
Lugarawa	3	3	100	2	67
Mkongobaki	3	3	100	3	100
Madilu	5	5	100	5	100
Mundindi	3	3	100	3	100
Mavanga	2	2	100	2	100
Ibumi	2	2	100	2	100
Total	77	76	99	69	89.6

Source: Executive Director's office (Land Department) Ludewa District 2013

CHAPTER THREE

Productive Sectors

3.0 Overview

Chapter Three explains the performance of productive sectors in the District. These sectors include agriculture, livestock, natural resources, mining, industrial development and the land sector development.

3.1 Agriculture

3.1.1 Introduction



Agriculture is Ludewa's largest economic sector. In 2002 the sector employed about 90 percent of the adult population (2002 Population and Housing Census, Ludewa District Report). Annual crops such as coffee provide most of the cash income followed by tea, pyrethrum, cashew nuts, off-farm income, tree/forest

resources, livestock keeping, permanent crop farming and remittances.

3.1.2 Distribution of Arable Land

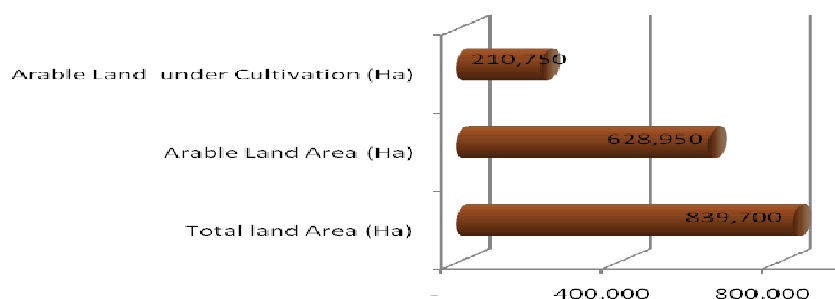
Arable land is the land that is suitable for growing crops. Of the District's total area of 839,700 hectares, 74.9 percent (628,950 hectares) was arable land (Table 3.1 and Figure 13. The District has just utilized 33.5 percent (210,700 hectares) of its arable land for agriculture, which means that land suitable for agriculture in the District is not under pressure.

Among the main problems affecting the growth of agriculture sector in Ludewa are the use of inferior agricultural implements, high cost of inputs and dependence on rainfall of which has only one season.

Table 3. 1: Distribution of Total Arable Land by Ward, Ludewa District; 2011/12

Ward	Total Area (Ha)	Arable Land Area (Ha)	Arable Land Under Cultivation (Ha)	Percentage of Arable Land under Cultivation
Lumbila	7,250	4,000	3,250	81.3
Mundindi	45,000	39,800	6,200	15.6
Kilondo	12,000	8,100	3,900	48.1
Mawengi	43,000	31,700	11,300	35.6
Lupanga	38,500	33,400	5,100	15.3
Mlangali	68,000	55,100	12,900	23.4
Milo	41,250	29,000	12,250	42.2
Lugarawa	42,500	33,000	9,500	28.8
Madope	41,200	35,200	6,000	17.0
Madilu	64,500	58,900	5,600	9.5
Mavanga	55,000	48,400	6,000	12.4
Ibumi	41,300	30,000	11,300	37.7
Nkomangombe	33,400	19,100	14,300	74.9
Luilo	28,800	16,900	11,900	70.4
Masasi	27,000	15,500	11,500	74.2
Manda	20,400	12,400	8,000	64.5
Iwela	7,000	4,500	2,500	55.6
Lupingu	11,000	6,500	4,500	69.2
Ludewa	57,800	35,000	22,800	65.1
Ludende	38,250	27,000	11,250	41.7
Luana	33,000	25,000	8,000	32.0
Makonde	8,000	4,500	3,100	68.9
Mkongobaki	45,000	37,000	8,000	21.6
Lifuma	6,250	4,800	1,450	30.2
Ruhuhu	24,300	14,150	10,150	71.7
Total	839,700	628,950	210,750	33.5

Source: District Executive Director's Office (Agriculture Department), Ludewa District, 2012

Figure 13: Distribution of Total Arable Land, Ludewa District; 2011/12

Source: District Executive Director's Office (Agriculture Department), Ludewa District, 2012

3.1.3 Contribution of the District to the Regional Agricultural Production

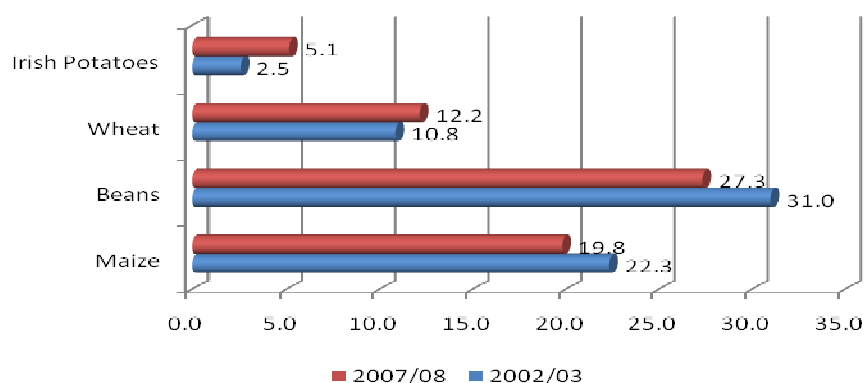
Ludewa District contribution to regional agriculture production, both food and cash crops production is significant. Iringa Region Sample Census of Agriculture reports of 2002/03 and 2007/08 show the extent to which Ludewa District contributes to Njombe Region in terms of major food and cash crops production. The contribution of the District during 2007/08 was almost same as that of 2002/03. Contribution to the production of major food crops dropped slightly from 16.3percent observed in 2002/03 to 16.1 percent in 2007/08. On the other hand, the District's contribution to the production of major cash crops increased from 15.8 percent in 2002/03 to 17.1percent in 2007/08.

Table 3. 2: District's Share of the Regional Production of Major Food and cash crops, Ludewa District, 2002/03 and 2007/08

Crop	Regional Production (Tonnes)		Ludewa District Production (Tonnes)		Percentage Contribution of the District to the Regional Production	
	2002/03	2007/08	2002/03	2007/08	2002/03	2007/08
Major Food Crops						
Maize	134,523	169,475	30,047	33,576	22.3	19.8
Beans	11,208	19,482	3,473	5,325	31.0	27.3
Wheat	6,024	8,436	653	1,025	10.8	12.2
Irish Potatoes	67,922	73,694	1,723	3,784	2.5	5.1
Sub-Total	219,677	271,086	35,896	43,710	16.3	16.1
Major Cash Crops						
Coffee	790	244	20	26	2.5	10.7
Banana	10,244	5,095	358	3,218	3.5	63.2
Sugarcane	249	1,076	200	515	80.3	47.9
Pyrethrum	79	491	7	101	8.9	20.5
Sub-Total	11,362	6,906	585	3,860	5.1	55.9
Grand-Total	231,039	277,993	36,481	47,570	15.8	17.1

Source: NBS, Agriculture Census Reports for 2003/04 and 2007/08, Iringa Region

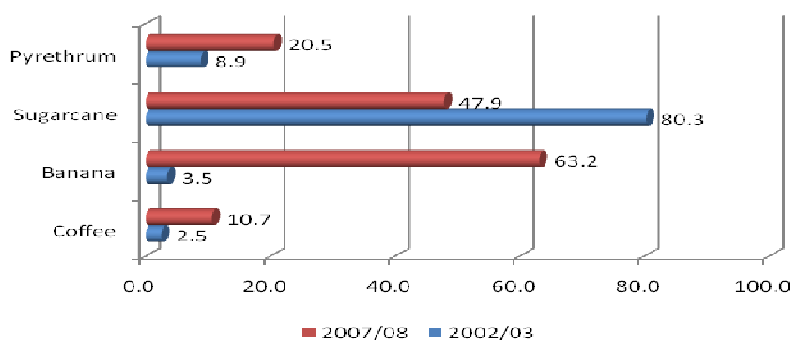
Figure 13. a: District's Percentage Contribution to the Regional Agricultural Production- Major Food Crops , 2002/03 and 2007/08



Source: NBS, Agriculture Census Reports for 2003/04 and 2007/08, Iringa Region

In 2007/08 beans led the districts major food crops by contributing 27.3 percent Of the regional beans production while banana at 63.2 percent led the cash crops. Banana, pyrethrum and coffee show appreciable increases in their contributions to regional production in 2007/08 as compared to the previous census in 2002/03. Such success is attributed to the efforts of the District Authority through the projects of Agricultural Sectoral Development Program (ASDP), and Agricultural Sectoral Program Support (ASPS II). Through those programs, farmers were trained and given improved seedlings of banana, coffee and tea. Also, availability of market has accelerated production of pyrethrum in the District. The fall of the District's contribution to the region's major food crops production observed in 2007/08 Agriculture Census should be taken as a challenge and the District Council needs to find the reason why this happened.

Figure 13. b: District's Percentage Contribution of the District to the Regional Agricultural Production- Major Cash Crops , 2002/03 and 2007/08



Source: NBS, Agriculture Census Reports for 2003/04 and 2007/08, Iringa Region

3.1.4 Food and Cash Crops Production

3.1.4.1 Food Crops Production

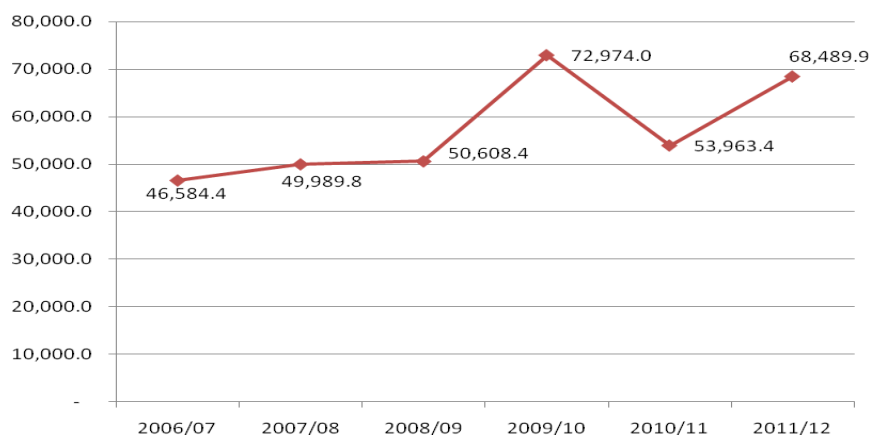
Maize is the most important food crop and is produced as both food and cash crop. Cassava is another food crop planted in the District. Other foods with significant production are round potatoes, beans and wheat. Table 3.3 and Figure 14 (a) shows areas planted with food crops. The total area planted increased by 21,905.5 hectares equivalent to 47.0 percent from 46,584.4 hectares of 2007/08 to 68,489.9 hectares in 2011/12. In all referenced years, Maize dominates hectares under food crops followed by beans, cassava, and round potatoes as illustrated by figure 14 (a) for the year 2011/12.

Table 3. 3: Estimated Area (Ha) under Major Food Crops, Ludewa District, 2006/07 to 2011/12

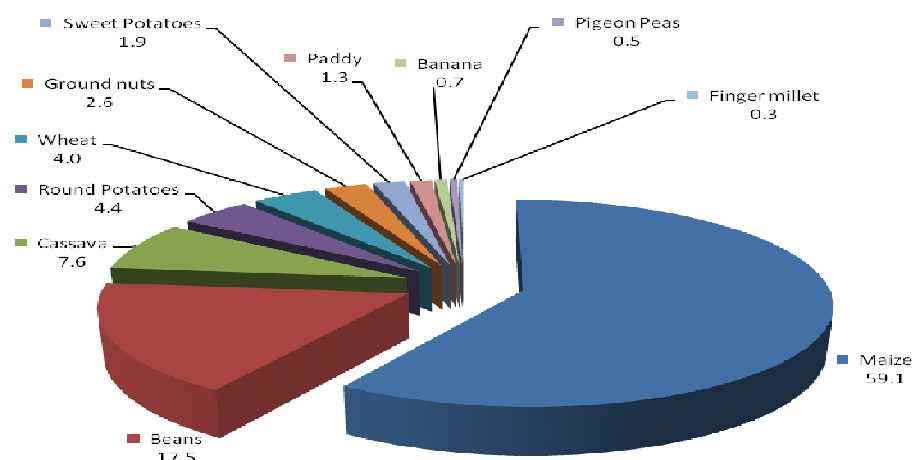
Crop	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
Maize	30376.20	33381.60	35815.00	55387.50	34158.40	40481.20
Beans	5489.30	5435.10	3650.80	5560.90	5718.80	12000.30
Cassava	4373.10	4369.20	4373.10	4032.00	5302.00	5227.30
Round Potatoes	1899.00	1994.30	1904.00	2869.30	2924.30	3039.20
Wheat	1867.70	1901.40	1864.00	2060.80	2828.20	2732.80
Ground nuts	400.80	470.00	481.00	371.50	407.80	1774.40
Sweet Potatoes	1186.40	1188.10	1186.40	1329.50	1233.00	1299.60
Paddy	643.80	624.60	637.40	640.40	784.50	884.60
Banana	137.00	144.00	160.00	170.00	180.00	510.50
Pigeon Peas	69.90	339.90	377.10	383.90	250.00	352.60
Finger millet	141.20	141.60	159.60	168.20	176.40	187.40
Total	46584.40	49989.80	50608.40	72974.00	53963.40	68489.90

Source: District Executive Director's Office (Agriculture Department), Ludewa District, 2012

Figure 14: Total Estimated Area (Ha) under Major Food Crops, Ludewa District 2006/07 to 2011/12



Source: District Executive Director's Office (Agriculture Department), Ludewa District, 2012

Figure 14. a: Area (percentage) under Major Food Crops, Ludewa District, 2011/12

Source: District Executive Director's Office (Agriculture Department), Ludewa District, 2012

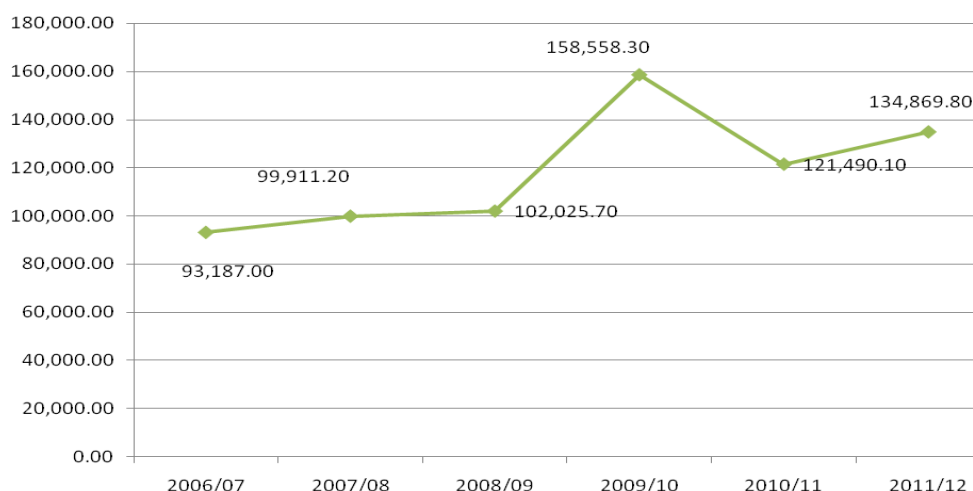
In Table 3.3(a) and Figure 14 (b) production of food crops show an increasing trend. The total production increased by 41,682.8 tonnes equivalent to 44.73 percent from 93,187.0 tonnes in 2006/07 to 134,869.8 in 2011/12.

Table 3.3 a: Estimated Production (Tonnes) of Major Food Crops, Ludewa District, 2006/07 to 2011/12

Crop	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
Maize	51,747.10	57,383.00	61,858.50	109,636.40	67,120.90	69,917.80
Round Potatoes	14,388.40	15,070.00	14,388.40	21,782.10	22,214.20	23,084.90
Cassava	13,072.80	13,068.30	13,084.80	12,055.50	15,850.90	15,623.70
Beans	5,568.60	5,513.40	3,703.30	5,641.00	5,801.20	12,236.20
Wheat	2,236.30	2,276.80	2,231.90	2,467.60	3,386.50	3,272.40
Sweet Potatoes	2,865.80	2,869.70	2,865.80	3,211.60	2,978.80	3,139.00
Ground nuts	652.7	765.4	783.3	605	664	2,889.40
Paddy	2,082.30	2,020.10	2,058.30	2,067.80	2,533.20	2,856.40
Banana	315.2	331.1	368	391	414	1,174.20
Pigeon Peas	94	457.2	507.1	516.3	336.2	474.2
Finger millet	163.8	156.2	176.3	184	190.2	201.6
Total	93,187.00	99,911.20	102,025.70	158,558.30	121,490.10	134,869.80

Source: District Executive Director's Office (Agriculture Department), Ludewa District, 2012

Figure 14. b: Total Production (Tonnes) of Major Food Crops, Ludewa District, 2006/07 to 2011/12



Source: District Executive Director's Office (Agriculture Department), Ludewa District, 2012

a) Maize



Maize production is one of the main activities of Ludewa residents

Ludewa is among the main producers of maize in Njombe Region. According to 2007/08 Agriculture Census, the contribution of Ludewa District to the region on maize production was the second largest at 27.3 percent. Table 3.3 (a) and Figure 14 (a) shows that maize was the dominant food crop grown in the District in terms of area planted. The crop occupied an average of 39,884.74 hectares per year over the period 2007/08 ó 2011/12 which was higher than any other food crop. The area planted with maize was largest in 2009/10 at 55,357.50 hectares (Table 3.4 (a)).

More hectares of maize were in Mavanga Ward which in 2011/12 had 25.33 percent of all arable land under maize in the District followed by Lupanga Ward (21.97 percent), and Mundindi ward (12.10percent); while least area of maize was Tn Lifuma at 0.01 percent of all arable land under maize, followed by Lumbila (0.02 percent) and Kilondo ward (0.03 percent). Other wards were as shown in table 3.4.

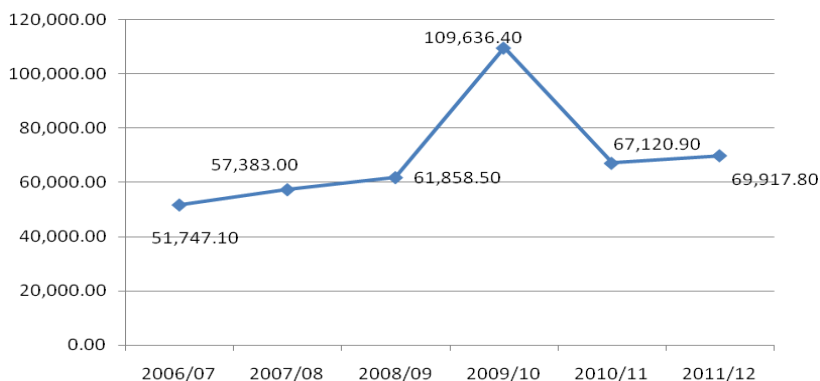
Table 3. 4: Distribution of Estimated Area (Ha) under Maize Crop by Ward, Ludewa District, 2006/07 to 2011/12

Ward	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	
						Area	Percentage
Lumbila	7.3	7.6	8.0	8.3	8.7	9.0	0.02
Mundindi	1,364.0	3,161.3	4,334.7	4,515.3	4,703.4	4,899.4	12.10
Kilondo	8.9	9.3	9.7	10.1	10.6	11.0	0.03
Mawengi	1,285.0	1,338.5	1,394.3	1,452.4	1,512.9	1,576.0	3.89
Lupanga	7,250.3	7,552.4	7,867.1	8,194.9	8,536.3	8,892.0	21.97
Mlangali	1,889.2	1,967.3	2,049.9	2,135.4	2,224.3	2,317.0	5.72
Milo	1,205.9	1,256.1	1,308.4	1,363.0	1,419.7	1,478.9	3.65
Lugarawa	1,776.7	1,850.7	1,927.8	20,088.2	2,091.8	2,179.0	5.38
Madope	832.5	867.2	903.3	941.0	980.2	1,021.0	2.52
Madilu	1,333.0	1,388.5	1,446.4	1,506.6	1,569.4	1,634.8	4.04
Mavanga	8,359.2	8,707.5	9,070.3	9,448.2	9,841.9	10,252.0	25.33
Ibumi	1,081.2	1,126.2	1,173.2	1,222.0	1,273.0	1,326.0	3.28
Nkomangombe	141.9	147.8	153.9	160.4	167.0	174.0	0.43
Luilo	174.5	181.8	189.3	197.2	205.4	214.0	0.53
Masasi	195.7	203.8	212.3	221.2	230.4	240.0	0.59
Manda	26.9	28.0	29.2	30.4	31.7	33.0	0.08
Iwela	43.2	45.0	46.9	48.8	50.9	53.0	0.13
Lupingu	92.5	96.4	100.4	104.6	109.0	113.5	0.28
Ludewa	1,428.5	1,488.1	1,550.1	1,614.6	1,681.9	1,752.0	4.33
Ludende	1,023.3	1,065.9	1,110.3	1,156.6	1,204.8	1,255.0	3.10
Luana	315.5	328.7	342.4	356.7	371.5	387.0	0.96
Makonde	13.9	14.4	15.0	15.7	16.3	17.0	0.04
Mkongobaki	357.1	372.0	387.5	403.7	420.5	438.0	1.08
Lifuma	2.4	2.5	2.7	2.8	2.9	3.0	0.01
Ruhuhu	167.6	174.6	181.9	189.5	197.4	205.6	0.51
Total	30,376.20	33,381.60	35,815.00	55,387.50	34,158.40	40,481.20	100.00

Source: District Executive Director's Office (Agriculture Department), Ludewa District, 2012

Regarding Table 3.4, areas planted with maize crop show increasing trend, and that had led to an increase in total production from 51,747 tonnes in 2006/07 to 69,918 tonnes in 2011/12 as shown in Table 3.3(a) and Figure 15.

Figure 15: Time Series Data on Maize Production (Tonnes), Ludewa District; 2006/07-2011/12



Source: District Executive Director's Office (Agriculture Department), Ludewa District, 2012

Table 3.4(a) shows that, largest maize production was realized in Mavanga Ward at an average production of 15,775.73 tonnes per year, equivalent to 22.66 percent of average maize production per year in the District for the period of six years (2006/07 to 2011/12), followed by Lugarawa Ward (8,612.23 tonnes, 17.91 percent) and Lupanga Ward (8,612 tons, 12.37 percent). The smallest Least production was observed in Lifuma Ward (3.53 tonnes, 0.01 percent) followed by Kilondo ward (12.92 tonnes, 0.02 percent). Looking closely at the results, maize production was directly proportional to the area under maize in the respective wards.

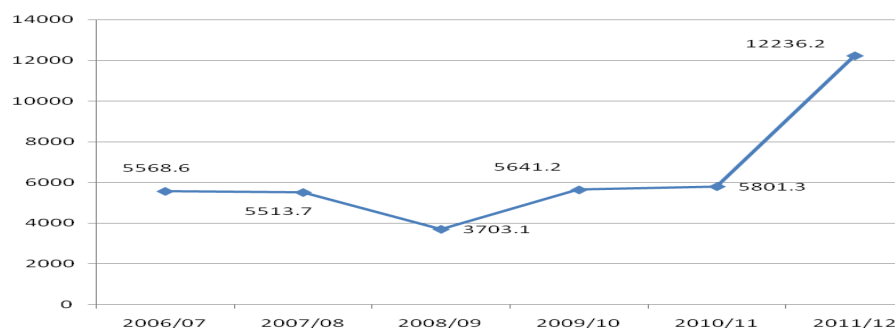
Table 3.4 a: Production (tonnes) of Maize Crop by Ward, 2006/07 - 2011/12

Ward	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	Average Production
Lumbila	11.7	12.2	12.8	13.3	13.9	14.4	13.05
Kilondo	11.6	12.1	12.6	13.2	13.7	14.3	12.92
Mawengi	2,698.50	2,810.90	2,928.00	3,050.00	3,177.10	3,309.60	2,995.68
Lupanga	7,757.80	8,081.10	8,417.80	8,768.50	9,133.80	9,514.40	8,612.23
Mlangali	3,778.40	3,934.60	4,099.80	4,270.70	4,448.60	4,634.00	4,194.35
Milo	1,929.40	2,009.80	2,093.40	2,180.70	2,271.50	2,366.20	2,141.83
Lugarawa	4,441.80	4,626.80	4,819.50	50,220.50	5,229.50	5,447.50	12,464.27
Madope	1,698.30	1,769.10	1,842.70	1,919.50	1,999.50	2,082.80	1,885.32
Madilu	2,665.90	2,777.00	2,892.80	3,013.20	3,138.80	3,269.60	2,959.55
Mundindi	2,728.00	6,322.60	8,669.40	9,030.60	9,406.80	9,798.80	7,659.37
Mavanga	14,210.60	14,802.80	15,419.50	16,061.90	16,731.20	17,428.40	15,775.73
Ibuni	1,621.80	1,689.30	1,759.80	1,833.00	1,909.50	1,989.00	1,800.40
Nkomangombe	340.6	354.7	369.4	385	400.8	417.6	378.02
Luilo	418.8	436.3	454.3	473.3	493	513.6	464.88
Masasi	391.4	407.6	424.6	442.4	460.8	480	434.47
Manda	53.8	56	58.4	60.8	63.4	66	59.73
Iwela	86.4	90	93.8	97.6	101.8	106	95.93
Lupingu	185	192.8	200.8	209.2	218	227	205.47
Ludewa	2,571.30	2,678.60	2,790.20	2,906.30	3,027.40	3,153.60	2,854.57
Ludende	2,353.60	2,451.60	2,553.70	2,660.20	2,771.00	2,886.50	2,612.77
Luana	599.5	624.5	650.6	677.7	705.9	735.3	665.58
Makonde	20.9	21.6	22.5	23.6	24.5	25.5	23.10
Mkongobaki	749.9	781.2	813.8	847.8	883.1	919.8	832.60
Lifuma	3.1	3.3	3.5	3.6	3.8	3.9	3.53
Ruhuhu	419	436.5	454.8	473.8	493.5	514	465.27
Total	51,747.10	57,383.00	61,858.50	109,636.40	67,120.90	69,917.80	69,610.62

Source: District Executive Director's Office (Agriculture Department), Ludewa District, 2012

b) Beans

Ludewa ranked second in beans production in Njombe Region as according to the 2007/08 Agriculture Sample Census. Njombe District produced the largest amount of beans (10,972 tonnes or 56% of total beans produced) in Njombe Region. It was followed by Ludewa (8,340t or 28%), Makete (1,694t, 9 percent) and Njombe Town (1,438 or 7percent). Table 3.3 (a) shows that in 2011/12 beans was the second food crop in terms of hectares planted in Ludewa District. Area planted with beans averaged 6,309.20 hectares per year over the six years period (2006/07 to 2011/12). The area planted increased by 6,511.0 hectares from 5,489.3 hectares in 2006/07 to 12,000.3 hectares in 2011/12. Correspondently, production of beans in the District increased appreciably in that specified period as shown in Figure 16.

Figure 16: Time Series Data on Beans Production (tonnes), Ludewa District; 2008/09 -2011/12

Source: District Executive Director's Office (Agriculture Department), Ludewa District, 2012

Production of beans increased by 6,667.6 tonnes from 5,568.6 tonnes in 2006/07 to 12,236.2 tonnes in 2011/12, though there was a drop in production in 2009/10 due to the El Niño rainfall which affected the district and the country at large. Table 3.5 shows that, Lundende Ward had the highest production of beans at an average of 1,027, tonnes (16.03 percent) per year in the District for the period of six years (2006/07 to 2011/12), followed by Mundindi Ward (932.43 tonnes, 14.54 percent) and Lugarawa Ward (829.83 tonnes, 12.94 percent). The least production was observed in Lipungu Ward (29.23 tonnes, 0.46 percent) followed by Mavanga Ward (103.18 tonnes, 1.61 percent).

Table 3.5: Production (Tonnes) of Beans by Ward, Ludewa District; 2006/07- 2011/12

Ward	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	Average Production
Mawengi	371.8	367.9	247.2	376.6	387.1	820.8	428.57
Lupanga	130.3	129.1	86.6	132	135.8	288	150.30
Mlangali	362.2	358.6	240.8	366.8	377.3	799.8	417.58
Milo	476.6	472	317	482.9	496.6	1,052.60	549.62
Lugarawa	719.6	712.6	478.7	729	749.8	1,589.30	829.83
Madope	174.5	172.7	116	176.8	181.7	385.2	201.15
Madilu	168.2	166.6	111.9	170.4	175.3	371.5	193.98
Mundindi	808.6	800.7	537.8	819.2	842.5	1,785.80	932.43
Mavanga	98.3	97.4	65.4	99.6	102.4	156	103.18
Ibumi	279.4	276.7	185.8	283.1	291.1	617	322.18
Lupingu	25.4	25.2	16.8	25.6	26.4	56	29.23
Ludewa	606.7	600.6	403.4	614.7	632.1	1,339.80	699.55
Ludende	891.2	882.4	592.6	902.8	928.4	1,968.00	1,027.57
Luana	277.7	274.9	184.7	281.3	289.3	613.2	320.18
Mkongobaki	178.1	176.3	118.4	180.4	185.5	393.2	205.32
Total	5,568.60	5,513.70	3,703.10	5,641.20	5,801.30	12,236.20	6,410.68

Source: District Executive Director's Office (Agriculture Department), Ludewa District, 2012

c) Cassava

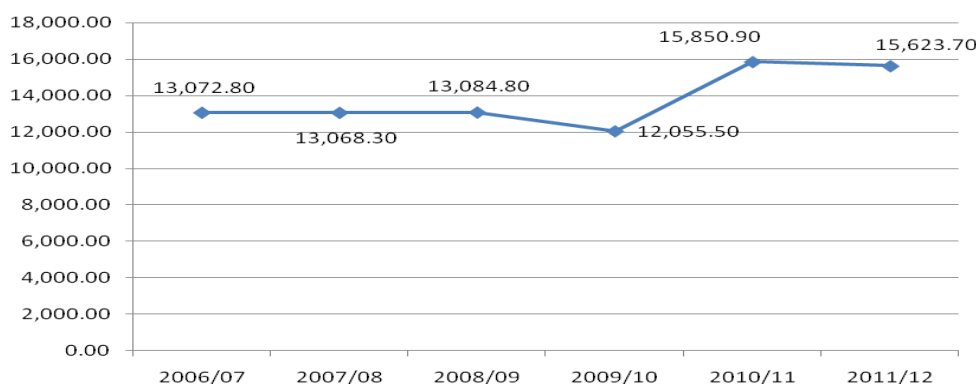


Cassava is a well-known drought resistant crop grown in Ludewa

Cassava with its well-known drought tolerance has contributed to steady production gains over time. In contrast with the high moisture sensitivity of maize and consequently volatile maize production and prices cassava's food security features have attracted interest for some time, as a drought-mitigation crop. Table 3,3 (a) shows that, cassava is the third dominant food crop at 7.6 percent in terms of hectares planted. Area planted with cassava increased by 854.2 hectares equivalent to 19.53 percent, from 4,373 hectares in 2006/07 to 5,227.3 hectares in 2011/12; averaged 4,612.78 hectares per year over the six years period (2007/08 ó 2011/12).

Production of cassava was stable and increased only by 2,550.9 tonnes which was equivalent to 19.51 percent; from 13,072.8 tonnes in 2006/7 to 15,623.7 tonnes in 2011/12; at an average production of 13,792.67 tonnes per annum in the period of six years from 2006/07 to 2011/12 as shown in Figure 17.

Figure 17: Time Series Data on Cassava Production (tonnes), Ludewa District; 2006/07-2011/12



Source: District Executive Director's Office (Agriculture Department), Ludewa District, 2012

Cassava production was highest in Luilo Ward with an average production of 2,601.23 tonnes, equivalent to 18.86 percent of all cassava produced in the District for the period of six years (2006/07 to 2011/12), followed by Masasi Ward (1,626.42 tonnes, 11.79 percent), Ruhuhu Ward (1,577.88 tonnes, 11.44 percent), Lupingu (1,438.45 tonnes, 10.43 percent) and Manda ward (1,276.00 tonnes, 9.25 percent). Production in other wards were as shown in Table 3.6

Table 3. 6: Production (Tonnes) of Cassava Crop by Ward, Ludewa District; 2006/07 - 2011/12

Ward	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	Avarage Production
Lumbila	316.2	316	316.2	291.6	383.4	378	333.57
Kilondo	338.6	338.2	338.6	312.2	410.4	404.7	357.12
Mawengi	276.1	275.8	276.1	254.5	334.9	330.1	291.25
Mlangali	125.5	125.4	125.5	115.7	152.2	150	132.38
Milo	11	12	11	9	12	11	11.00
Lugarawa	21	23	26	21	25	24	23.33
Madope	4	5	7	4	5	4	4.83
Madilu	3	6	7	4	6	5	5.17
Mundindi	21.2	21.2	21.2	19.6	25.8	25.3	22.38
Mavanga	218.4	218.1	218.4	201.3	264.6	261	230.30
Ibumi	543.4	543	543.4	501.1	658.9	649.6	573.23
Nkomangombe	866.6	865.8	866.6	799	1050.7	1035.8	914.08
Luilo	2466	2464	2466	2273.6	2990	2947.8	2,601.23
Masasi	1541.9	1540.4	1541.9	1421.6	1869.5	1843.2	1,626.42
Manda	1209.6	1208.7	1209.6	1115.4	1466.7	1446	1,276.00
Iwela	589	588.4	589	543	714	704	621.23
Lupingu	1363.8	1362.5	1363.8	1257.3	1653.3	1630	1,438.45
Ludewa	274.8	274.5	274.8	253.5	333.3	328.5	289.90
Ludende	15.6	15.6	15.6	14.5	19	18.7	16.50
Luana	58.9	58.7	58.9	54.2	71.3	70.3	62.05
Makonde	483.3	482.8	483.3	445.5	585.8	577.5	509.70
Mkongobaki	20	20	20	18.5	24.2	23.9	21.10
Lifuma	809.1	808.5	809.1	746.2	981.2	967.2	853.55
Ruhuhu	1495.8	1494.7	1495.8	1379.2	1813.7	1788.1	1,577.88
Total	13072.8	13068.3	13084.8	12055.5	15850.9	15623.7	13,792.67

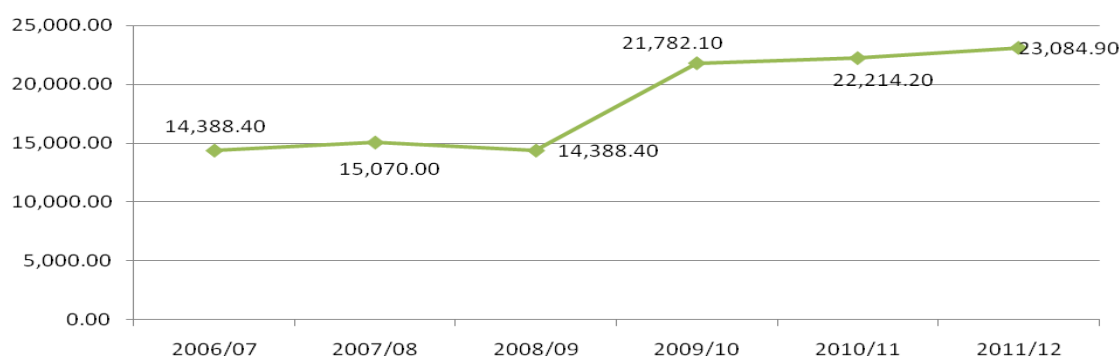
Source: District Executive Director's Office (Agriculture Department), Ludewa District, 2012

d) Round Potatoes

Round potatoes are also grown in Ludewa both as food and cash crop

Ludewa District come last in the production of round potatoes in Njombe Region as according to the 2007/08 Agriculture Sample Census. It produced only 5.13 percent of the crop in the Region in 2007/08. Table 3.3(a) shows that in 2011/12 round potatoes were the fourth food crop in terms of hectares planted in Ludewa District. Area planted with round potatoes averaged 2,438.35 hectares per year over the six year period (2007/08 ó 2011/12); it increased by 1,140.2 hectares from 1,899. 0 hectares in 2006/07 to 3,039.2 hectares in 2011/12. Round potatoes were mostly grown in Mlangali Ward which had an average 516.57 hectares planted with round potatoes. It was followed by Madilu Ward (9337.97 hectares), Madope Ward (320.33 hectares), and Lupanda Ward (300.3 hectares). Other wards growing round potatoes were Ludende, Milo, Mkongobaki, Mavanga, Ludewa, Ibumi, and Mundindi.

Production of round potatoes showed an increasing trend. It increased by 8,696.5 tonnes which was equivalent to 60.44 percent, the production increased from 14,388.4 tonnes in 2006/7 to 23,084.9 tonnes in 2011/12. The average production was 18,488.0 tonnes per annum in the six year period fro 2006/07 to 2011/12 as shown in Figure 18.

Figure 18: Time Series Data on Round Potatoes Production (Tonnes), Ludewa District; 2008/09-2011/12

Source: District Executive Director's Office (Agriculture Department), Ludewa District, 2012

e) Wheat

Ludewa ranked last with 12.2 percent of wheat production in Njombe Region according to the 2007/08 Agriculture Sample Census. Table 3.3 shows that, wheat was the fifth food crop in terms of hectares planted in Ludewa District in 2011/12. Area planted with wheat averaged 2,209.15 hectares per year over the six years period (2006/07 to 2011/12). The average production was 2,649 tonnes as per Table 3.7. Wheat was mostly grown in Milo Ward which produced on average 1,529.0 tonnes per year from 2006/07 to 2011/12. It was followed by Mlangali ward (572.2 tonnes). Other wards growing wheat were as shown in Table 3.7

Table 3. 7: Production (Tonnes) of Wheat by Ward Ludewa District; 2006/07 to 2011/12

Ward	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	Average Production
Lupanga	13.0	13.2	13.0	14.4	19.2	18.6	15.2
Mlangali	488.4	496.6	488.4	539.5	722.2	698.0	572.2
Milo	1,305.1	1,327.0	1,305.1	1,441.6	1,929.8	1,865.1	1,529.0
Madilu	28.4	28.9	28.4	31.4	42.0	40.6	33.3
Mundindi	60.0	61.0	60.0	66.3	88.8	85.8	70.3
Ludende	135.8	141.2	131.4	147.6	280.8	270.7	184.6
Luana	90.3	91.8	90.3	99.6	133.4	129.0	105.7
Mkongobaki	115.2	117.1	115.2	127.3	170.4	164.6	135.0
Total	2,236.2	2,276.8	2,231.8	2,467.7	3,386.6	3,272.4	2,645.3

Source: District Executive Director's Office (Agriculture Department), Ludewa District, 2012

f) Sweet Potatoes

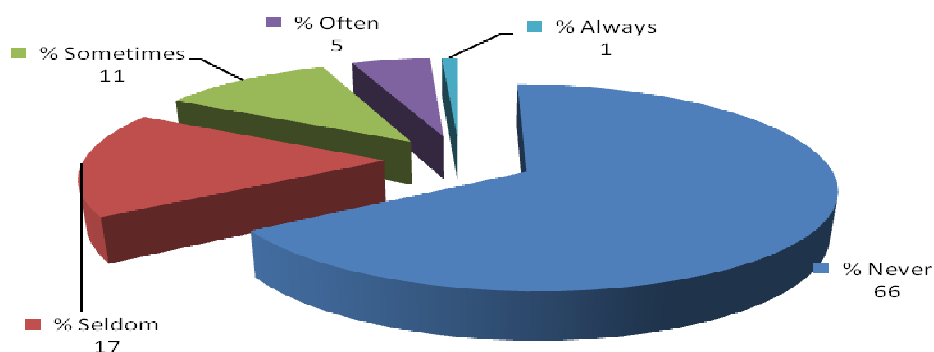
Ludewa is the largest producer of sweet potatoes in Njombe Region accounting for 44.7 percent of all sweet potatoes production. Table 3.3 gives the number of hectares put under

sweet potatoes and the quantities produced. The average yield of sweet potatoes was 2.42 tonnes/ha in the six years period from 2006/07 to 2011/12.

3.1.4.2 Food Security

According to the Iringa Region report of the 2007/08 Agriculture Census, Out of the 26,701 agricultural households interviewed in Ludewa District 66% reported to have never been faced with food insufficiency. About 17 percent had seldomly experienced food insufficiency, 11 percent had sometimes experienced food shortage 5 percent had often experienced food shortage and only 1 percent of the households had always experienced food shortage (figure 19). Ludewa District managed to curb food shortage by encouraging her residents to cultivate drought resistant crops and those of shorter gestation period. Such crops are cassava, sweet potatoes and composite maize etc. Irrigation agriculture though practiced in very few wards in small scale farming, contributes somewhat to making the District a bit secure in terms of food availability in Njombe Region, which during the 2007/08 Agricultural Sample Census was part of Iringa Region.

Figure 19: Number of Agricultural Households reporting the Status of food satisfaction of the household during the Preceding Year; Ludewa District, 2007/08 Agricultural Year



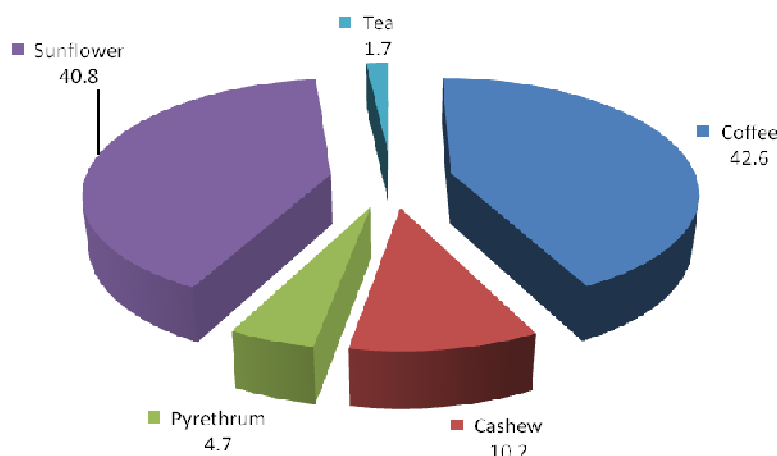
Source: NBS, National Sample Census of Agriculture, Iringa Region Report, 2008.

3.1.5 Major Cash Crops Production

3.1.5.1 Area Planted with Cash Crops

Ludewa is the second district in terms of coffee production in Njombe Region and produced 10.7 percent of total coffee in the Region. Coffee is the principle cash crop in the District.

Figure 20: Percentage of Average Area under Major Cash Crops, Ludewa District; 2006/07 - 2011/12



Source: District Executive Director's Office (Agriculture Department), Ludewa District, 2012

Figure 20 shows that, coffee accounted for 42.6 percent of the district's area planted with cash crops. Sunflower was the second cash crop with 40.8 percent of the area planted with cash crops in the District. Pyrethrum and cashews were other cash crops with significant planted areas. Table 3.8 shows an increasing trend for the area planted with cash crops. The total area planted increased by 5,600.2 hectares from 1,689.1 hectares in 2006/07 to 7,289.3 hectares in 2011/12. In all the six years, coffee dominates the hectareage under cash crops as illustrated by Figure 20.

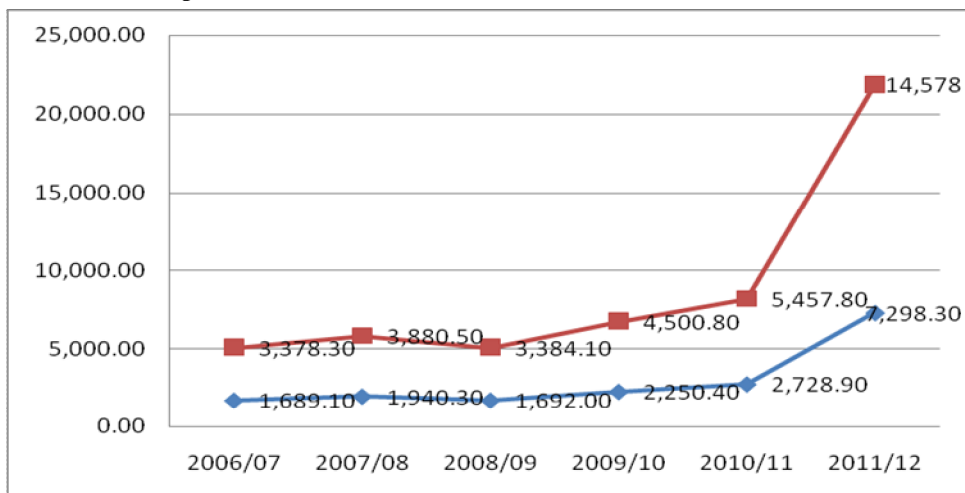
Table 3. 8: Estimated Area (Ha) under Major Cash Crops, Ludewa District; 2006/07 - 2011/12

Crop	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
Coffee	768.9	901.7	922.7	713.0	782.0	3404.8
Cashew	180.1	178.1	20.4	412.7	481.5	525.8
Pyrethrum	2.9	5.2	6.0	212.0	246.0	352.6
Sunflower	715.2	810.0	708.7	853.3	1154.0	2928.6
Tea	22.0	45.3	34.2	59.4	65.4	77.5
Total	1689.1	1940.3	1692.0	2250.4	2728.9	7289.3

Source: District Executive Director's Office (Agriculture Department), Ludewa District, 2012

Table 3.8(a) also reveals that in the six years period the average area under cash crops per year was 2,931.7 hectares. The best crop season in terms of hectares under cash crop was 2011/12 when the area under cash crop was 7,289.3 hectares and the worst season was 2006/07 with 1,689.1 hectares. Figure 21 indicates that, production of cash crops shows an increasing trend. The total production increased by 11,200.3 tonnes from 3,378.3 tonnes of 2006/07 to 14,578.6 tonnes in 2011/12.

Figure 21: Time Series Data on Area Planted (ha) and Production (Tonnes) of Cash Crops, Ludewa District; 2006/07 - 2011/12



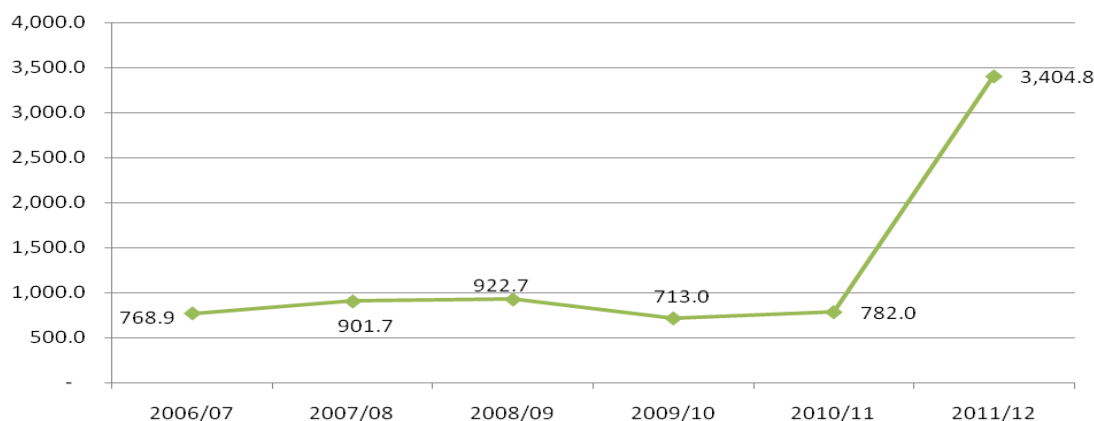
Source: District Executive Director's Office (Agriculture Department), Ludewa District, 2013

a) Coffee



Coffee is another cash crop grown in Ludewa

Ludewa is among the coffee growing districts of Njombe Region. According to 2007/08 Agriculture Census, the contribution of Ludewa District to the regional coffee production was the second at 10.7 percent. Table 3.8 (a) shows that coffee was the dominant cash crop in the District in terms of area planted. The crop occupied an average of 1,248.9 hectares per year over the period 2006/07 to 2011/12 which was higher than any other cash crop. The area planted with coffee was largest in 2011/12 at 3,404.8 hectares.

Figure 22: Time Series Data on Area (ha) Planted Coffee Crop, Ludewa District; 2006/07-2011/12

Source: District Executive Director's Office (Agriculture Department), Ludewa District, 2013

The largest average area under coffee was in Mkongobaki Ward which had 55.6 percent of all arable land under coffee in the District followed by Mlangali ward (19.9 percent), and Mawengi ward (9.8 percent); Other wards growing coffee are as shown in Table 3.9

Table 3. 9: Distribution of Production (Tonnes) of Coffee Crop by Wards, 2006/07-2011/12

Ward	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
Mawengi	23.9	35.1	46.6	295.1	298.0	311.2
Lupanga	0.6	1.1	1.3	8.6	8.6	9.0
Mlangali	48.5	71.4	94.9	600.0	606.1	632.9
Lugarawa	1.3	1.9	2.3	15.1	15.3	16.0
Madilu	0.2	0.2	0.4	1.9	2.1	2.1
Mundindi	-	-	-	-	-	5.5
Mavanga	66.4	97.9	20.6	130.0	131.3	137.1
Ludewa	3.8	5.7	1.3	7.6	7.6	8.0
Ludende	26.3	38.9	8.2	51.7	52.1	54.4
Luana	4.0	6.1	1.3	8.0	8.0	8.4
Makonde	61.3	90.3	19.1	120.1	121.2	126.6
Mkongobaki	652.7	961.2	202.2	1,277.0	1,289.8	1,347.2
Total	889.0	1,309.8	398.2	2,515.1	2,540.1	2,658.4

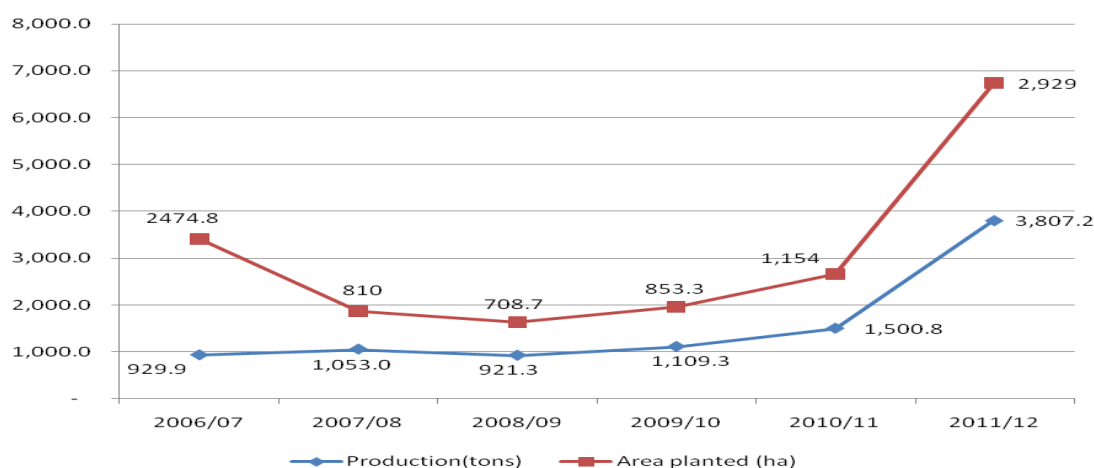
Source: District Executive Director's Office (Agriculture Department), Ludewa District, 2013

b) Sunflower

This is an oil seed crop which is the second important cash crop that is widely grown in the District. It has low soil nutrient requirements, is less labour intensive and is normally productive even if planted late. According to 2007/08 Agriculture Census, the contribution of Ludewa District to the regional sunflower production was second at 4.1 percent. Table 3.8

(a) shows that sunflower was the second dominant cash crop grown in the District in terms of area planted. The crop occupied an average of 1,195.0 hectares per year over the period 2006/07 to 2011/12. Figure 23 indicates that, production of sunflower was increasing but the average yield at 1.04 tonne/ha was low. The total production increased by 2,877.3 tonnes from 929.9 tonnes in 2006/07 to 3,807.2 tonnes in 2011/12. Production was poor in 2006/07 and was the yiea at 0.38t/ha.

Figure 23: Time Series Data on Area Planted (ha) and Production (tonnes) of Sunflower Crop, Ludewa District; 2006/07- 2011/12



Ludende Ward had the largest average under sunflower (18.9 percent of all arable land under sunflower in the District) followed by Lupanga Ward (17.2 percent), and Luana ward (14.6 percent); Other wards growing sunflower are shown in Table 3.10

Table 3. 10: Estimated Area (Ha) under Sunflower Crop, Ludewa District; 2006/07 - 2011/12

Ward	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
Mawengi	2.5	2.8	2.5	3.2	4.3	11
Lupanga	151.2	171.2	149.8	131.1	177.4	450
Mlangali	79.4	90	78.7	101.7	137.6	349
Milo	9.1	10.3	9	11.7	15.8	40
Lugarawa	68	77.1	67.4	87.1	117.9	299
Madilu	11.2	12.6	11.1	14.3	19.3	49
Nkomangombe	45.3	51.3	44.9	58	78.5	199.2
Masasi	9.1	10.3	9	11.7	15.8	40
Lupingu	3.6	4.1	3.6	4.7	6.3	16
Ludewa	99.7	112.9	98.8	127.6	172.6	438
Ludende	128.9	146	127.7	165	223.3	566.4
Luana	107.2	121.4	106.2	137.2	185.6	471
Total	715.2	810	708.7	853.3	1,154	2,929

Source: District Executive Director's Office (Agriculture Department), Ludewa District, 2013

3.1.6 Crop Marketing

The agricultural sector is the most important sector of the Tanzanian Economy. The increased agricultural production has brought, in its wake, new challenges in terms of finding market for the marketed surplus. There is also a need to respond to the challenges and opportunities, that the global markets offer in the liberalised trade regime. To benefit from the new global market opportunities, the internal agricultural marketing system in the country must be integrated and strengthened. The Government of Tanzania is striving to prepare the Tanzanian agricultural markets and marketing environment so as to provide maximum benefit to the producers and in turn, compete in the global markets. Agriculture and agricultural marketing need to be re-oriented to respond to the market needs and consumer preferences. Agricultural marketing reforms and creation of marketing infrastructure has been initiated to achieve the above goal.

Results of 2007/08 Agriculture Sample Census indicate that, of the 26,701 agricultural households interviewed in Ludewa District, 73 percent were sourcing their cash income from sale of food crops, 1 percent from sale of cash crops and 2 percent from sales of fish products. Coffee and sunflower were the cash crops which, together with food crops were depended on by the residents to curb their income poverty. Figure 24 indicates that, 95 percent of Ludewa residents' earnings were from sale of maize and only 5 percent were from sale of coffee in the year 2011/12.

Table 3.11 shows the quantity and value of marketed crops in the District for the year 2011/12. Only small scale producers are involved. In that year a total of 41,961,000 kg of maize were sold. Marketed maize from farmers earned a total of TShs. 11,749,080,000 in 2011/12. Table 3.11 shows that, the maize market was dominated by Mundindi Ward which sold 20.4 percent of all maize sold in the district, followed by Mlangali (16.6 percent), and Ludewa ward (12.9 percent).

Table 3. 11: Quantity and Value of Maize Sold by Ward, Ludewa District; 2011/12

Ward	Quantity Sold (kg)	Price per Kg (TShs.)	Total Value in TShs	Percentage Revenue
Ludewa	5,397,000	280	1,511,160,000	12.9
Luana	2,689,000	280	752,920,000	6.4
Mawengi	5,220,000	280	1,461,600,000	12.4
Ibuni	201,000	280	56,280,000	0.5
Lugarawa	3,817,000	280	1,068,760,000	9.1
Mavanga	4,136,000	280	1,158,080,000	9.9
Madilu	839,000	280	234,920,000	2.0
Milo	276,000	280	77,280,000	0.7
Mundindi	8,547,000	280	2,393,160,000	20.4
Mlangali	6,962,000	280	1,949,360,000	16.6
Madope	815,000	280	228,200,000	1.9
Ludende	2,055,000	280	575,400,000	4.9
Lupanga	577,000	280	161,560,000	1.4
Manda	3,000	280	840,000	0.0
Mkongobaki	387,000	280	108,360,000	0.9
Lupingu	1,000	280	280,000	0.0
Makonde	1,000	280	280,000	0.0
Nkomangombe	38,000	280	10,640,000	0.1
Total	41,961,000		11,749,080,000	100.0

Source: District Executive Director's Office (Agriculture Department), Ludewa District, 2013

In year 2011/12, a total of 145,869 kg of coffee were sold. Marketed coffee from farmers earned a total of TShs. 590,769, 450. Table 3.11(a) shows that, the coffee market was dominated by Mawengi Ward which sold 44.0 percent of all coffee sold in the District, followed by Mlangali (26.2 percent), and Mkongobaki (22.0 percent) wards.

3.11 a: Quantity and Value of Coffee Sold by Ward, Ludewa District; 2011/12

Ward	Amount Sold (Kgs)	Price per Kg (TShs.)	Total Value in TShs	Percentage Revenue
Ludewa	1,172	4,050	4,746,600	0.8
Luana	610	4,050	2,470,500	0.4
Mawengi	64,156	4,050	259,831,800	44.0
Lugarawa	469	4,050	1,899,450	0.3
Mavanga	813	4,050	3,292,650	0.6
Madilu	103	4,050	417,150	0.1
Mundindi	596	4,050	2,413,800	0.4
Mlangali	38,207	4,050	154,738,350	26.2
Ludende	7,306	4,050	29,589,300	5.0
Lupanga	337	4,050	1,364,850	0.2
Mkongobaki	32,100	4,050	130,005,000	22.0
TOTAL	145,869		590,769,450	100.0

Source: District Executive Director's Office (Agriculture Department), Ludewa District, 2013

3.1.7 Irrigation Prospects



Kipingu irrigation scheme (Investment potentials)

Irrigation farming in Ludewa District is not very common although, it is feasible due to availability of rivers such as Luhuhu, Mchuchuma, Ketewaka, Lifua, Mavanga Swamps, Lugarawa, and Lake Nyasa River as well as the abundant springs in the District. According to 2007/08 Agricultural Sample Census, only 9 percent of interviewed households were engaged in irrigation farming.

Table 3.12 shows that Ludewa had 4,090 hectares that were potential for irrigation in 2011/12. Irrigation projects of 80 hectares each were established in Manda and Luilo and made these the leading wards in irrigatable land. Under irrigation were 252 hectares (6.2 percent of total potential area) all under traditional irrigation. Irrigation is implemented for horticultural crops especially tomatoes, onions, vegetables as well as cereal crops (maize and paddy).

Table 3. 12: Irrigation Pprospects by Ward, Ludewa District; 2011/12

Ward	Estimated Potential Area (Ha) for Irrigation	Area Under Irrigation (Ha)	Percent of Area Under Irrigation	Major Crops
Ibumi	2700	60	2.2	Paddy, maize and vegetables
Mlangali	140	32	22.9	Vegetable, Irish potatoes and fruits
Manda	800	80	10.0	Maize, paddy and vegetables
Luilo	450	80	17.8	Paddy
Total	4,090	252	6.2	Maize, Paddy, Irish Potatoes, Vegetables and Fruits

Source: District Executive Director's Office (Agriculture Department), Ludewa District, 2012

3.1.9 Agricultural Inputs

3.1.8.1 Introduction

Reducing rural poverty by delivering appropriate agricultural inputs and improving output markets for Tanzanian farmers are among the objectives of "Kilimo Kwanza" (Agriculture First) in Tanzania. In Kilimo Kwanza, priority is given to transforming traditional agriculture which depends on hand hoe to mechanised agriculture and improving agriculture extension services through employing more extension officers. Further to that, distribution of chemical fertilizers including establishing credit facilities for farmers, and setting up storage through a warehouse receipt system were introduced to reinforce crops production.

In Ludewa like other rural districts in Tanzania, the implementation of Kilimo Kwanza has led to the increase in availability of agricultural inputs especially chemical fertilizers and improved seeds among small scale farmers. However, scientific research is needed to investigate the impact of Kilimo Kwanza on crops productivity.

3.1.8.2 Chemical/Inorganic Fertilizers

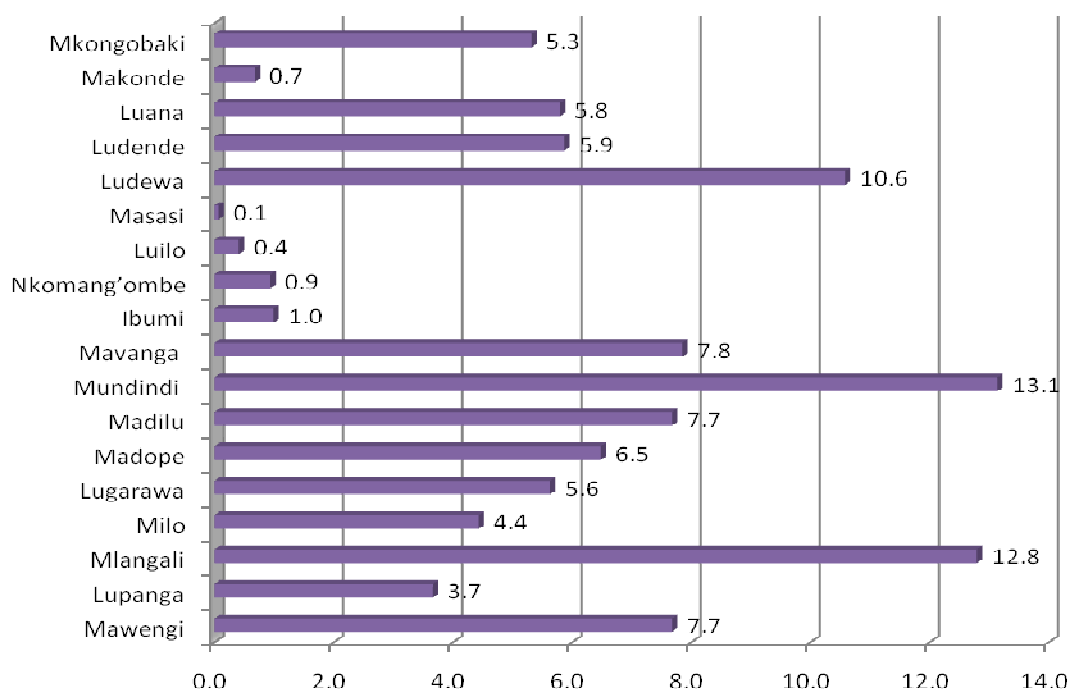
Ludewa District had the second smallest planted area with improved seeds and it also had the second smallest planted area per household in the region as reported during the 2007/08 Agriculture Sample Census. The District had the second smallest percent of planted area with fertilizers (farm yard manure, compost and inorganic) and most of this was inorganic fertilizer. Initiatives made by the government of Tanzania to introduce the system of distributing chemical fertilizers to farmers through Vouchers System in the country, had positive impact in the District due to positive trends of purchases made for chemical fertilizers. Table 3.13 indicates that, over the two seasons, cumulative tonnage of all five types of fertilizers supplied stood at 8,613 tonnes. Quantity of chemical fertilizers sold decreased by 557 tonnes (12 percent decrease) from 4,585 tonnes in 2010/11 to 4,028 tonnes in 2011/12. Urea was the most purchased/used fertilizer, while Minjingu was the least supplied fertilizer in the District. In 2010/11 supply was 66 percent of the demand, but in 2011/12 supply dropped to 46 percent, showing a weakness in supply of fertilizers. The overall supply of fertilizers over the two seasons was only 55 percent of the quantity demanded. It is a situation which requires attention of the District Authorities for anticipated success in Kilimo Kwanza in the District.

Table 3. 13: Quantity(Tonnes) of Chemical Fertilizers sold to Farmers through Voucher System by Type, Ludewa District; 2010/11 and 2011/12

Type of Fertilizers	2009/10			2011/12		
	Demand	Supplied	% Supplied	Demand	Supplied	% Supplied
UREA	3,962	2,750	69	3,962	3,112	79
DAP	1,675	1,305	78	3,473	294.5	8
CAN	328	299	91	383	342	89
SA	200	190	95	247	236	96
MINJINGU	767	41	5	767	43	6
Total	6,932	4,585	66	8,832	4,028	46

Source: District Executive Director's Office (Agriculture Department), Ludewa District, 2012

UREA, which was the most supplied fertilizer, was mostly supplied to Mundindi at 13.1 percent of all UREA fertilizer supplied in the district, followed by Mlangali Ward at 12.8 percent, and Ludewa ward at 10.6 percent. Supply of the fertilizer in the remaining wards, was as shown in Figure 25. CAN was another common fertilizer supplied. It was mostly supplied to Mundindi Ward at 23.7 of all CAN fertilizer supplied in the district, followed by Ludewa ward at 15.3 percent, Mlangali Ward at 9 percent and Mkongobaki at 8.3 percent. Other wards had less than 7percent of the supplied CAN fertilizer in the District. DAP was mostly used in 2010/11, but dropped drastically in 2012 due high cost and the introduction of Minjingu ferilizer. It was mainly distributed in Mlangali Ward at 15.6 percent, followed by Mawengi at 11.9 percent and Ludewa Ward at 11.5 percent of the supply of the fertilizer in the District.

Figure 24: Percentage of Cumulative Supply of UREA Fertilizers, Ludewa District; 2009/10 and 2011/12

Source: District Executive Director's Office (Agriculture Department), Ludewa District, 2012

3.1.8.3 Fungicides

Plant pests and diseases are among factors which limit agriculture production in the District. Crops such as coffee and horticulture crops demand the use of pesticides for control of insect infestation and plant diseases for optimum crop harvests. Table 3.14 highlights the list of fungicides used for controlling plant pests in the District. Compared to 2010/11, fungicides supplied to farmers during the crop season of 2011/12 were higher by 358.6 tonnes (25 percent increase). In the period of two years, blue copper was the most such that it accounted for 64.0 percent of all fungicides supplied in the District, followed by ridomil at 29.5 percent and least was dithane which accounted for only 6.5 percent of the total supply.

Table 3. 14: Availability of Fungicides (in ltrs/kgs/tonnes), Ludewa District; 2010/11 and 2011/12

Type of Fungicides	2010/11			2011/12		
	Demand	Supplied	% Supplied	Demand	Supplied	% Supplied
Ridomil	460.0	423.2	92	575.0	529.0	92
Blue copper	998.7	918.5	92	1,247.6	1,148.0	92
Dithane	101.2	93.1	92	126.5	116.4	92
Total	1,559.9	1,434.8	92	1,949.1	1,793.4	92

Source: District Executive Director's Office (Agriculture Department), Ludewa District, 2012

Fungicide were consumed in Mawengi, Lupanga, Mlangali, Milo, Lugarawa, Madope, Madilu, Mundindi, Mavanga, Ibumi, Luilo, Masasi, Manda, Ludende, Luana, and Mkongobaki wards.

3.1.8.4 Insecticides

Pesticides are chemicals used for controlling insects, diseases and weeds. Insecticides are the most common pesticides used in the District. The insecticides are commonly applied in cereal cultivation. Table 3.15 reveals that Shumbadust was most important insecticide in terms of the quantity demanded, supplied and consumed. It accounted for 27.9 percent of all insecticides supplied in the district, followed by Sulphur at 25.7 percent and actelic super at 11.8 percent. Karates and Byfiden were the least important insecticides, each accounted for 2.8 percent of the insecticides supplied. Compared to 2010/11, insecticides supplied to farmers during the crop season of 2011/12 were higher by 822.9 tonnes (25 percent increase). In the years 2010/11 and 2011/12 the total supply was 87.7 percent of total demand of insecticides in the District.

Table 3. 15: Availability of Insecticides (Ltrs/kgs/tonnes), Ludewa District; 2010/11 and 2011/12

Type of Insecticides	2010/11			2011/12		
	Demand	Supplied	% Supplied	Demand	Supplied	% Supplied
Dursban	395.6	334.8	84.6	494.5	418.5	84.6
Selecron	349.6	295.9	84.6	437.0	369.9	84.6
Actelic Super	460.0	389.3	84.6	575.0	486.7	84.6
Sulphur	998.2	844.9	84.6	1,247.80	1,056.1	84.6
Byfidan	101.2	93.1	92.0	126.5	116.4	92.0
Karates	101.2	93.1	92.0	126.5	116.4	92.0
Sumithion	349.6	321.6	92.0	437.0	402.0	92.0
Shumbadust	998.2	918.3	92.0	1,247.80	1,147.9	92.0
Total	3,753.6	3,291.0	87.7	4,692.1	4,113.9	87.7

Source: District Executive Director's Office (Agriculture Department), Ludewa District, 2013

The insecticides were consumed in Mawengi, Lupanga, Mlangali, Milo, Lugarawa, Madope, Madilu, Mundindi, Mavanga, Ibumi, Luilo, Masasi, Manda, Ludende, Luana, and Mkongobaki wards.

3.1.8.5 Improved Seeds

According to the National Sample Census of Agriculture 2007/08, Ludewa District had the second smallest area planted with improved seeds and it also had the second smallest planted area per household in the Region. Over the crop seasons shown in Table 3.16, improved seeds for maize were the most important in the district though they were not supplied as per estimated demand. The most used type of seed was H614 which accounted for 31.0 percent

of all improved seeds supplied in the District, followed by H619 at 30.5percent, and H625 at 14.5 percent. Improved seeds supplied in 2011/12 increased by 128 tonnes, equivalent to 57.4 percent increase as compared to the previous year 2010/11.

Table 3. 16: Availability of Improved Seeds (tonnes), Ludewa District; 2010/11 and 2011/12

Type of Improved seeds	2010/11			2011/12		
	Demand	Supplied	%Supplied	Demand	Supplied	%Supplied
H 625	58	35	60.3	79	48	60.8
H 619	109	74	67.9	149	101	67.8
UH 6303	89	7	7.9	122	69	56.6
H 614	112	75	67.0	153	103	67.3
TMV2	12	3	25.0	12	0	0.0
H.615	45	23	51.1	61	31	50.8
MPUNGA TXD	9	7	77.8	0	0	0.0
Total	434	223	51.4	577	351	60.8

Source: District Executive Director's Office (Agriculture Department), Ludewa District, 2012

Wards that used improved seeds were Mawengi, Lupanga, Mlangali, Milo, Lugarawa, Madope, Madilu, Mundindi, Mavanga, Ibumi, Nkomangombe, Lupingu, Ludewa, Ludende, Luana, Makonde and Mkongobaki wards.

3.1.8.6 Farm Implements



Power Tillers are one of the implements used in Ludewa

Table 3.17 shows the type of modern farm implements available in Ludewa. The table shows that in the 2011/12 season there were significant numbers of modern farm implements in the District. Supplied Ox ploughs and ox-chain was 1,900 each, and tractors were 84. The District had 25 wards and with 84 tractors available; each ward had an average of 3 tractors. Moreover, although the number of implements was not sufficient (supply was only 89.2 percent of the demand) to meet the demand, under proper management the District would be

able to increase the existing food surplus level as well as curb income poverty through selling the surplus food and cash crops. Table 3.17(b) shows that, due to availability of tractors, Malangali, Ludewa and Mundindi could produce crops on large scale basis if the tractors are well utilized.

Table 3. 17: Availability of Agriculture Implements(Number) in Ludewa District, 2011/12

Implements Type	Demand	Supplied	Shortfall	% Supplied
Ox Plough	2000	1,900	100	95.0
Ox harrow	145	84	61	57.9
Oxcart	100	43	57	43.0
Ox cultivator	116	55	61	47.4
Ox chain	2000	1900	100	95.0
Ox shares	94	71	23	75.5
Tractors	145	84	61	57.9
Power tillers	52	14	38	26.9
Total	4652	4151	501	89.2

Source: District Executive Director's Office (Agriculture Department), 2013

Table 3.17 a: Availability of Tractors (Number) by Ward, Ludewa District; 2011/12

Ward	Demand	Supplied	Shortfall
Mawengi	5	3	2
Lupanga	5	3	2
Mlangali	30	21	9
Milo	7	4	3
Lugarawa	10	6	4
Madope	5	3	2
Madilu	5	2	3
Mundindi	18	14	4
Mavanga	5	3	2
Ibumi	4	2	2
Nkomangombe	1	0	1
Luilo	2	2	0
Masasi	2	0	2
Manda	22	0	22
Iwela	1	0	1
Lupingu	0	0	0
Ludewa	18	18	0
Ludende	2	0	2
Luana	2	2	0
Mkongobaki	1	1	0
Total	145	84	61

Source: District Executive Director's Office (Agriculture Department), Ludewa District, 2012

3.1.9 Policy Implication in Agriculture

The contribution of the Ludewa District to regional production during 2007/08 was almost the same as that of 2002/03. Contribution to the production of major food crops dropped from 16.3 percent observed in 2002/03 to 16.1 percent in 2007/08 and the contribution to the production of major cash crops increased from 15.8 to 17.1 percent (Table 3.2).

The decline in agricultural production is associated with the increase of infertile land caused by poor agricultural practices as well as adverse weather condition. However, failure in implementing policy or bylaws governing proper land use is cause of destruction of soil fertility. Policies/bylaws governing proper management of natural vegetation should be adhered to for sustainable weather condition. In addition, National Agricultural Input Voucher Scheme (NAIVS) policy implementation procedures should stick to guidelines for better agriculture production in the district.

3.1.10 Investment Opportunities in Agriculture sector

Potential areas for investment in agriculture include:

- Oil seeds production and processing (groundnuts, sunflower etc),
- Supply of agriculture inputs such as fertilizer, insecticides, seeds etc at affordable prices,
- Supply of farm implements such as power tillers, tractors, hand hoes, ox-cats etc at affordable prices,
- Increase in storage facilities for agriculture products during and after harvests,
- Agro- processing especially oil processing industries.

3.1.11 Agricultural Extension

Agricultural extension describes the services that provide rural people with the access to knowledge and information they need to increase productivity and sustainability of their production systems and improve their quality of life and livelihoods. It includes, but is not limited to, the transfer of knowledge generated by agricultural research.

In recent years more attention has been paid to the capacity of extension organizations, particularly those in the public sector, regarding, for instance, their incentive systems, learning capacity, range of expertise (including marketing and farmer facilitation) and relationships with other related stakeholders, such as research organizations, non-government organizations (NGOs) and agricultural service providers in the private sector.

Table 3. 18: Availability of Agriculture Personnel (Field Officers) (Number) by Ward - Ludewa District, 2010/11

Ward	Demand	Available			Deficit
		Male	Female	Total	
Mavanga	2	1	1	2	0
Mundindi	3	1	2	3	0
Lugarawa	3	2	1	3	0
Mkongobaki	3	3	0	3	0
Madilu	5	2	2	4	1
Madope	3	3	0	3	0
Mlangali	7	3	4	7	0
Lupanga	3	3	0	3	0
Mawengi	5	5	0	5	0
Luana	3	1	2	3	0
Milo	3	2	1	3	0
Ludende	3	2	1	3	0
Ibumi	2	1	0	1	1
Ludewa	2	1	1	2	0
Nkomangombe	2	2	0	2	0
Luilo	4	2	0	2	2
Masasi	3	1	0	1	2
Manda	3	1	0	1	2
Ruhuhu	3	2	0	2	1
Kilondo	1	0	0	0	1
Lupingu	1	0	0	0	1
Makonde	1	0	0	0	1
Iwela	1	0	0	0	1
Lumbila	1	0	0	0	1
Lifuma	1	0	0	0	1
Total	68	38	15	53	15

Source: NBS-2002/03 and 2007/08 Agriculture census reports and Ludewa district Council

Since 2003, the Government of Tanzania and development partners have been working closely to develop a strategy and implementation plan to strengthen agricultural services, in support of the Agricultural Sector Development Strategy and its operationalisation Programme (ASDS/ASDP). A unified agricultural services programme that ensure close integration of the various elements of agricultural services, in particular research, extension, training as well as information and communication have been developed. The implementation of the programme, in line with Kilimo Kwanza, was distribution of agricultural officers to each ward, where they work closely with farmers through shamba darasa training, consultation and other technical support. Availability of agriculture personnel is one of the important aspects in attainment of Kilimo Kwanza target not only in Ludewa District, but also in the whole country. Table 3.18 shows that, Ludewa District managed to station agricultural field officers in most wards with availability of such officers

at 77.94 percent of all required field officers in the District. Mlangali Ward with 7 officers had the largest number followed by Mawengi Ward which had 5 officers. Wards of Kilondo, Lupingu, Makonde, Iweha, Lumbila and Lifuma had no agricultural extension officers. Efforts are needed to extend distribution of agricultural field officers to the all wards and at village level for effectiveness of agricultural extension services to improve agricultural production. According to the National Sample Census of Agriculture 2007/08, in Ludewa District, 74.4 percent of the surveyed households received crop advice and other services from agriculture extension officers.

3.2 Livestock

3.2.1 Introduction

Livestock are important for subsistence by providing meat and milk to enrich diet. Livestock keeping is one of the two major economic activities in Ludewa District. The other is crop production. According to the 2007/08 Agriculture Sample Census, Ludewa District had the smallest number of cattle (8%) in the Region, after Iringa Urban and most of them were indigenous. It ranked third in terms of number of goats (16%) and had less sheep, pigs and chickens compared to other districts. Chicken were the dominant livestock type in the District followed by cattle.

3.2.2 Livestock Population

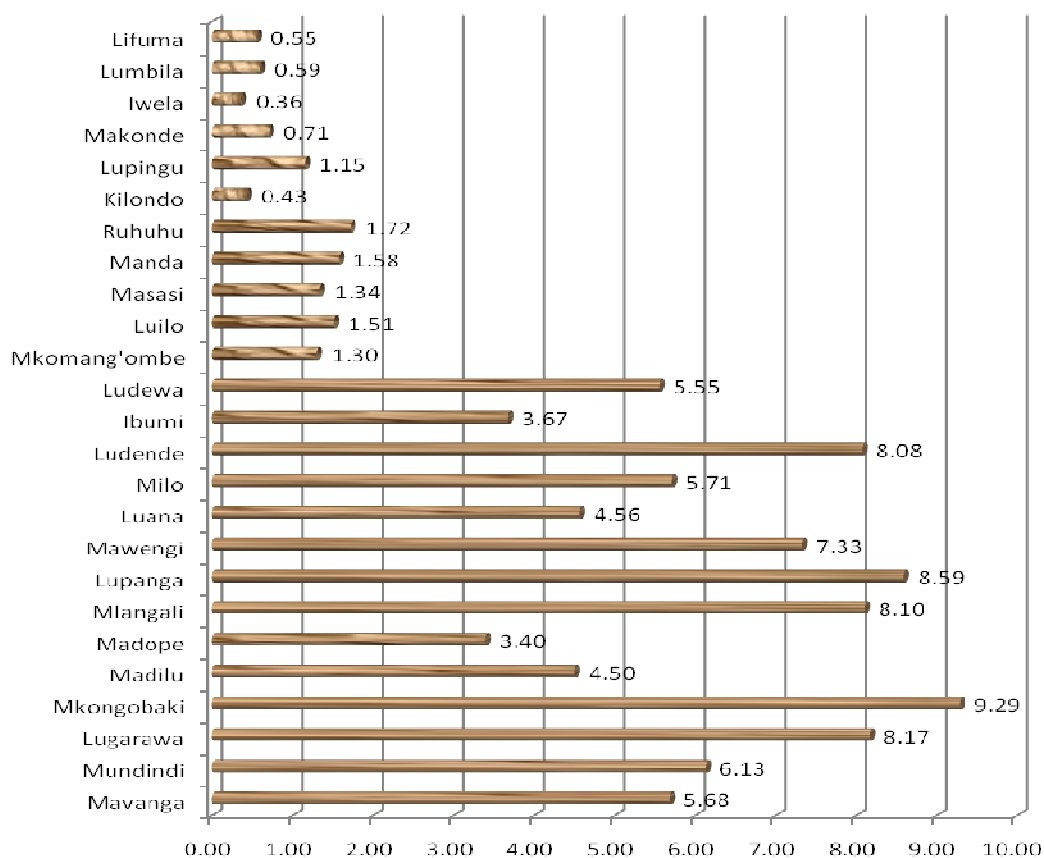
Table 3.19 displays estimated livestock population by ward in Ludewa District in 2011/12. Chicken with 385,607 birds was the dominant livestock which accounted for 74.92 percent of the total livestock population. Cattle was the second popular livestock (49,861 cattle; 9.69 percent), pigs ranked third (29,069 pigs; 5.65 percent), followed by goats (28,849 goats; 5.61 percent). Other livestock populations are as shown the Table 3.19.

Table 3. 19: Estimated number of Livestock Population by Ward, Ludewa Distirct; 2011/12

Ward	Cattle	Goats	Sheep	Pigs	Donkeys	Chicken	Rabbits	Gune pig	Ducks	Pigeons	Cats
Mavanga	3,225	398	364	1278	30	23,770	4	138	0	7	20
Mundindi	4,771	1,182	830	1356	76	22,892	32	201	0	136	84
Lugarawa	2,212	810	515	1337	20	34,787	218	1,495	500	111	22
Mkongobaki	1,933	2,611	347	977		36,698	975	3,931	63	200	53
Madilu	1047	3,950	950	1863	181	14,876	52	0	0	0	244
Madope	1,326	844	577	392	8	13,612	503	216	0	12	0
Mlangali	3,290	2,522	243	471	30	32,690	185	2,175	26	42	27
Lupanga	2,630	580	132	715	42	38,567	183	1,322	0	24	0
Mawengi	1,919	1,723	284	1277	12	32,226	102	133	35	0	28
Luana	2,524	1,441	20	898		19,500	0	0	0	0	0
Milo	991	736	187	390	46	26,942	71	0	0	0	0
Ludende	2,356	595	92	644	38	37,096	515	172	0	26	32
Ibumi	3,600	155	252	1227	35	13,459	38	66	47	0	23
Ludewa	3,676	1,761	46	1703	22	21,002	70	136	73	0	100
Mkomang'ombe	1412	449	0	1776	0	3,055	2	0	0	0	20
Luiilo	2,660	753	0	1550	0	2,672	0	0	40	0	112
Masasi	2,401	789	0	1316	0	2,287	0	0	55	0	38
Manda	2,112	1,742	0	1562	0	2,497	0	0	72	0	123
Ruhuhu	2,467	1,804	0	1891	0	2,273	0	0	204	0	216
Kilondo	643	507	0	816	0	247	0	0	0	0	0
Lupingu	797	1,086	0	1520	0	2,466	0	0	0	0	56
Makonde	616	1,012	0	1370	0	580	0	0	0	0	65
Iwela	256	234	0	869	0	487	0	0	0	0	0
Lumbila	9	687	0	1392	0	926	0	0	0	0	34
Lifuma	988	478	0	1377	0	0	0	0	0	0	0
Total	49,861	28,849	4,839	29,967	540	385,607	2,950	9,985	1,115	558	1,297

Source: District Executive Director's Office (Livestock Department), Ludewa District, 2012

Distribution of livestock population by ward illustrated in Figure 25 reveals that Mkongobaki had the highest concentration of livestock of all types (47,788 Livestock, 9.29 percent of total livestock in the district) and Iwela Ward had the smallest number of livestock (1,846 livestock, 0.36 percent). Further analysis of the table indicates that largest number of poultry was found in Lupanga ward (38,567 chicken; 10.0 percent of all poultry in the district), followed by Mkongobaki (36,698 chicken; at 9.52 percent). Mundindi ward had the highest concentration of cattle (4,771 cattle; 9.57 percent of all cattle in the district) followed by Ludewa ward (3,676 cattle; 7.37 percent). Luhuhu Ward had the largest number of pigs (1,891 pigs; 6.31 percent of all pigs in the District) followed by Madilu Ward (1,863 pigs; 6.22 percent).

Figure 25: Percentage Distribution of Livestock Population by Ward-Ludewa District, 2012

Source: District Executive Director's Office (Livestock Department), Ludewa District, 2013

3.2.3 Cattle Population



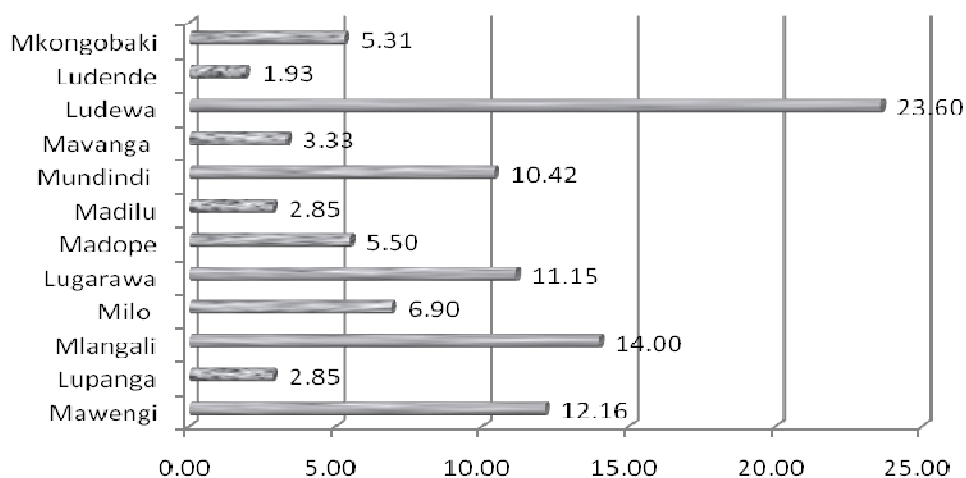
Improved dairy cattle is an important activity in Ludewa DC

Table 3.20 shows that indigenous and improved dairy cattle were the only cattle type in the district in 2012. Ludewa had more indigenous cattle (95.84 percent of total cattle in the district) than improved dairy cattle (4.16 percent of the total cattle). All types of cattle in Ludewa District were owned by small scale owners. Out of 2,072 improved dairy cattle, 23.60 percent were in Ludewa Ward, 14.0 percent in Mlangali Ward and 12.16 percent were in Mawengi Ward as illustrated by Figure 26.

Table 3. 20: Population Distribution of Cattle by Type and by Ward, Ludewa District; 2011/12

Ward	Indigineous	Improved Dairy	Total
Mavanga	3,156	69	3,225
Mundindi	4,555	216	4,771
Lugarawa	1,981	231	2,212
Mkongobaki	1,823	110	1,933
Madilu	988	59	1,047
Madope	1,212	114	1,326
Mlangali	3,000	290	3,290
Lupanga	2,571	59	2,630
Mawengi	1,667	252	1,919
Luana	2,524	0	2,524
Milo	848	143	991
Ludende	2,316	40	2,356
Ibumi	3,600	0	3,600
Ludewa	3,187	489	3,676
Nkomangøombe	1,412	0	1,412
Luilo	2,660	0	2,660
Masasi	2,401	0	2,401
Manda	2,112	0	2,112
Ruhuhu	2,467	0	2,467
Kilondo	643	0	643
Lupingu	797	0	797
Makonde	616	0	616
Iwela	256	0	256
Lumbila	9	0	9
Lifuma	988	0	988
Total	47,789	2,072	49,861
Percentage	95.84	4.16	100

Source: District Executive Director's Office (Livestock Department), Ludewa District, 2012

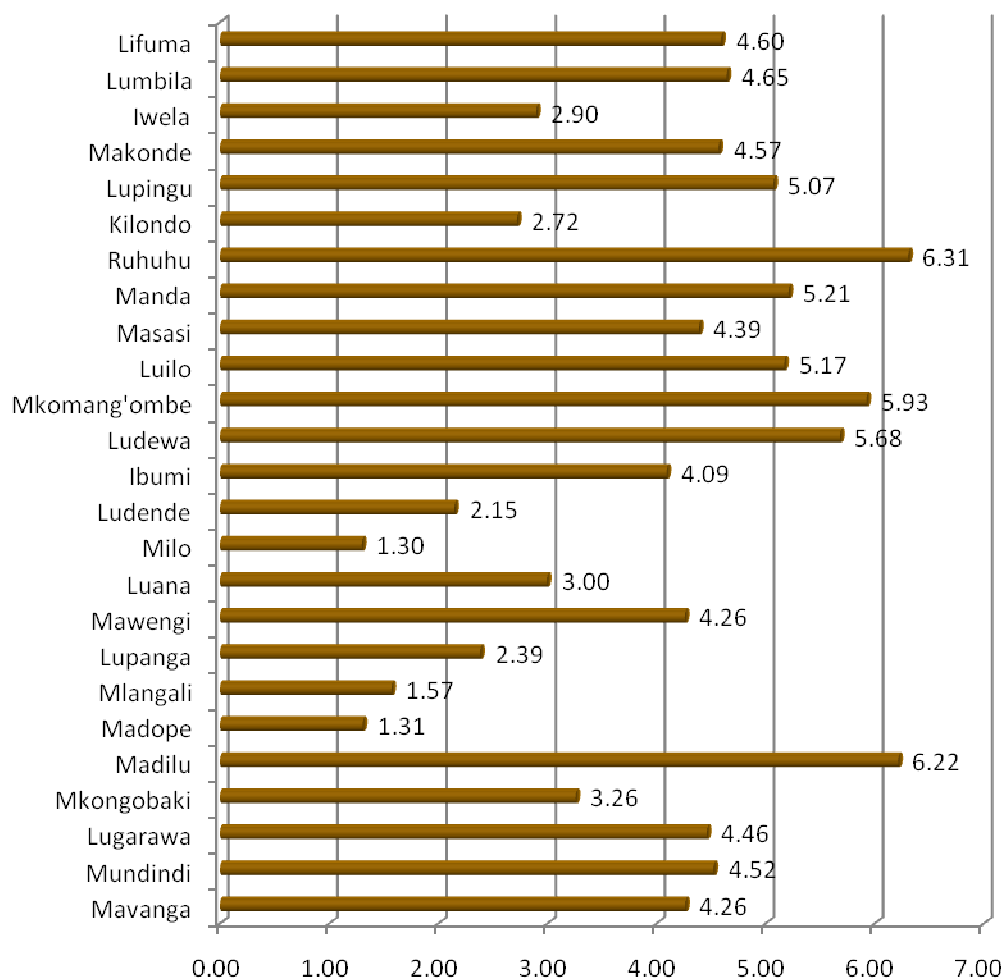
Figure 26: Percentage Distribution of Improved Dairy Cattle by Ward, Ludewa District; 2011/12

Source: District Executive Director's Office (Livestock Department), Ludewa District, 2012

3.2.4 Pig Production

Pigs play an increasingly important role in the livelihood of both urban and sub urban communities. In other areas of the country, community organizations have been practicing pig keeping purposely for improving their livelihood.

Table 3.19 shows that pigs were the third most important livestock in the Ludewa after poultry and cattle. The ward with the largest number of pigs was Ruhuhu Ward with 6.3 percent of the total pig population in the District, followed by Madilu with 6.2 percent, Nkomangombe Ward had 5.9 percent and Ludewa ward with 5.7 percent. Other wards were as shown in Table 3.19 and illustrated in Figure 27.

Figure 27: Percentage Distribution of Pigs by Ward, Ludewa District, 2012

Source: Director's Office, (Livestock Department), Ludewa District, 2013

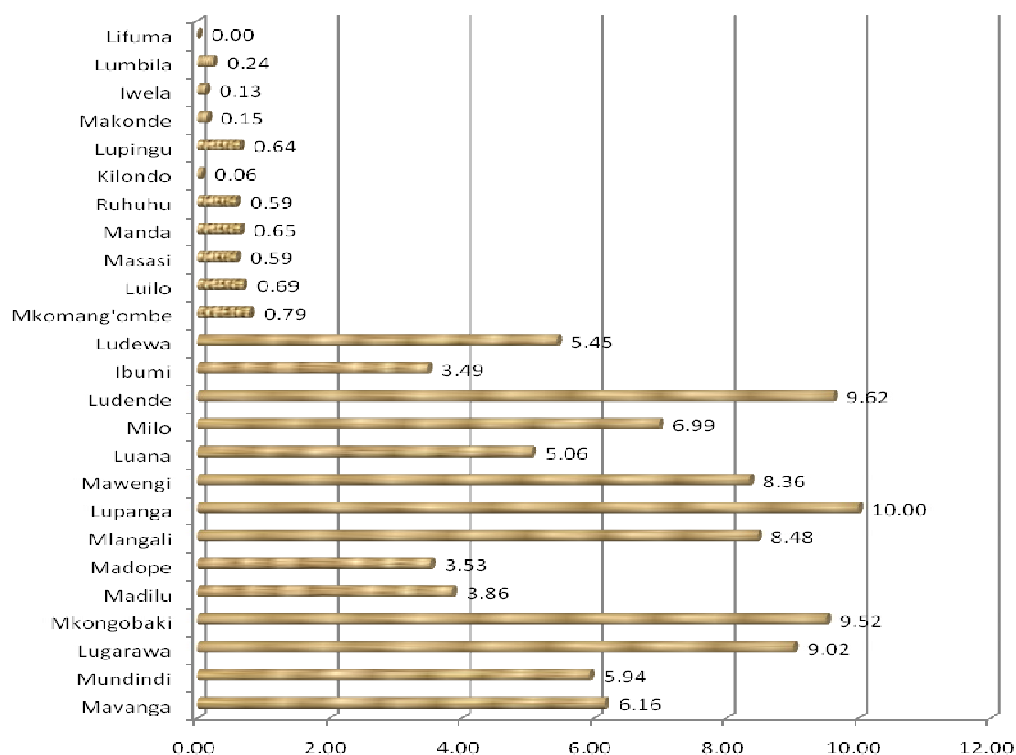
3.2.5 Poultry Farming



Poultry is by far the largest livestock group and is estimated to be about 14 000 million, consisting mainly of chickens, ducks and turkeys in the World (FAO 1999). In total, poultry products (egg and meat) constitute 30% of all animal protein consumed worldwide. Within the last 10 years, this proportion has increased from 20% to 30% of all animal protein and is predicted to increase to 40% before the year 2015 (IFPRI 2000).

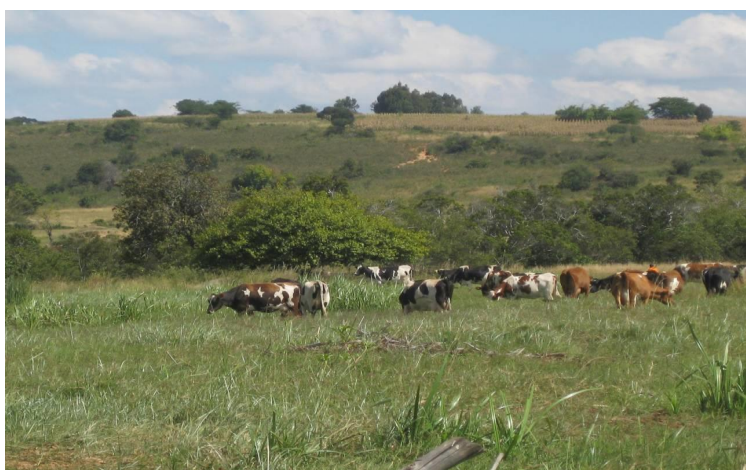
Poultry farming plays a significant role in rural and urban people's life and contributes significantly to poverty alleviation and improvement of food security with high nutrition. In Ludewa District Council, poultry farming is an emerging industry and hygienic poultry production can pave way to better income and sustainable development. Moreover, growth of this industry involves a lot of women and thus provides a strong base for women empowerment in this area. Due to poverty, a high population density and many landless people, a special effort is required to reach the poor and landless. Simple changes in management of village, chickens can significantly improve production and the living conditions of many rural families in terms of enhanced nutrition and income generation through the sale of surplus chickens or eggs. The poultry sector in Ludewa District was dominated by chicken production.

In 2011/12, table 3.19 shows that the ward with largest number of chicken was Lupanga with 10.0 percent of the total chicken in the District followed by Lundende Ward with 9.62 percent; Mkongobaki ward 9.52 percent and Lugarawa ward 9.02 percent. Other wards were as illustrated in Figure 28.

Figure 28: Percentage Distribution of Poultry by Ward, Ludewa District, 2012

Source: Director's Office, (Livestock Department), Ludewa District, 2013

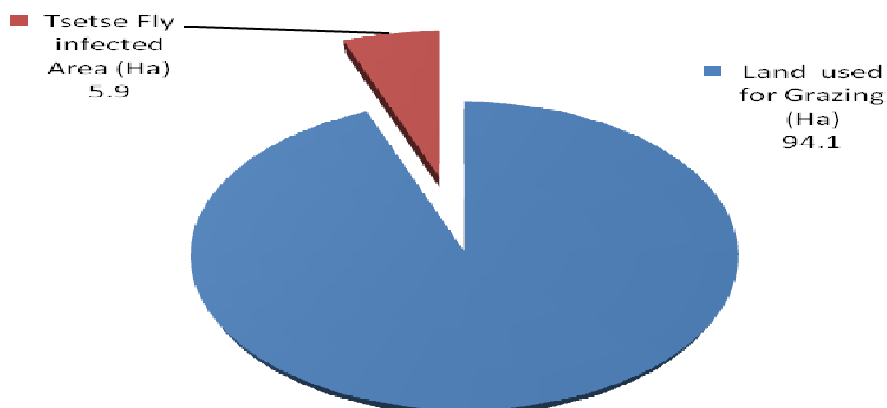
3.2.6 Grazing Land



Availability of grazing land is an important factor in Ludewa DC

Grazing land is defined as the land available for the grazing needs of livestock. It excludes all tsetse fly area, all wildlife and forest reserves and tree plantations. In many cases it overlaps arable land and areas for other use.

Figure 29: Percentage Distribution of Area under Grazing, Ludewa District, 2012



Source: Director's Office, (Livestock Department), Ludewa District, 2013

Table 3.21 and Figure 30 shows that, Ludewa District's grazing land is estimated to be 76,233 hectares, of which 94.1 percent was used for grazing, but the other 5.9 percent was infected by tsetse flies. However, the grazing was reduced to some extent as some of the district's forests are protected natural forests. Awareness campaign to livestock keepers on the use of modern methods of grazing is important to rescue the existing natural forests encroachment.

Table 3. 21: Estimated Area under Grazing by Ward in Ludewa District, 2012

Ward	Land fit for Grazing (Ha)	Land Used for Grazing (Ha)	Tsetse Fly Infected Area (Ha)
Lumbila	1000	800	200
Kilondo	1323	967	356
Mawengi	74.6	74.6	0
Lupanga	167	167	0
Mlangali	100	100	0
Milo	1203	1203	0
Lugarawa	462	462	0
Madope	875	645	230
Madilu	800	710	90
Mundindi	1238	1230	8
Mavanga	456	456	0
Ibumi	9732	9,438	294
Nkomangombe	12035	11,412	623
Luilo	9360	8347	1,013
Masasi	8746	7046	1,700
Manda	9654	9654	0
Iwela	1133	1133	0
Lupingu	728	728	0
Ludewa	3451	3451	0
Ludende	20	20	0
Luana	5670	5670	0
Makonde	2780	2780	0
Mkongobaki	3435	3435	0
Lifuma	0	0	0
Ruhuhu	1790	1790	0
Total	76,233	71,719	4,514

3.2.7 Livestock Infrastructure



Improvement of livestock infrastructure is an important factor

Livestock quality improvement is limited by access to facilities capable of controlling or preventing animal diseases. Diseases affect animal health and reduce both meat quality or/and quantity of milk produced and in some cases bring death to the animal affected. The delivery of livestock health services depends on facilities such as dips, veterinary health centres and water sources. Tick borne diseases are the most common causes of poor animal health in the District. These include East Coast Fever (ECF), Babesiosis, Heart Water and Anaplasmosis. Other diseases of importance are Black Quarter, Newcastle disease and Mange.

Referring Table 3.22, the number of livestock health facilities in 2011/12 was inadequate for the population of livestock of 515,567 in the District. In addition some of those available, were either in poor condition or non-operative. In 2011/12, there were 18 working dips, 1 hides/skin sheds, 2 operating veterinary centers, 1 crushes, 1 livestock markets/auctions and 3 charco dams which were operating in the district. Veterinary health centres are vital for disease diagnosis and control. Lack of equipments, drugs, chemical reagents as well as adequately trained staffs has been the main reasons for the available veterinary centres not to function properly. Further to that, with only two working veterinary centre located in Ludewa and Lugarawa wards, the health of livestock was in danger. Therefore, the Ludewa District Council needs to revivel the not working veterinary centers and increase number of veterinary centres as well as other livestock infrastructure for the betterment of reduction of livestock health and diseases.

Table 3. 22: Distribution of Livestock Infrastructure (Number) by Ward; Ludewa District; 2011/12

Ward	Dips			Veterinary Centres			Crushes	Hides/skin sheds	Abattoirs	Livestock Market/Auction	Charcoal Dams
	W	NW	Total	W	NW	Total					
Mawengi	1	1	2	0	0	0	0	0	0	0	1
Lupanga	1	0	1	0	0	0	0	0	0	0	0
Mlangali	2	1	3	0	1	1	1	1	0	0	0
Milo	1	0	1	0	0	0	0	0	0	0	0
Lugarawa	0	1	1	1	1	2	0	0	0	1	0
Madilu	1	0	1	0	0	0	0	0	0	0	0
Mundindi	2	1	3	0	0	0	0	0	0	0	0
Mavanga	1	0	1	0	0	0	0	0	0	0	0
Ibumi	1	0	1	0	0	0	0	0	0	0	0
Nkomangombe	1	0	1	0	0	0	0	0	0	0	0
Luilu	1	0	1	0	0	0	0	0	0	0	0
Masasi	1	0	1	0	0	0	0	0	0	0	0
Iwela	1	0	1	0	0	0	0	0	0	0	0
Ludewa	1	0	1	1	1	2	0	0	0	0	1

Ludende	1	0	1	0	0	0	0	0	0	0	0
Luana	1	0	1	0	0	0	0	0	0	0	1
Ruhuhu	1	0	1	0	0	0	0	0	0	0	0
Total	18	4	22	2	3	5	1	1	0	1	3

Source: District Executive Director's Office (Livestock Department), Ludewa District, 2012

3.2.8 Major Livestock Diseases

The quality of livestock depends on the delivery of health services such as dips, veterinary health centres and water sources in the District. The service delivery constraints have caused poor animal health in the District. The future in the control of livestock diseases lies in preventive measures including the more effective use of dips and vaccinations.

3.2.9 Cattle Diseases

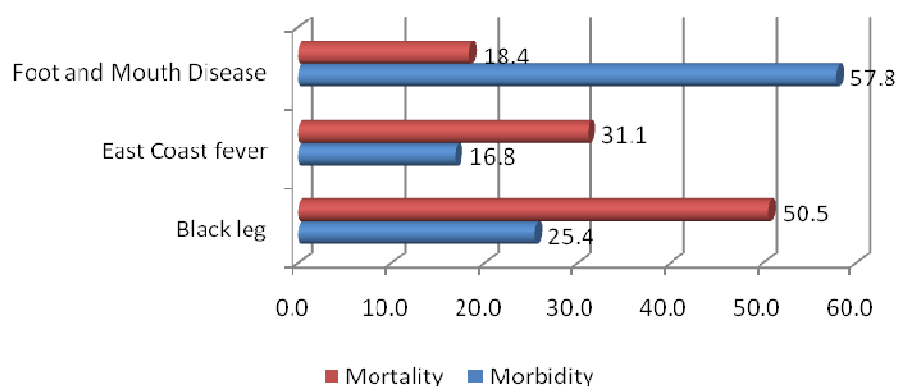
Table 3.23 highlights the most common diseases for cattle and these were East Coast Fever (ECF), Foot and Mouth Disease (FMD), and Black Leg. For five years, 2008 to 2012, a total of 2,007 morbidity cases for cattle were reported, out of which 376 cattle died equivalent to 18.7 percent of the total morbidity cases reported. Black leg claimed about 190 lives of cattle or 9.5 percent of all morbidity cases for cattle in the District.

Table 3. 23: Three Major Cattle Diseases Reported in Ludewa District; 2008 to 2012

Disease	Number of Morbidity Cases Reported						Number of Mortality Cases Reported					
	2008	2009	2010	2011	2012	Total	2008	2009	2010	2011	2012	Total
Black Leg	287	128	63	21	10	509	99	43	17	18	13	190
ECF	196	86	42	9	5	338	67	21	13	10	6	117
FMD	0	0	0	0	1,160	1,160	0	0	0	0	69	69
Total	483	214	105	30	1,175	2,007	166	64	30	28	88	376

Source: District Executive Director's Office (Livestock Department), Ludewa District, 2012

Figure 30 indicates that, FMD caused high morbidity marking 57.8 percent of all reported morbidity cases in the district and claimed 69 lives of cattle marking 18.4 percent of all mortality cases in the district; while Black Leg claimed the highest mortality cases at 50.5 percent of all reported mortality cases in the district.

Figure 30: Percentage Impact of Three Cattle Diseases Reported in Ludewa District; 2008 - 2012**Table 3.23 a: Distribution of Three Major Cattle Diseases Reported by Wards, 2008 to 2012; Ludewa District****(i) Name of Disease: Black Leg**

Ward	Number of Morbidity Cases Reported					Number of Mortality Cases Reported				
	2008	2009	2010	2011	2012	2008	2009	2010	2011	2012
Mawengi	53	23	14	0	0	16	12	6	4	3
Lupanga	67	18	8	0	0	6	7	2	5	4
Ludewa	78	46	31	12	3	47	14	4	3	1
Luana	89	41	10	0	0	30	10	5	2	2
Makonde	0	0	0	9	7	0	0	0	4	3
Total	287	128	63	21	10	99	43	17	18	13

(ii) Name of Disease: East Coast Fever

Ward	Number of Morbidity Cases Reported					Number of Mortality Cases Reported				
	2008	2009	2010	2011	2012	2008	2009	2010	2011	2012
Mawengi	12	9	3	0	0	17	0	0	0	0
Lupanga	19	0	0	0	0	4	1	0	0	0
Lugarawa	27	21	11	0	0	6	4	5	0	0
Madope	16	0	5	0	0	3	2	1	3	2
Madilu	3	0	0	0	0	0	0	0	0	0
Mundindi	12	7	8	0	0	2	1	3	2	1
Mavanga	0	0	0	0	0	0	0	0	0	0
Ibumi	18	10	9	0	0	7	3	2	3	0
Nkomangombe	14	8	2	3	1	8	4	1	0	0
Luilo	13	4	0	6	4	3	3	0	2	1
Iwela	5	0	0	0	0	0	0	0	0	0
Lupingu	11	6	0	0	0	7	2	0	0	0
Ludewa	13	0	0	0	0	0	0	0	0	0
Ludende	14	7	4	0	0	4	0	1	0	1
Luana	3	0	0	0	0	0	0	0	0	0
Makonde	0	0	0	0	0	0	0	0	0	0
Mkongobaki	16	14	0	0	0	6	1	0	0	1
Total	196	86	42	9	5	67	21	13	10	6

(iii) Name of Disease: Foot and Mouth Disease

Ward	Number of Morbidity Cases Reported					Number of Mortality Cases Reported				
	2008	2009	2010	2011	2012	2008	2009	2010	2011	2012
Ludende	0	0	0	0	380	0	0	0	0	3
Lugarawa	0	0	0	0	0	0	0	0	0	0
Ludewa	0	0	0	0	56	0	0	0	0	5
Mundindi	0	0	0	0	464	0	0	0	0	50
Mavanga	0	0	0	0	120	0	0	0	0	6
Ibumi	0	0	0	0	140	0	0	0	0	5
Total	0	0	0	0	1160	0	0	0	0	69

In general, all the three diseases reported were dangerous to cattle health. Spread of the diseases in the district was as shown in Table 3.23(a), whereby, EAF did spread in many wards in the District than the two diseases.

3.2.10 Pig Diseases

Table 3.24 indicates that African swine fever was the major pig disease that infected 1,233 pigs in year 2011 and it was so fatal that, it claimed lives of all infected pigs. The impact of the disease was severe in Ludewa Ward at 52.1 percent, followed by Lupingu Ward at 17.9 percent and Kilondo Ward at 10.9 percent of all morbidity and mortality cases reported in the District.

Table 3. 24: African Swine Fever Diseases Reported in Ludewa District; 2011

Ward	Number of Morbidity Cases Reported	Number of Mortality Cases Reported	Percentage
Lumbila	117	117	9.5
Kilondo	134	134	10.9
Mawengi	78	78	6.3
Lupanga	20	20	1.6
Lugarawa	20	20	1.6
Lupingu	221	221	17.9
Ludewa	643	643	52.1
Total	1,233	1,233	100

Source: District Executive Director's Office (Livestock Department), Ludewa District, 2013

3.2.11 Poultry Diseases

In the period of five years shown in Table 3.25, Newcastle Disease emerged as the deadliest disease for poultry. It accounted for 82.4 percent of all their deaths. Effective vaccination helped poultry keepers in Ludewa to reduce deaths of poultry by 85.0 percent. In 2012 mortality cases reduced by 3, 902 cases from 4,591 mortality cases reported in 2008 to only 689 mortality cases reported in 2012.

Table 3. 25: Two Major Poultry Diseases Reported in Ludewa District; 2008 to 2012

Disease	Number of Morbidity Cases Reported						Number of Mortality Cases Reported					
	2008	2009	2010	2011	2012	Total	2008	2009	2010	2011	2012	Total
New castle Disease	4,260	1,528	731	680	580	7,779	3,821	1,456	597	653	564	7,091
Fowl Typhoid	2,754	2,298	2,076	1,845	1,503	10,476	770	317	180	126	125	1,518
Total	7,014	3,826	2,807	2,525	2,083	18,255	4,591	1,773	777	779	689	8,609

Source: District Executive Director's Office (Livestock Department), Ludewa District, 2012

Wards affected much by Newcastle disease were Mundindi at 13.9 percent of all mortality cases reported in the District, followed by Madilu Ward at 12.9 percent, Mavanga Ward at 11.1 percent and Ibumi Ward at 10.0 percent. Fowl Typhoid affected the much wards of Mlangali at 10.1 percent of all mortality cases caused by the disease reported in the District, followed by Lugarawa at 9.4 percent, Ludewa at 7.9 percent, Mundindi at 7.2 percent, Luana and Ruhuhu each at 7.0 percent.

3.2.12 Marketing of Livestock and Their Products

Figure 31 shows that marketing of indigenous cattle generated most income at 45.04 percent of total revenue generated in all five years. It was followed by pigs (26.80 percent), poultry (24.723 percent), goats (2.77 percent), and lastly sheep (0.0 percent). In those five years a total of TShs 7,343,345,000 were generated from livestock marketing. The information is based on data collected through official sales and does not involve sales through traditional markets. This therefore suggests that there is more income earned from livestock sales than what Table 3.26 shows.

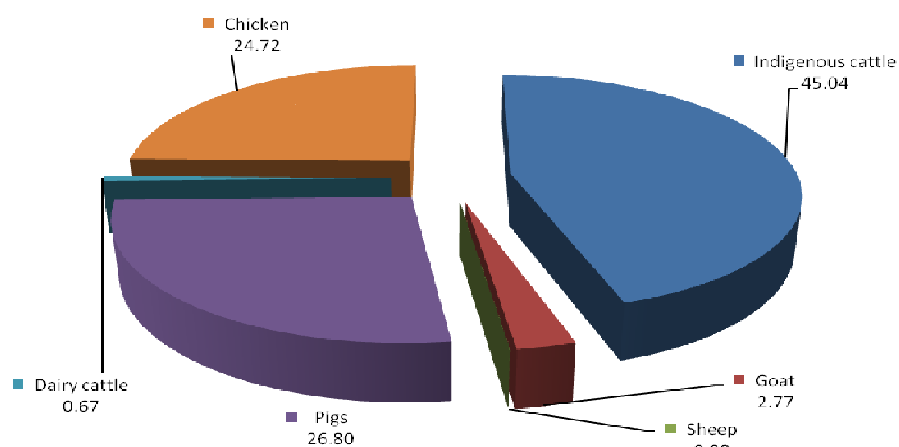
Figure 31: Percentage Revenue Earned from Marketed Livestock by Type (Official Markets); Ludewa District; 2008 to 2011/12

Table 3. 26: Marketed Livestock by Type (Official Markets) and Values, Ludewa District; 2008, 2009, 2011 and 2012

Type of Livestock	Total Number of Live stock Marketed					Total Value in TShs (,000)					
	2008	2009	2010	2011	2012	2008	2009	2010	2011	2012	All Years
Indigenous cattle	879	1,173	1,402	1,569	1,881	307,650	410,550	644,920	721,740	1,222,650	3,307,510
Goat	686	841	955	1,164	1,477	24,010	29,435	36,290	42,975	70,896	203,606
Sheep	0	0	0	0	5	0	0	0	0	240	240
Pigs	5,836	6,211	6,520	0	1,903	496,060	558,990	655,844	0	256,905	1,967,799
Dairy cattle	24	24	7	5	11	8,640	11,520	4,550	15,600	8,800	49,110
Chicken	13,947	16,944	21,248	23,453	25,373	90,656	1,101,360	169,984	199,351	253,730	1,815,080
Total	21,372	25,193	30,132	26,191	30,650	927,016	2,111,855	1,511,588	979,666	1,813,221	7,343,345

Source: District Executive Director's Office (Livestock Department), Ludewa District, 2013

3.2.13 Marketing of Hides and Skins

Marketed hides and skins create alternative source of income for livestock keeping households. From 2008 to 20112 a total of 10,087 hides and skins were sold and earned a total of TShs 35,333,000. Detailed analysis of Table 3.27 reflects that marketed hides and skins contribute significantly to the economy of Ludewa residents, particularly livestock keepers. Absence of modern abattoirs limits the quality of hides and skins and hence price per unit. Therefore, construction of modern abattoirs is of great importance in providing better environment which in turn would improve the quality of processed hides and skins.

Table 3. 27: Marketing of Livestock Hides and Skins in Ludewa District, 2009, 2010 and 2011

Type of Hides/Skins	Total Number of Livestock Hides and Skins Marketed					Total Value in Tshs (,000)					
	2008	2009	2010	2011	2012	2008	2009	2010	2011	2012	All Years
Cattle hides/skins	1,172	1,517	1,565	1,767	2,106	2,930.0	3,792.5	5,477.5	8,835.0	10,530.0	31,565.0
Goat hides/skins	163	224	358	448	762	81.5	112.0	537.0	1,120.0	1,905.0	3,755.5
Sheep hides/skins	0	0	0	0	5	0.0	0.0	0.0	0.0	12.5	12.5
Total	1,335	1,741	1,923	2,215	2,873	3,011.5	3,904.5	6,014.5	9,955.0	12,447.5	35,333.0

Source: District Executive Director's Office (Livestock Department), Ludewa District, 2012

3.2.14 Milk Marketing

Over the period of 2008 to 2012 a total of 599,704 litres of milk valued at TShs 827,287,450 were marketed in the District (Table 3.27). The quantity of milk marketed showed an increasing trend. It increased by 108,451 litres from 56,254 litres in 2008 to 164,705 litres in 2012. Most milk was produced by dairy cattle at 85.50 percent, followed by indigenous

cattle at 14.37 percent and dairy goat at 0.13 percent of all milk produced in the District in the period of five years (2008-2012).

Table 3. 28: Production of Milk by Type of Livestock, Ludewa District; 2009, 2010 and 2011

Milk from	Total numbers of litres					Total value in TShs (,000)					All Years
	2008	2009	2010	2011	2012	2008	2009	2010	2011	2012	
Indigenous Cattle	24,010	31,990	38,640	47,202	52,470	12,005.00	15,995.00	19,320.00	30,681.30	41,976.00	119,977.30
Dairy Cattle	32,130	92,080	78,456	89,580	111,750	16,065.00	46,040.00	509,964.00	44,790.00	89,400.00	706,259.00
Diary Goats	114	208	237	352	485	74.10	134.88	228.48	201.45	412.25	1,051.15
Total	56,254	124,278	117,333	137,134	164,705	28,144.10	62,169.88	529,512.48	75,672.75	131,788.25	827,287.45

Source: District Executive Director's Office (Livestock Department), Ludewa District, 2012

3.2.15 The Status of Livestock staff

The quality of extension services received by livestock keepers was an evidence of the unsatisfactory status of livestock staffing in the District. The District experienced shortage of livestock personnel as shown in Table 3.29. Serious shortages are observed on livestock field officers at ward level. Out of twenty-five ward in the district, veterinary and livestock officers or livestock auxiliaries are at in nine wards only, namely: Mavanga, Lugarawa, Mlangali, Lupanga, Luana, Milo, Ibumi, Ludewa and Manda.

Table 3. 29: Availability of Livestock Personnel by Ward in Ludewa District, 2012

Ward	Livestock Field Officers	Livestock Auxiliary	Total
Mavanga	1	0	1
Lugarawa	1	0	1
Mlangali	2	0	2
Lupanga	1	0	1
Luana	1	0	1
Milo	1	0	1
Ibumi	0	1	1
Ludewa	3	0	3
Manda	1	0	1
TOTAL	11	1	12

Source: District Executive Director's Office (Livestock Department) 2013

3.2.16 Investment Opportunities in Livestock sub sector

Ludewa District has inadequate livestock infrastructures which are operating such as dips, health centres, water points, slaughter houses etc. Therefore construction of livestock infrastructures might be a priority area of investing in livestock sub-sector. Other areas

which need investors are dairy farming and livestock processing industries such as milk processing, leather tanning and meat canning. The District needs to look at the following possibilities:

1. **Meat processing:** Out of 25 wards, none had a modern abattoir. Hence, there is a need of building modern abattoirs in the District that can process and add value and serve as a local market for livestock keepers,
2. **Tanneries:** For adding value to the hides and skins and produce fully processed or semi processed products.
3. **Ranching:** Ecology of Ludewa is suitable for large scale dairy and beef cattle farming.
4. **Animal services and pharmaceuticals**
Animal pharmaceutical shops and veterinary centres where qualified veterinary and livestock officers can offer consultancy services especially in remote areas,

3.3 Natural Resources



Lake Nyasa Iron Ore Rocks at Liganga

3.3.1 Introduction

The country's natural resources sector, which is comprised of forestry, fisheries, beekeeping and wildlife sub-sectors grew at 2.4 percent in 2012 compared to 3.5 percent in the year 2011. The sector contributed 2.5 percent to country's GDP in 2012 (Economic Survey Report, 2012). This is a significant role.

Environmentally, the forestry sub sector plays an important role in maintaining ecological balance, protecting soils from erosion and conserve water and wildlife. Forests are sources of domestic energy and industrial raw materials. Forests also provide useful non-wood products mainly honey and bee wax. Ludewa District has mainly woodlands, wooded grasslands and bush lands. Some wards in the District are experiencing heavy exploitation of woodlands due to firewood and farm clearance. Encroachment of forests reserves done by livestock keepers is another threat facing natural forests in the District. Destruction of forest cover is extensive in the District particularly in Ludewa, Luana, and Mawengi wards in the Livingstone Ranges Forest Reserve; and Nkomangombe ward in Kimelembe Forest Reserve.

3.3.2 Forestry



Forest reserves are the main natural endowments in Ludewa

Land and forest resources are the main natural endowments of Tanzania. Ludewa District is also endowed with forestry potential. It has vast woodlands, covering an area of 100,000 hectares. However, the woodland are heavily exploited to fulfill demands for fuel wood, charcoal, timber and building materials. Efforts have been made to preserve certain forests with a view to prevent the effect of deforestation. So far, there are 18 forest reserves covering 36,775.11 hectares. Table 3.30 shows status of forest reserves in the District. Forest reserves were owned by central government or village governments. Livingstone Ranges Forest Reserve had the largest size at 88.5 percent of the whole forest cover in Ludewa, followed by Kimelembe forest reserve at 3.93 percent. The District Council needs to take strong measures to prevent illegal harvesting from taking place in the forest reserves.

Table 3. 30: Status of Forest Reserves, Ludewa District; 2011

Ward	Name of Forest Reserve	Size in Hectares	Size of Encroached Area (Ha)	Illegal Harvesting Level
Madilu	Mdandu	494.89	0	Fair
Madilu	Mfalasi	0	0	Insignificant
Madope	Mpugulu	265.86	0	Insignificant
Mlangali	Ihonjogoro	73.73	0	Insignificant
Ludewa, Luana & Mawengi	Livingstone Ranges	32,546.89	8,432.75	Severe
Nkomangombe	Kimelembe	1,444.15	4.53	Severe
Ibumi	Ibumi	0	0	Fair
Lupingu	Nindi	0	0	Fair
Mundindi	Ulembwe	76.00	0	Insignificant
Ludende	Abudi	2.00	0	Insignificant
Luana	Idofu	0	0	Insignificant
Milo	Madenge	38.00	0	Insignificant
Nkomangombe	Nkomangombe	0	0	Insignificant
Luana	Mbwila	858.68	0	Insignificant
Ludewa	Mvava	795.00	0	Insignificant
Ludewa	Ligunga	81.91	0	Insignificant
Milo	Sakarayumo	15.00	0	Insignificant
Milo	Mshora	83.00	0	Insignificant
Total	18 Forest Reserves	36,775.11	84,37.28	

Source: District Executive Director's Office (Natural resource Department), Ludewa District, 2012



Tree seedlings are important as a source of future forests

Another effort being made is raising of seedlings. Table 3.31 shows that a total of 11,445,568 tree seedlings were raised from 2009/10 to 2011/12 by various institutions. Institutions involved in raising seedlings include village governments, schools, NGOs, as well as the Ludewa District Council.

Table 3. 31: Number of Tree Seedlings Raised by Institution by ward, Ludewa District; 2010/11 and 2011/12

Ward	2009/10	2010/11	2011/12	Total
Mawengi	397,283	478,945	542,118	1,418,346
Mlangali	1,442,374	1,748,326	2,679,064	5,869,764
Milo	289,961	355,644	411,000	1,056,605
Lugarawa	856,732	501,179	782,235	2,140,146
Mavanga	9,732	13,668	18,080	41,480
Ludewa	198,115	229,723	268,511	696,349
Mkongobaki	61,978	72,376	88,524	222,878
Total	3,256,175	3,399,861	4,789,532	11,445,568

Source: District Executive Director's Office (Natural resource Department), Ludewa District, 2012

Compared with the total area of Ludewa District, the planted area is very small. In order to have an impact on tree-less areas of the District, more trees must be planted and more people and institutions should be involved in tree planting.

3.3.3 Natural Resources Products

3.3.3.1 Forest Products

Forest products such as timber, poles and charcoal earn revenue for the government through permits and taxes. Tables 3.32 and 3.32 (a) show volume and amount of revenue earned from timberlogs and charcoal in two years of 2010/11 and 2011/12. In that period, Ludewa District Council collected a total of TShs. 3,452 million from timber/logs and TShs 588 million from charcoal. Revenue collected from timber/logs accounted for 85.4 percent of the total revenue while charcoal accounted 14.6 percent.

Table 3. 32: Revenue Collected from Timber, Ludewa District, 2011

Ward	2010/11		2011/12		2010/11 and 2011/12	
	Number of Timber Sold (Pcs)	Total Value (TShs)	Number of Timber Sold (Pcs)	Total Value (TShs)	Total Timber Sold (Pcs)	Total Value (TShs)
Ludewa	25,000	87,500,000	30,000	105,000,000	55,000	192,500,000
Mavanga	15,000	52,500,000	14,000	49,000,000	29,000	101,500,000
Mawengi	98,700	345,450,000	105,217	368,259,500	203,917	713,709,500
Milo	19,000	66,500,000	21,000	73,500,000	40,000	140,000,000
Madilu	31,000	108,500,000	35,000	122,500,000	66,000	231,000,000

Table 3.32 (ctd): Revenue Collected from Timber, Ludewa District, 2011

Mkongobaki	9,000	31,500,000	11,000	38,500,000	20,000	70,000,000
Ludende	11,000	38,500,000	9,000	31,500,000	20,000	70,000,000
Mlangali	58,450	204,575,000	67,450	236,075,000	125,900	440,650,000
Lupanga	45,000	157,500,000	51,212	179,242,000	96,212	336,742,000
Madope	85,217	298,259,500	95,207	333,224,500	180,424	631,484,000
Mundindi	23,000	80,500,000	18,937	66,279,500	41,937	146,779,500
Lugarawa	18,624	65,184,000	22,625	79,187,500	41,249	144,371,500
Luana	9,567	33,484,500	7,669	26,841,500	17,236	60,326,000
Masasi	5,212	18,242,000	4,768	16,688,000	9,980	34,930,000
Nkomangombe	4,513	15,795,500	3,792	13,272,000	8,305	29,067,500
Luilo	6,176	21,616,000	7,027	24,594,500	13,203	46,210,500
Iwela	2,823	9,880,500	2,121	7,423,500	4,944	17,304,000
Ruhuhu	1,500	5,250,000	1,381	4,833,500	2,881	10,083,500
Lupingu	643	2,250,500	891	3,118,500	1,534	5,369,000
Manda	2,279	7,976,500	2,750	9,625,000	5,029	17,601,500
Ibumi	1,654	5,789,000	1,852	6,482,000	3,506	12,271,000
Total	473,358	1,656,753,000	512,899	1,795,146,500	986,257	3,451,899,500

Source: District Executive Director's Office (Natural resource Department), Ludewa District, 2012

The Table also shows that, Mawengi Ward did well in selling timber at 20.7 percent of all District sales in the years 2010/11 and 2011/12, followed by Madope ward at 18.3 percent and Mlangali ward at 12.8 percent. On the other hand, Madope leads in charcoal sales at 18.9 percent of all District sales, followed by Ludewa Ward at 16.0 percent and Mlangali at 11.6 percent in the same period.

Table 3.32 a: Quantity (bags) and Value of Charcoal Sold by Ward in Ludewa District, 2010/11 and 2011/2012

Ward	2010/11		2011/12		2010/11 and 2011/12	
	Number of Bags Sold	Total Value (TShs)	Number of Bags Sold	Total Value (TShs)	Total Bags Sold	Total Value (TShs)
Ludewa	7,290	36,450,000	8,280	57,960,000	15,570	94,410,000
Mavanga	1,689	8,445,000	1,689	11,823,000	3,378	20,268,000
Mawengi	1,800	9,000,000	1,500	10,500,000	3,300	19,500,000
Milo	918	4,590,000	1,112	7,784,000	2,030	12,374,000
Madilu	2,725	13,625,000	3,725	26,075,000	6,450	39,700,000
Mkongobaki	736	3,680,000	739	5,173,000	1,475	8,853,000
Ludende	798	3,990,000	794	5,558,000	1,592	9,548,000

Table 3.32a (ctd): Quantity (bags) and Value of Charcoal Sold by Ward in Ludewa District, 2010/11 and 2011/2012

Ward	2010/11		2011/12		2010/11 and 2011/12	
	Number of Bags Sold	Total Value (TShs)	Number of Bags Sold	Total Value (TShs)	Total Bags Sold	Total Value (TShs)
Mlangali	5,634	28,170,000	5,734	40,138,000	11,368	68,308,000
Lupanga	925	4,625,000	995	6,965,000	1,920	11,590,000
Madope	8,518	42,590,000	9,818	68,726,000	18,336	111,316,000
Mundindi	1,780	8,900,000	1,881	13,167,000	3,661	22,067,000
Lugarawa	3,050	15,250,000	2,750	19,250,000	5,800	34,500,000
Luana	1,228	6,140,000	1,123	7,861,000	2,351	14,001,000
Masasi	487	2,435,000	487	3,409,000	974	5,844,000
Nkomangombe	820	4,100,000	930	6,510,000	1,750	10,610,000
Luilo	1,015	5,075,000	987	6,909,000	2,002	11,984,000
Iwela	516	2,580,000	526	3,682,000	1,042	6,262,000
Ruhuhu	1,200	6,000,000	1,200	8,400,000	2,400	14,400,000
Lupingu	821	4,105,000	801	5,607,000	1,622	9,712,000
Manda	1,918	9,590,000	2,381	16,667,000	4,299	26,257,000
Ibumi	937	4,685,000	1,035	7,245,000	1,972	11,930,000
Makonde	630	3,150,000	630	4,410,000	1,260	7,560,000
Lifuma	508	2,540,000	577	4,039,000	1,085	6,579,000
Lumbila	362	1,810,000	396	2,772,000	758	4,582,000
Kilondo	437	2,185,000	592	4,144,000	1,029	6,329,000
Total	46,742	233,710,000	50,682	354,774,000	97,424	588,484,000

3.3.3.2 Beekeeping

Beekeeping industry would be of economic important if promotion of commercial beeswax honey production is practiced and also through shifting from traditional beehives dependence to modern beehives

Traditional beehive



Modern beehive



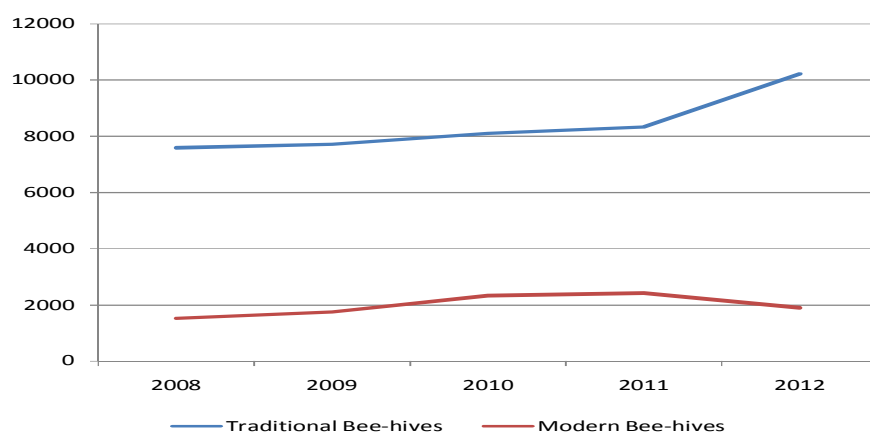
Beekeeping is one of the economic activities in Ludewa. It is among the districts in Tanzania that are well known for honey and bee-wax production. Natural forests and forests plantations available in most parts of the District have great potential for beekeeping. Besides those endowments, beekeeping sub-sector is still under developed due to lack of know-how and modern technology. As Table 3.33 indicates, in period of 2008-2012 traditional beehives numbering 41,945 (98.04 percent of total beehives in the District) were very prominent than modern beehives numbering 9,942 (19.16 percent of the total beehives).

Table 3. 33: Number of Traditional and Modern Beehives, Ludewa District; 2009 -2011

Ward	Traditional					Modern					Traditional Total	Modern Total
	2008	2009	2010	2011	2012	2008	2009	2010	2011	2012	2008-2012	2008-2012
Ludewa	456	475	485	522	723	82	92	122	131	132	2661	559
Lupanga	889	896	916	920	1070	111	121	152	160	157	4691	701
Lugarawa	725	732	742	925	1056	212	222	253	263	223	4180	1173
Manda	413	420	437	515	665	105	115	145	154	122	2450	641
Luiilo	418	426	438	442	592	87	97	137	143	97	2316	561
Mavanga	582	587	598	632	782	93	103	133	142	96	3181	567
Mundindi	918	925	937	866	1016	198	208	238	242	203	4,662	1089
Ludende	487	493	504	512	672	67	78	108	117	87	2,668	457
Ibumi	311	318	329	361	511	59	89	129	138	66	1,830	481
Mawengi	512	519	634	677	827	69	99	149	163	107	3,169	587
Mlangali	1876	1918	2083	1953	2307	448	530	766	770	612	10,137	3,126
Total	7,587	7,709	8,103	8,325	10,221	1,531	1,754	2,332	2,423	1,902	41,945	9,942

Source: District Executive Director's Office (Natural resource Department), Ludewa District, 2012

Figure 32: Trend of Number of Traditional and Modern Beehives -Ludewa District, 2008 -2012



Mlangali Ward was leading by having more traditional beehive at 24.2 percent and modern beehive at 31.4 percent of all respective beehive type in the District. It was followed by Lupanga ward which had 11.2 percent of traditional beehives but only 7.1 percent of modern beehives in the District in the same period. Mundindi Ward had 11.1 percent of traditional beehives and 11.0 percent of modern beehives. Lugarawa Ward was also among good player ward as it had 10 percent of traditional beehives and 11.8 percent of modern beehives in the District. This situation has led to low production of honey and bee-wax in the district. Figure 32 indicates that, traditional beehives mainly made by carving logs were most used, whilst modern beehives which are more improved and made by timber were less used. On top of that, if the available beekeeping potential is fully utilized, it would reduce unemployment/underemployment of rural population in the District.

3.3.3.3 Beekeeping Products

Table 3.34 indicates that over a five year period, beekeeping sub-sector produced a total of 92,368 litres of honey valued at TShs 738,944,000 which is 92.8 percent of all beekeeping products value in the District. In the same period; 11,513 kg of bee-wax worth TShs 57,565,000 was also produced or 7.2 percent of the value of beekeeping products in the District.

Table 3. 34: Beekeeping Products and Value (Tshs), Ludewa District; 2008 – 2012

Year	Honey in lts.	Honey Value in T.Shs.	Bee-Wax in Kgs.	Bee-Wax Value in T.Shs.
2008	19,241	153,928,000	2,405	12,025,000
2009	20,584	164,672,000	2,573	12,865,000
2010	16,180	129,440,000	2,022	10,110,000
2011	16,233	129,864,000	2,011	10,055,000
2012	20,130	161,040,000	2,502	12,510,000
Total	92,368	738,944,000	11,513	57,565,000

Source: District Executive Director's Office (Natural resource Department), Ludewa District, 2012

Bee-keeping production levels in Ludewa could be raised if bee-keepers are given assistance to enable them change from using traditional to modern beehives which are more efficient in honey production. This could be achieved through improved extension services and where possible provision of micro-credits to bee-keepers as seed money. Moreover, the District's work-force living in the area is favorable to bee-keeping. People, especially those living in close proximity to forest reserves could be encouraged to engage in this important off-farm economic activity. Bee-keeping has an advantage of being carried out alongside other

economic activities such as farming and livestock keeping without much loss of time and labour to those activities.

3.3.3.4 Fisheries



Fishing activity in Lake Nyasa is an important economic activity in Ludewa

Fishing is an important economic activity in the District, particularly to the people living along Lake Nyasa. Fishing provides employment and is a great source of income to the lakeshore people as well. Fishing was also done in Ruhuhu River and ponds. Table 3.35 gives indications of the magnitude of the fishing industry in the District. In 2012, the District had a total of 1,026 fishermen. Out of them, 384 fishermen (37.4 percent) had licenses. In 2012 fish weighing 31,757 kilograms and valued at TShs. 30,169,150 were harvested.

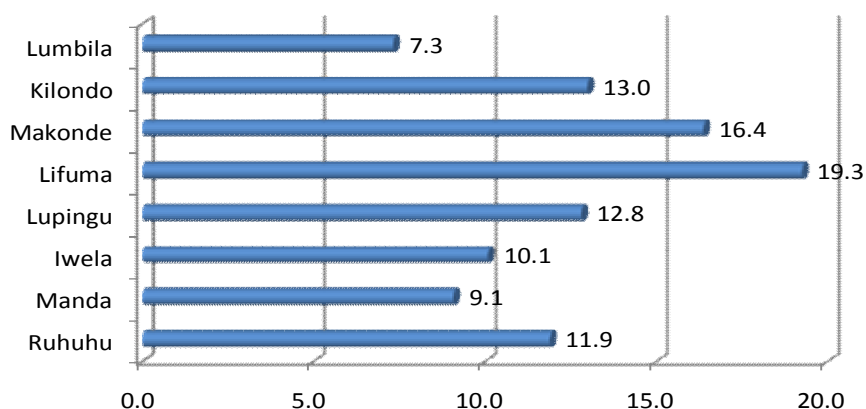
Table 3. 35: Fisheries Resources and Production from January to December, 2012, Ludewa District

Ward	Type of Fishing Resources			Fish Production	
	No. of Fishing Licesenses	No. of Fishermen	No. of Registered Fishing Vessels	Weight (kg)	Value (TShs)
Ruhuhu	51	161	16	3,786	3,596,700
Manda	58	105	18	2,890	2,745,500
Iwela	43	55	8	3,211	3,050,450
Lupingu	53	76	13	4,076	3,872,200
Lifuma	57	95	11	6,121	5,814,950
Makonde	63	202	17	5,208	4,947,600
Kilondo	29	108	5	4,132	3,925,400
Lumbila	30	224	3	2,333	2,216,350
Total	384	1026	91	31,757	30,169,150

Source: District Executive Director's Office (Livestock and Fisheries Department), Ludewa District, 2012

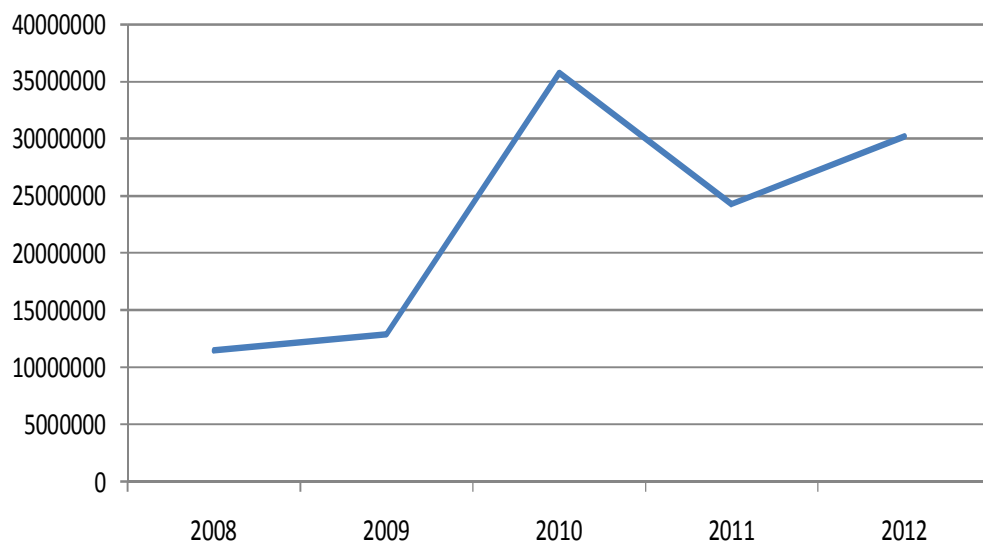
Fishing took place mainly in Lifuma Ward which accounted for 19.3 percent of total value of fisheries production in a District. It was followed by Makonde Ward at 16.4 percent, Kilondo ward at 13.0 percent, and Lupingu Ward at 12.8 percent. Other wards were as shown in Figure 33.

Figure 33: Percentage Fisheries Production by Ward-Ludewa District, 2012



Source: District Executive Director's Office (Livestock and Fisheries Department), Ludewa District, 2012

Figure 34: Trend of Fish Production Revenue (TShs)-Ludewa District, 2008 to 2012





A sample of one of the types of fish found in Lake Nyasa

Table 3. 36: Trend of Fish Production Revenue (TShs) by Ward-Ludewa District, 2008 to 2012

Ward	2008	2009	2010	2011	2012	Total
Ruhuhu	656,000	738,000	4,474,500	3,695,500	3,596,700	13,160,700
Manda	572,000	643,500	3,230,000	2,945,000	2,745,500	10,136,000
Iwela	664,000	747,000	2,410,000	2,375,000	3,050,450	9,246,450
Lupingu	1,085,600	1,221,300	5,525,000	3,716,400	3,872,200	15,420,500
Lifuma	2,224,000	2,502,000	7,812,000	4,300,650	5,814,950	22,653,600
Makonde	2,500,800	2,813,400	6,951,400	4,702,500	4,947,600	21,915,700
Kilondo	1,256,000	1,413,000	3,223,000	1,626,400	3,925,400	11,443,800
Lumbila	2,496,000	2,808,000	2,112,000	895,850	2,216,350	10,528,200
Total	11,454,400	12,886,200	35,737,900	24,257,300	30,169,150	114,504,950

Source: District Executive Director's Office (Livestock and Fisheries Department), Ludewa District, 2012

Problem facing the Fish Industry in the District:

- i. Inadequate fisheries extension officers
- ii. Lack of modern fishing gears and spares
- iii. Lack of credit facilities to enable small scale fishermen to embark on large scale fishing
- iv. Poor transport infrastructure linking lake-shores with district headquarters.

3.3.4 Tourism

Tourism is termed as an instrument for employment generation, poverty alleviation and sustainable human development. With its distinct advantages, tourism is postulated as another important industry for poverty alleviation. The advantages include among others, creation of job opportunities; boosting up of sales of different goods and services such as agricultural products and handcrafts, as well as cultural entertainment performed by locals

the majority of whom are poor. The industry is also an important in-let for the much needed foreign exchange. As such tourism as an industry can play very important roles on economic, improved livelihoods and socio-cultural development that are critical for poverty alleviation.

Presence of Mdandu Natural Forest as well as Ketewaka Waterfalls and Mount Livingstone Ranges makes the District a potential area for photographic and viewing tourism. Since, tourist potentials available in the District are not well known, publicity initiatives need to be taken to bring the potentials into Tanzania tourist circuits. Table 3.37 reveals attractive sites that add potential sites for tourism in Ludewa.

Table 3. 37: Historical Sites Potential for Tourism; 2012

Type of Historical Heritage Available	Village	Ward
Mdandu Natural Forest	Madilu, Ilawa and Ilininda	Madilu
Mshora, Sakaranyumo and Madenge Natural Forest	Mapogoro, Mavala and Milo	Milo
Milo Anglican Centre	Milo	Milo
Mount Livingstone ranges	Nindi, Mholo, Luana, Mbwila, Mawengi and Madunda	Lupingu, Luana and Mawengi
Lake Nyasa Shores	Nsungu, Lupingu, and Nsisi	Manda, Lupingu and Lifuma
Ketewaka Waterfalls	Liugai	Luilo
Ornamental fish at Lake Nyasa Shore	Lupingu and Nsungu	Lupingu and Manda
Lupali Waterfalls with unique birds	Njelela	Mundindi

Source: District Executive Director's Office (Natural resource Department), Ludewa District, 2012

3.3.5 Eco Tourism

To promote domestic and international tourism, thrust areas identified by Government of Tanzania are development of infrastructure, product development and diversification, development of eco-adventure sports, cultural presentations, providing inexpensive accommodation, streamlining facilitation procedures at airports, human resource development, creating awareness and public participation and facilitation of private sector participation.

Availability of good infrastructure such as accommodation facilities, telecommunication services, roads, banks/bureau de change services and tour operators is an important tool for the development of competitive tourism industry. Accommodation facilities are important in attracting tourists. Therefore, information about hotels, camp sites and lodges is vital for the tourists, as it helps them to choose the type of accommodation they like as well as compare

the quality against prices charged. Ludewa district has a remarkable number of accommodation facilities and most of them are local (Table 3.38). A total of 32 registered guest houses and 1 licensed hotel were available in the District. Ludewa Ward which is urban and headquarters of the District had the highest number of guest houses (10) equivalent to 31.25 percent of total guesthouses. Lugarawa, Mlangali, Mundindi, Manda and Mavanga wards, also had a number of guesthouses.

Table 3. 38: Accommodation facilities by Ward, Ludewa District; 2011

Ward	Number of Guest Houses	Number of Hotels
Ludewa	10	-
Manda	3	-
Lupingu	1	-
Mlangali	4	-
Lugarawa	6	1
Mavanga	3	-
Mundindi	4	-
Milo	1	-
Total	32	1

Source: District Executive Director's Office (Trade and Finance Department), Ludewa District, 2012

3.3.6 Natural Resource Management

Natural resource management, conservation and restoration are applications of ecological principles by humans. Judgment of success is from the human perspective. The scale of application is variable within the "human scale" of activity ó yet manifested and viewed from global down to small acreages and households, even to the microscopic. Regulations and laws may be assets, or impediments, depending on their adaptability to local and temporal conditions and subject to skillful implementation over time. Economics may produce strong forces that support or undermine success. The perspective of individuals or groups of individuals often conflict with the needed changes and management activities. Although conservation and restoration are science based activities, we know far less than we need to have a routine procedure to follow. Therefore, our management actions must address the processes of conservation and restoration on an appropriate scale and then be maintained for an extended time with appropriate mid-course corrections for our ecological objectives to be approached.

The single greatest difficulty for achieving desired results becomes that of unrecognized human ignorance acted upon with overconfidence. In practice, successful management of natural resources, conservation and restoration must coordinate complex time-dependent ecosystem processes with human dynamics. We need a clear understanding of our self and how we either facilitate or hinder the progress toward healthy ecosystem functions. Successful management implies continuous learning.

Proper natural resources management is necessary to protect deterioration of ecosystem. Therefore, involvement of the community in this sector, particularly in forestry and wildlife conservation is crucial in order to attain sustainability in the use of the available resources of the district. Table 3.39 indicates a distribution of officers responsible for natural resources management by ward in Ludewa district.

Table 3. 39: List of Wildlife Management Officers in Ludewa District; 2012

Ward	Forest		Beekeeping		Fisheries		Wildlife		Total
	Male	Female	Male	Female	Male	Female	Male	Female	
LUDEWA	1	-	1	-	2	-	-	1	5
MILO	1	-	-	-	-	-	-	-	1
IBUMI	-	-	-	-	-	-	1	-	1
MANDA	-	-	-	-	1	-	-	-	1
MUNDINDI	1	-	-	-	-	-	-	-	1
MAVANGA	1	-	-	-	-	-	-	-	1
MADILU	1	-	-	-	-	-	-	-	1
LUPINGU	-	-	-	-	1	-	-	-	1
Total District	5	0	1	0	4	0	1	1	12

Source: District Executive Director's Office (Natural resource Department), Ludewa District, 2012

3.3.7 Environment

Development and use of land and natural resources in Ludewa District is expected to increase, creating economic opportunities as well as putting unprecedented pressure on both the people of Ludewa and the resources. To maximize benefits of current and future development, careful shorefront planning guided by clear principles and backed by enforceable practices is necessary. Shorefront planning seeks to balance competing users for land and natural resources, resolve conflicts among users, and balance national and local interests.

3.3.8 Mineral Resources

Minerals are a principle source of income for many developing countries, including Tanzania. At first glance, mineral-rich economies have an advantage over those less well endowed because minerals provide funds for rapid development and poverty reduction.



Coal projected deposit at Mchuchuma Iron ore rocks at Liganga

Ludewa District is endowed with two, Iron ore and coal deposits, all expected to operate at large scale. The sector however, is expected to contribute greatly to the district and regional economies.

Proper mineral investigations have been carried out; the technology is right and the capital is available. According to the National Development Corporation (NDC), the following projects are due to start in the district in near future:



Parliamentary Public Organization Accounts Committee at Liganga site

i) Liganga Iron Ore Project

Liganga Iron Ore is located in Mundindi Ward. It is the biggest iron ore resources identified in the country with the estimated reserve of over 1.2 billion tonnes. The iron ore deposited in Liganga is known as Vanado-Titanium Magnetite. Iron ore is a resource for steel manufacturing industries and other ferrous based industries. The project is being developed by Tanzania China International Mineral Resources Ltd (TCIMRL) as an integrated project with Mchuchuma and mobilization work for conducting detailed study is in progress. TCIMRL will invest USD 1.7 billion at Liganga for studies and establish a 3.0 mt /y iron ore mine and Iron and steel Complex to produce 1.0 mt /y of iron and steel products, vanadium pentoxide and titanium dioxide following successfully bankable feasibility study including upgrading of access road. The ore mine is expected to start operation by 2015 and production of iron and steel products by 2016.

ii) Sponge Iron Product Project

The sponge iron plant will be established in Ludewa District utilizing iron ore from Maganga Matitu (part of Liganga) and coal from Katewaka to produce sponge iron. Maganga Matitu Resources Development Limited (MMRDL) is implementing the project and the shareholders are NDC and MM Steel Resources Public Limited Company (MMSR PLC). Project due diligence and bankable document are being finalized. The project intends to establish a 330,000 TPA of Sponge Iron Plant with 45 MW Captive Power Plant. At 250,000 TPA of steel billet will be produced from sponge iron per year. Production is expected to start in 2014/15.

iii) Mchuchuma - Katewaka Coal to Electricity

The project is located in Ludewa District. Mchuchuma and Katewaka have a reserve of 526 million tonnes of coal. NDC on behalf of the government in September 2011 signed a Joint Venture Agreement with Sichuan Hongda Group Limited to implement the project under a Joint Venture company; namely Tanzania China International Mineral Resources Ltd (TCIMRL). Mobilization work for confirmatory study was expected to end July 2012 and TCIMRL intends to invest USD 1.3 billion. The project intends to establish 3.0 mt /y coal mine, 600 MW thermal power station; and construct 220 kV Transmission Line Mchuchuma- Liganga in a 400 Kv transmission line Mchuchuma- Mufindi to connect to the grid and upgrading of access road is also required. The power production of 300 MW is expected to start by 2015.

3.3.9 Policy Implication on Natural resources

Natural resources is a productive sector which can, at least potentially, generate its own income if properly managed and if the laws and regulations permit and support sector self-

financing. In many countries natural resources sector is actually a net contributor to the state treasury.

Excessive exploitation of natural resources in Ludewa District is triggered by combination of factors such as poverty of Ludewa residents and awareness of the people on the policy, laws or by-laws governing this sector. Illegal forests harvests, encroachment of forest reserves due to overgrazing and agricultural expansion are activities which largely endangers natural resources in the District. So far the District has bylaws guiding the protection and management of natural resources. Furthermore, the beneficiaries who are the community living close to the respective natural resources need to be involved on deciding the best approach of sustainable utilization, management and protection of natural resources. In addition to that, environmental benefits would be substantial if there is joint effort among the beneficiaries (the community) and authorities responsible for controlling and managing natural resources.

Beekeeping being part of the natural resources has a large potential to contribute to the District Economy. Through transforming the existing situation of 80.84 percent dominance of traditional to modern beehives, beekeeping would help to improve the income of low income family earners in the District. Fish industry can also be alternative source of income for people of Ludewa if plans of introducing fish production are put in place. Providing people with fish production management skills and soft loans would contribute to improving the livelihood of Ludewa residents.

3.3.10 Investment Opportunities in Natural Resources

i) Agro-forestry

Sustainable agro-forestry is an area which the district can take advantage of. This includes the promotion of commercial beeswax and honey production also of forestation programmes.

ii) Environmental conservation

Ludewa District faces depletion of its forest cover due to firewood, charcoal and overgrazing. The District has to embark upon afforestation which will counterbalance the rate of deforestation. Moreover control of animal stock movement into forest areas is essential in balancing depletion with regeneration of vegetation. Investment therefore is needed in the supply and planting of tree seedlings, education in agro-forestry and proper management of the forest resources.

iii) Beekeeping

Beekeeping, though largely considered to be a part-time activity, has shown commendable contribution to socio economic status of Ludewa residents. However, investments in this sub-sector can be made by,

- a) Medium scale investors or private companies or individuals with adequate resources who can invest profitably in this sub-sector and use modern technology. These kinds of investors should be encouraged so as to tap the full potential of this sector.
- b) Small scale bee keepers or individual households in the region. They could be developed by being trained in modern bee-keeping a practice which involves the use of modern beehives instead of the traditional ones which are currently predominant. Likewise, the Government and other development stakeholders in the Region should think of introducing micro-credit schemes to bee-keepers so as to enable them purchase modern beehives and other necessary gear for this important economic activity.

iv) Fisheries

Rural households living along Lake Nyasa and River Ruhuhu, have very good potential for production in fisheries. Therefore, a dynamic and well funded fisheries program can transform the income and nutrition status of those households.

v) Tourism

Presence of historical and attractive sites can make the District an important tourist destination in future. Therefore, individuals should be encouraged to invest in construction of better accommodation facilities as well as restaurants. Banking services needs also improvement to meet the increasing demand.

3.4 Industrial Development

As the informal sector continues to grow both in urban and rural areas of the country, there is a decline or stagnation in the growth of formal employment (Dr.Marios Obwana, Enhancing Contributions of the Informal Sector to the National Development). In Tanzania, the informal sector's contribution to the country's GDP was at 40 percent in 2010 (Tanzania Economic and Social Research Foundation, Policy Brief series no. 012-2010). Furthermore, informal sectors in Tanzania consist of mainly the unregistered groups/individuals such as small scale traders, farmers, small scale manufactures as well as many small scale

businesses. Increasing employment opportunities and reducing income poverty is the main target of informal sector in the country.

Ludewa District, like the rest part of the county, informal sector plays a major role in socio-economic development of the District. The small scale industries such as oil processing, carpentry, food processing, welding, garages, manufacturing industries and timber processing contribute to some extent in increasing employment opportunities and reducing income poverty in the District. Unfortunately, unreliable electricity power supply, poor road infrastructure and lack of skills and technology of informal sector operators contribute to slow growth of this sector in the District.

Table 3.40 gives a number of small scale industries which were available in Ludewa District in 2012. Majority of businesses were oil extraction and canning.

Table 3. 40: Number of Small Scale Industries, Ludewa District; 2012

Ward	Type of Industry	Number of industries
Ludewa	Oil extraction	1
Mlangali	Canning	2
Mawengi	Oil extraction	1
Milo	Oil extraction	1
Total		5

Source: District Executive Director's Office (Trade and Finance Department), Ludewa District, 2012

3.4.1 Investment in Industrial Sector

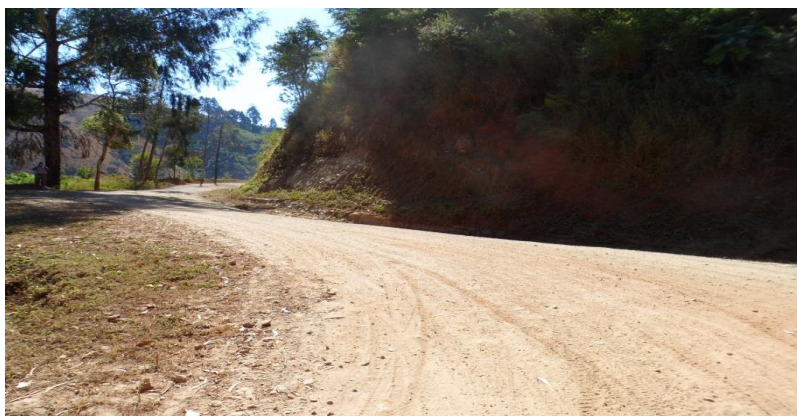
The basis for industrial development in Ludewa District has been agriculture products. There is still room for establishment of small and medium scale agro-based industries such as milling, and sawmilling and the establishment carpentry and joinery workshops. Promotion of commercial honey production is another area of investment. Moreover, sustainable small and medium scale industrial development would be achieved in Ludewa through encouraging people to establish economic groups, empower them with entrepreneurial skills and provide them with a good program of accessing credit.

CHAPTER FOUR

Economic Infrastructures

4.0 Introduction

Chapter Four describes the existing economic infrastructure in Ludewa district. It covers the road network in terms of road classification, type of road surface condition and passability. Others include telecommunication; which covers postal services, internets, mobile phones, radio calls and television facilities. In the energy sector development, the services of hydro-electricity, biogas, solar panels, fuel wood and fossil fuels are examined.



63.1 percent of the road network in the district is earth road

4.1 Road Network by Type

Roads like blood arteries in the body are very instrumental in stimulating social and economic development of any district. Thus, for a successful district economic management, the District Authority and the Government in particular, need to place more emphasis on roads improvement.

In Ludewa, road transportation is the major type of transportation for people and goods within and outside the District. It is one of the key sub-sectors that are responsible for sustainable development and poverty reduction initiatives in the District. Ludewa District is served by regional roads, district roads and feeder roads. Table 4.1 shows the length of road network by ward and by type. The total road network was 1,343 km in 2012.

The roads that are maintained by the central government are classified as trunk or regional roads, while those that are maintained by the district council are called district or feeder roads; the rest of the roads are called peripheral roads and are mostly maintained by village/mitaa communities. Table 4.1 shows that about 326 km (24.3 percent of total road network) were trunk/regional roads. District roads were 665 km (49.5 percent) And feeder roads which are the true arteries of the economy constituted 352 km or 26.2 percent of all roads in the District.

Table 4.1 further reveals that Ludewa Ward had the longest kilometers (166.5 km, equivalent to 12.4 percent of the road network in the District) while Ruhuhu had the shortest kilometers (9.5 km, 0.7 percent). Lifuma and Kilondo wards on the other hand had no road network. Some efforts must be made to put in place some road network in these wards otherwise how do people in these wards transport their produce and what they do when one gets sick.

Table 4. 1: Length of Road Network by Ward and by Grade in Ludewa District, 2012

Ward	Grade (km)				
	Trunk	Regional	District	Feeder	Total
Ludewa	26	6.0	33.5	101	166.5
Luana	30	0	13.0	20	63.0
Ibumi	0	0	76.0	12	88.0
Mawengi	20	0	52.0	45	117.0
Ludende	0	0	30.0	12	42.0
Milo	0	0	49.0	43	92.0
Lupanga	0	28.0	9.0	14	51.0
Mlangali	20	7.0	41.5	22	90.5
Lugarawa	0	33.0	23.6	38	94.6
Madope	20	0	23.0	20	63.0
Madilu	0	0	57.0	0	57.0
Mundindi	0	23.0	79.0	0	102.0
Mavanga	0	20.0	12.0	10	42.0
Mkongobaki	0	0	22.0	0	22.0
Nkomangombe	25	0	15.0	8	48.0
Luilo	10	0	24.0	0	34.0
Masasi	13	0	22.0	0	35.0
Manda	9	1.5	25.4	7	42.9
Iwela	0	0	10.0	0	10.0
Ruhuhu	0	9.5	0.0	0	9.5
Makonde	0	0	16.0	0	16.0
Lifuma	0	0	0.0	0	0.0
Lumbila	0	0	32.0	0	32.0
Kilondo	0	0	0.0	0	0.0
Lupingu	0	25.0	0.0	0	25.0
Total	173	153.0	665.0	352	1,343.0

Source: Ludewa District Council (Works), 2013

4.1.1 Road Classification by Grade of Road Surface

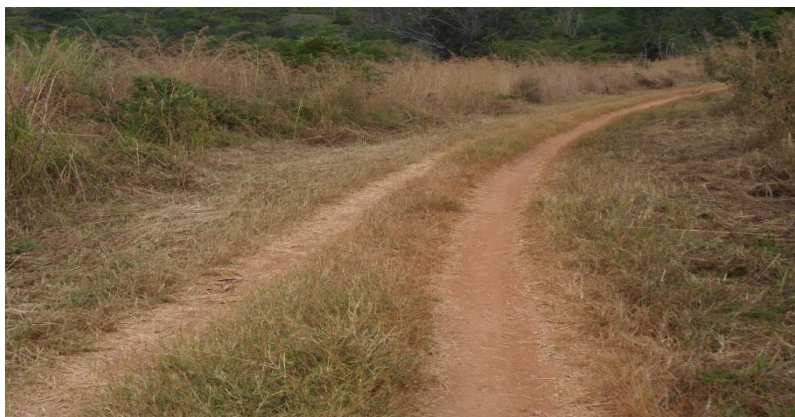
The grade of road surface to a large extent examines the improvement of the road to guarantee the durability and passability in all seasons. Under this aspect, further analysis has been made on surface condition of the roads in terms of tarmac, gravel and earth. Table 4.2 shows the length of road network by grade of road surface in Ludewa District. The table reveals that Ludewa District has only 1.5 km (0.1 percent) of tarmac roads. About 494.64 kilometers (36.8 percent) are gravel roads and 847.04 kilometers (63.1 percent) are earth roads. Since more than half of the roads in Ludewa District road network are earth roads we can say that most of roads are not passable throughout the year especially during the rainy season. The responsible authorities are therefore alerted to take immediate measures to improve road condition to enable reliable communication within the District and its neighbors.

Table 4. 2: Road Network Surface Condition by Ward, Ludewa District; 2012

Ward	Type(km)			Total	Percentage
	Tarmac	Gravel	Earth		
Ludewa	1.5	52.46	112.54	166.5	12.4
Luana	0	30	33	63	4.7
Mawengi	0	37.5	79.5	117	8.7
Ibumi	0	0	88	88	6.6
Ludende	0	25.5	16.5	42	3.1
Milo	0	23	69	92	6.9
Lupanga	0	11	40	51	3.8
Mlangali	0	38.5	52	90.5	6.7
Lugarawa	0	33	61.6	94.6	7.0
Madope	0	30	33	63	4.7
Madilu	0	19	38	57	4.2
Mundindi	0	74	28	102	7.6
Mavanga	0	20	22	42	3.1
Mkongobaki	0	9	13	22	1.6
Nkomangómbe	0	25	23	48	3.6
Luilo	0	10	24	34	2.5
Masasi	0	23	12	35	2.6
Manda	0	10	32.9	42.9	3.2
Iwela	0	10	0	10	0.7
Ruhuhu	0	9.5	0	9.5	0.7
Makonde	0	0	16	16	1.2
Lifuma	0	0	0	0	0.0
Lumbila	0	0	32	32	2.4
Kilondo	0	0	0	0	0.0
Lupingu	0	4	21	25	1.9
District Total	1.5	494.46	847.04	1,343	100.0
Percentage	0.1	36.8	63.1	100.0	

Source: Ludewa District Council (Works Department), 2013

4.1.2 Road Passability



Measure of the effectiveness of the road is it's roadworthy

Roadworthiness during the rainy season is the measure of the effectiveness of the road network. By having less than half (370.3 km or 27.6 percent) of its road network passable throughout the year, Ludewa District has a long way to go before it can achieve satisfactory improvement (Table 4.3). However, based on information in Table 4.3, improving condition of road network should focus first in the most disadvantaged wards (i.e. wards which have less than fifty percent of their road networks passable throughout the year). Such wards are Ludewa (only 47.5 km or 28.5 percent of its total road network of 166 km was passable). Others were Mawengi (40 km, 38.5 percent), Mkongobaki (8 km, 36.4 percent), Manda (18 km, 43.1 percent) and Lumbila (10 km, 31.3 percent).

Table 4. 3: Passability of Road Network in Kilometers, Ludewa District; 2012

Ward	Passable throughout the year	Passable a greater part of the year	Not passable most of the year	Total road network	Total passable (columns 2+3)	Percent Passable (columns 2+3)
Ludewa	34.81	12.69	119	166.5	47.5	28.5
Luana	30	13	20	63	43	52.4
Mawengi	20	20	77	117	40	38.5
Ibumi	0	71	17	88	71	80.7
Ludende	0	30	12	42	30	71.4
Milo	23	40.5	28.5	92	63.5	69.0
Lupanga	13	29	9	51	42	82.4
Mlangali	38.5	40	12	90.5	78.5	86.7
Lugarawa	35	27.6	32	94.6	62.6	66.2
Madope	30	13	20	63	43	68.3
Madilu	19	34	4	57	53	93.0
Mundindi	24	41	37	102	65	63.7
Mavanga	20	12	10	42	32	76.2
Mkongobaki	0	8	14	22	8	36.4

Table 4. 3(ctd): Passability of Road Network in Kilometers, Ludewa District; 2012

Ward	Passable throughout the year	Passable a greater part of the year	Not passable most of the year	Total road network	Total passable (columns 2+3)	Percent Passable (columns 2+3)
Nkomangómbe	25	22	1	48	47	97.9
Luiilo	10	18	6	34	28	82.4
Masasi	13	18	4	35	31	89.0
Manda	10.5	8	24.4	42.9	18.5	43.1
Iwela	10	0	0	10	10	100.0
Ruhuhu	9.5	0	0	9.5	9.5	100.0
Makonde	0	0	16	16	0	0.0
Lifuma	0	0	0	0	0	0.0
Lumbila	0	10	22	32	10	31.3
Kilondo	0	0	0	0	0	0.0
Lupingu	5	15	5	25	20	80.0
District Total	370.3	482.8	489.9	1,343	853.1	63.5
Percent	27.6	35.9	36.5	100.0	63.5	

Source: Ludewa District Council (Works Department), 2013

4.1.3 Major Road Connections

Table 4.4 highlights road connections and road links which connect Ludewa District with the vicinity. As the table shows, most of the roads are in fair condition and therefore not easily passable during rainy season. In this respect, the roads need regular repair to ease transportation of goods and services to the rural population in the District.

Table 4. 4: Major Road Connections and Road Links, Ludewa District; 2012

Road Connection	Length of the Road (km).	Quality of road Surface	Type of Road
Itoni ó Ludewa - Manda	203	Fair	Regional
Ludewa ó Ibumi	40	Fair	Regional
Ludewa ó Lupingu	31	Fair	Regional
Total	274		

Source: Ludewa District Council (Works Department), 2013

4.1.4 Agricultural productivity of the road network

The economy of Ludewa is based mainly on agricultural production. The economic effectiveness of the road network is therefore best assessed against agricultural production. It is agricultural productivity of the network that justifies its existence. Ludewa district's road network covered agricultural production at 172.3 tonnes of food/cash crops per kilometer of road. This means that during the crop season of 2011/12, on average, one kilometer of

overall road networks in the District facilitated transportation of 172.3 tonnes. Therefore, for improving the economy of rural population at significant level, construction of more roads is important to easy transportation of agricultural products and other goods/services within and outside the District.

4.2 Railway Services

Ludewa District is very unlucky since there is no railway line network that passes through it. We all know that in future when mining starts in Ludewa a railway network will be put in place.

4.3 Air Services

As for the Airways, Ludewa District is also unlucky as there are no air services so far the District. There is one airstrip which is not in use at moment.

4.4 Telecommunications

The District enjoys internet, telephone services (cellular phone services) and postal services (Table 4.5). The district headquarters (Ludewa Ward) is the privileged area as it is well accessed with all the available services highlighted in Table 4.5. Peripheral areas access only cellular phone services though with difficulties in network coverage. Unfortunately, there is only one radio station operating in the District but there are no television stations in the District.

Table 4. 5: Telecommunications Services in Ludewa District; 2012

No. of Tel. Lines (land lines)	No. of Television Stations	No. of Radio Stations	No. of Internet Centres	Accessibility of Mobile Phone Services		No. of Post Offices	No. of Sub-Post Offices
				Phone company name	Estimated Coverage (%)		
1	-	1	3	Tigo	40	1	0
				Voda	50		
				Airtel	30		
				Zantel	10		
				TTCL(Mobile)	20		

Source: Ludewa District Council (Works Department), 2013

4.5 Energy Sector Development

Various sources of energy are being used in the District for domestic and commercial purposes. These include electricity, solar, firewood and charcoal. Electricity is available in the few wards that have urban or semi-urban characteristics.

4.5.1 Electricity

Electricity is very important and much needed for economic development and where it is lacking, it becomes very difficult to engage in meaningful industrial development. TANESCO has not been the sole supplier of electricity in the District. Some other FBOs have also embarked on the production and distribution of the much needed energy. Data on Demand and Supply of electricity in Ludewa DC is not readily available. Also the amount of electricity supplied by individuals or FBOs is not available.

4.5.2 Fuel wood

Fuel wood is a dominant source of energy for domestic consumption. The main use of fuel wood has been for cooking and lighting and this makes wood consumption very high in the District. The Agriculture Sample Census 2007/08, Iringa Region Profile revealed that 99 per cent of households were using firewood as their main source of energy for cooking. There are however, no data given by the Ludewa District to show the consumption of firewood for cooking in the District. However consumption of firewood threatens the existence of forests since it seems to exceed the regenerative capacity of existing forests. Alternatives to fuel wood better be found soon if the District forests are to be saved from depletion.

4.5.3 Biogas and Solar Energy

There is no usage of biogas in the district, but biogas can be used as an alternative source of energy in order to reduce the excessive use of fuel wood for cooking purposes. Likewise, solar energy is now used as alternative source of energy in some parts of Ludewa. To date there are no accurate data on the number of solar and generator users, however, it is estimated that there was at least a solar panel or a privately owned generator in every ward in the District in 2012. Nevertheless, the District should continue encouraging people to use these sources of energy as alternatives to fuel wood and charcoal in order to reduce the pressure being exerted on forests by the local people.

4.5.4 Fossil Fuel

The 2002 Population and Housing Census, Ludewa District Profile indicated that 0.27 percent of the households in Ludewa used kerosene/paraffin for cooking in the District. The results further revealed that the percentage of households that used the various sources of energy for lighting were as follows: electricity (0.62 percent), hurricane lamp (48.65percent), wick lamp (43.93percent), and pressure lamps (1.11percent), candle (0.10 percent), firewood (4.93 percent) and solar (0.10 percent).

4.6.0 Policy Implication on Economic Infrastructures

With only 27.6 percent of total road length of the district being passable throughout the year, improvement of road infrastructures is recommended. The improved roads will have a multiplier effect such as increase transportation of goods and social services and improve social welfare of the Ludewa people. Moreover, as the majority of Ludewa population use firewood and charcoal for cooking and with 0.62 percent using electricity for lighting, initiatives are needed to find alternative source of energy for cooking so as to reduce destruction of forest cover. In addition to that, electricity costs have to be reduced especially in rural areas so as to increase the number of electricity users.

CHAPTER FIVE

Social Services

5.0 An Overview

Chapter Five discusses status of social services in Ludewa District and covers health, education, and water and sanitation. In the health sector, the discussion covers improvement of health facilities and staff, morbidity, mortality and mother and child health. It also covers the prevalence of HIV/AIDS and related diseases as well as its impact to the community.

5.1 Health Sector

The status of public health services can be visualized through the health infrastructure, availability and commitment of health personell, implementation of preventive and curative measures and availability of medicines. The District experiences shortages of health staff such as assistant medical officers (AMOs), clinical officers (COs), nursing officers (NOs) and midwives; and medicines. This causes unnecessary loss of peoplesø lives due to preventable diseases. The major killer diseases in Ludewa District include: Malaria, Anemia, Pneumonia, Clinical AIDS and other communicable diseases.



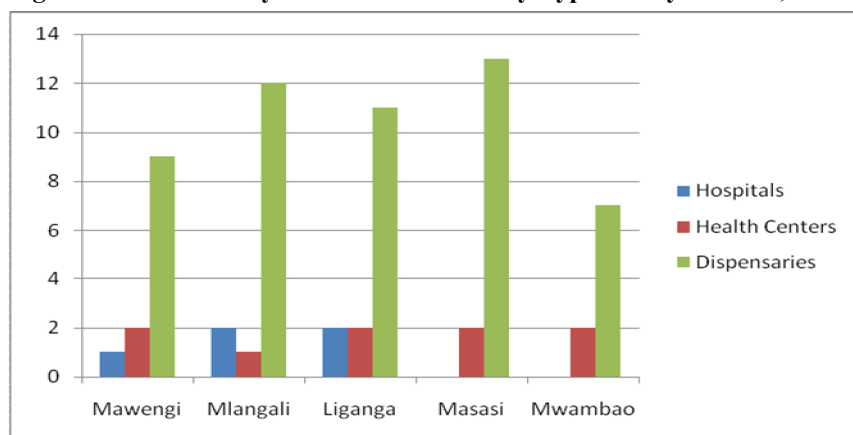
A view of the Ludewa District Hospital in Ludewa

5.1.1 Health Facilities

Ludewa District is still improving the health sector by constructing new facilities, from 62 health facilities in 2008 to 65 facilities (five hospital, nine health centers and 51 dispensaries) in 2010 and reached 66 facilities (five hospital, nine health centres and 52

dispensaries) in 2011. Looking at division level, the facilities are distributed evenly with health centres almost equal in all the divisions. When we look at dispensaries, these are unevenly distributed with Masasi Division having more than other division. Mawengi Division, where the District headquarters is located, has only one hospital, two health centers and nine dispensaries as indicated in Figure 35 and Table 5.1. Although Masasi Division has more dispensaries than other division, it has only two health centers and no hospital. Mwambao and Masasi divisions have no hospitals while Mlangali and Liganga divisions have two hospitals each.

Figure 35: Availability of Health Facilities by Type and by Division, Ludewa District; 2011



Source: District Executive Director's Office (District Medical's Office), Ludewa District, 2013

Looking at ownership, all facilities except two hospitals, three health centres and five dispensaries are publically owned. With the exception of dispensaries, the private sector participation in the provision of health facilities as recommended by the health policy is quite significant as shown by Table 5.1.

At ward level, the District is still lagging behind in the implementation of the health policy under which each ward has to have a health center and each village a dispensary. Table 5.1 shows that among 25 wards given in the Table, only six wards have health centers. These are Makonde, Lupingu, Manda, Mawengi, Mlangali and Mavanga. Although they are in shortage, dispensaries were allocated in every ward except of Makonde Ward which nevertheless after all has a health center.

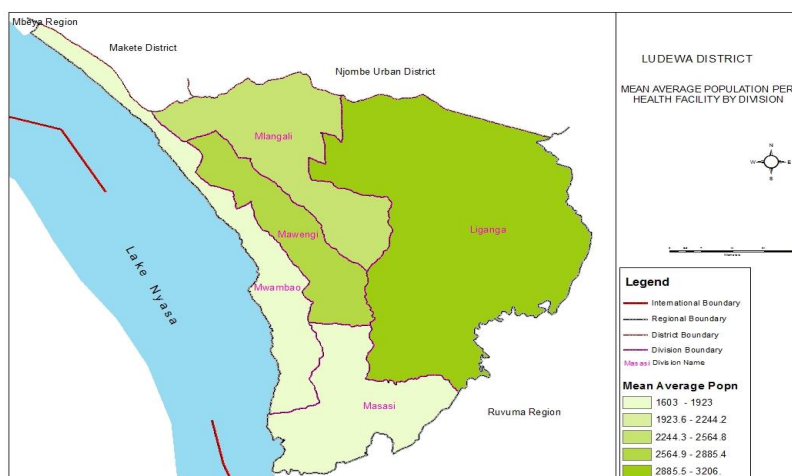
Table 5. 1: Availability of Health Facilities by Ownership and by Ward, Ludewa District; 2011

Ward	No. of Hospitals		No. of Health Centres		No. of Dispensaries		Total
	Public	Private	Public	Private	Public	Private	
Lumbila	0	0	0	0	1	0	1
Kilondo	0	0	0	0	1	0	1
Makonde	0	0	1	0	0	0	1
Lifuma	0	0	0	0	1	0	1
Lupingu	0	0	1	0	3	0	4
Manda	0	0	1	1	1	1	4
Ruhuhu	0	0	0	0	2	0	2
Masasi	0	0	0	0	2	0	2
Luilo	0	0	0	0	3	1	4
Nkomangombe	0	0	0	0	2	1	3
Iwela	0	0	0	0	1	0	1
Ludewa	1	0	0	0	2	1	4
Luana	0	0	0	0	2	1	3
Mawengi	0	0	1	1	3	0	5
Mlangali	0	0	1	0	3	0	4
Lupanga	0	0	0	0	3	0	3
Milo	1	1	0	0	2	0	4
Ludende	0	0	0	0	2	0	2
Lugarawa	1	1	0	0	1	0	3
Mkongobaki	0	0	0	0	2	0	2
Mundindi	0	0	0	0	3	0	3
Mavanga	0	0	1	1	1	0	3
Ibumi	0	0	0	0	1	0	1
Madilu	0	0	0	0	3	0	3
Madope	0	0	0	0	2	0	2
Total	3	2	6	3	47	5	66

Source: District Executive Director's Office (District Medical's Office), Ludewa District, 2013

5.1.1.1 Health Facility Ratios

The availability of health facilities in Ludewa District falls below WHO standards. The average coverage of the population by health facilities in Ludewa district was 0.3 facilities per 10,000 people in 2002 but increased to 4.2 facilities per 10,000 persons in 2012. Table 5.2 shows that the population coverage by division in 2002 and 2012. In regard to health facilities per 10,000 people in 2002, the best average was 4.4 facilities per 10,000 persons recorded in Masasi Division followed by Mwambao (4.2), Mlangali (3.8). In 2012, Masasi had the best coverage followed by Mwambao and Mlangali (Table 5.2).

Map 4: Showing Mean Average Population per Health Facility by Division; Ludewa District; 2012

Source: NBS, GIS unit; 2103

Table 5. 2: Relating Health Facilities to the Population by Division, Ludewa District; 2002 and 2012

Division	2002				2012			
	Total Population	Total Number of h.f.s	Mean Average Population Per h.f.s	H.f.s per 10,000 people	Total Population	Total Number of h.f.s	Mean Average Population Per h.f.s	H.f.s per 10,000 people
Mawengi	23,572	8	2,947	3.4	25,580	9	2,842	3.5
Mlangali	33,785	13	2,599	3.8	31,775	14	2,270	4.4
Liganga	38,891	11	3,536	2.8	41,676	13	3,206	3.1
Masasi	18,028	8	2,254	4.4	19,236	12	1,603	6.2
Mwambao	14,244	6	2,374	4.2	14,951	8	1,869	5.4
Total	128,520	46	2,794	3.6	133,218	56	2,379	4.2

H.f.s: Health facilities

Source: District Executive Director's Office (District Medical's Office), Ludewa District, 2013

5.1.1.2 Population per Doctor Ratio



The proportion of beds per population gives an indication of health facility availability

Table 5.3 shows that the distribution of doctors and related staff for the year 2012 was uneven and in favour of Mawengi Division which is where the headquarters of the District is situated. The district's average population per doctor was 2,472 in 2002 and increased to 3,330 in 2012. A similar trend is observed at divisional level but more so in Mawengi compared to the rest of the divisions.

Table 5. 3: Distribution of Doctors among Population by Division, Ludewa District; 2002 and 2012

Division	2002			2012		
	Total Population	Total Doctors*	Average Population Per Doctor	Total Population	Total Doctors*	Average Population Per Doctor
Mawengi	23,572	13	1,813	25,580	15	1,705
Mlangali	33,785	10	3,379	31,775	10	3,178
Liganga	38,891	15	2,593	41,676	9	4,631
Masasi	18,028	9	2,003	19,236	4	4,809
Mwambao	14,244	5	2,849	14,951	2	7,476
Total	128,520	52	2,472	133,218	40	3,330

No Doctor was available in 2002 and in 2012 only one was available (Table 5.4). The others are female.

Source: District Executive Director's Office (District Medical Office), Ludewa District; 2013

Although the available official health facilities were not enough to serve the ever growing population of Ludewa District, the District Authority has not yet made significant efforts in the establishment of primary rural health centres to complement the existing facilities in all 77 villages.

5.1.1.3 Status of Health Personnel

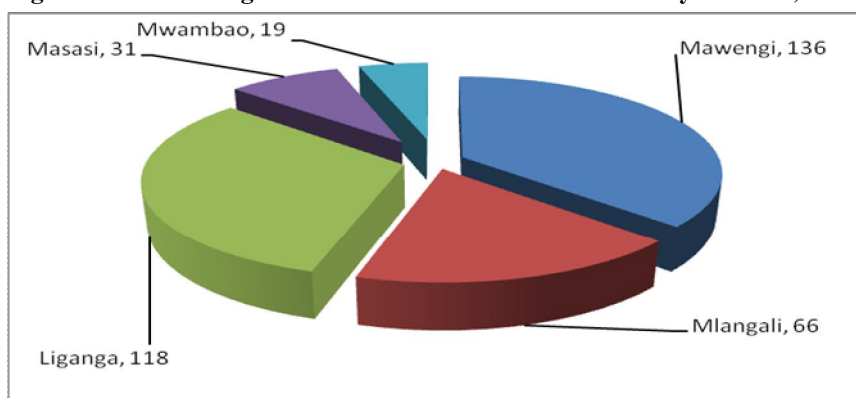
Table 5.4 shows that in 2012, the District was still experiencing a significant shortage of health personnel in regard to specialised doctors, radiologists, dental therapists and pharmacists. In 2012, health personnel were dominated by medical attendants (128) together with Trained Nurse/ NM/ PHN (93) followed by nursing officers (40), clinical officers (26), assistant clinical officers (14) and other medical cadres (32).

Table 5. 4: Type and Number of Medical Personnel by Division, Ludewa District; 2012

Medical Personnel	Division					Total
	Mawengi	Mlangali	Liganga	Masasi	Mwambao	
Doctors	0	1	0	0	0	1
Asst. Medical Officers	6	1	3	0	0	10
Clinical Officers	8	7	7	3	1	26
Asst. Clinical Officers	6	4	2	1	1	14
Asst. Dental Officers	2	0	0	0	0	2
Nursing Officers	20	5	14	0	1	40
Trained Nurses/NM/PHN	37	11	43	2	0	93
Health Officers	3	0	0	0	0	3
Health Assistants	3	0	1	2	0	6
Laboratory Technician	2	1	2	0	0	5
Pharmaceutical Technician	0	1	0	0	0	1
Pharmaceutical assistant	0	0	1	0	0	1
Radiographer	1	0	0	0	0	1
Health Secretaries	2	0	0	0	0	2
MCHA	2	1	1	0	1	5
Medical Attendants	33	26	35	19	15	128
Other Medical Carders	11	8	9	4	0	32
Total	136	66	118	31	19	370

Source: District Executive Director's Office (District Medical's Office), Ludewa District, 2013

At division level, Figure 36 shows that Mawengi Division, where the district headquarters is situated, had 37 percent of health personnel followed by Liganga (32 percent) and Mlangali (18 percent). Mwambao Ward had the smallest percentage of health workers and accounted for only five percent of the total health workers in the District.

Figure 36: Percentage Distribution of Medical Personnel by Division, Ludewa District; 2011

Source: District Executive Director's Office (District Medical's Office), Ludewa District, 2012

5.1.2 Morbidity

The health service aims at solving the problems of morbidity or sicknesses as well as mortality. However, in order to take care of morbidity, the government needs an inventory of the health problems. The inventory shows that the ten most common causes of illnesses are those shown in Table 5.5.

Out-patients

Out of 66,434 out patients recorded in 2010, about 85 percent were suffering from one or the other of the first five illnesses. In 2012 the first five causes of morbidity affected to 60,101 out-patients. The health data for out-patients in 2010 revealed that severe ARI ranked first as a cause of morbidity in Ludewa District. Malaria ranked second and the third was pneumonia. The fourth and fifth diseases were diarrhoea and intestine worms, respectively.

The observations in 2012 were similar to those of 2010 the only difference was in magnitudes. ARI ranked first followed by malaria. Pneumonia ranked third with a total of 5,849 cases (8 percent of all out patients) followed by diarrhoea (7 percent) and minor surgical condition (6 percent).



Malaria was ranked 2nd cause of morbidity in Ludewa District for out-patients

Table 5.5: Ten Most Commonly Reported Causes of Morbidity (Out Patients), Ludewa; 2010 and 2012

	2010		Cause	2012	
	Cases	Percent		Cases	Percent
ARI	23,470	35	ARI	23,120	32
Malaria	20,272	31	Malaria	21,856	30
Pneumonia	5,388	8	Pneumonia	5,849	8
Diarrhoea	3,758	6	Diarrhoea	4,829	7
Intestine worms	3,755	6	Minor surgical condition	4,447	6
Sub total	56,643	85	Sub total	60,101	83
Minor surgical condition	3,612	5	Intestine worms	3,489	5
Skin diseases	3,006	5	Skin diseases	3,370	5
Eye diseases	1,780	3	Eye diseases	2,263	3
Ear diseases	890	1	Other diagnosis	2,048	3
HIV/AIDS	503	1	Fractures	1,513	2
District Total	66,434	100		72,784	100

Source: District Executive Director's Office (District Medical's Office), Ludewa District, 2013

In-patients

In 2010, severe malaria was the first cause of illness for in patients recorded in Ludewa District, followed by severe pneumonia, diarrhoea, diabetes and ARI (Table 5.6). Similar observations were also made for in patients in 2012 when uncomplicated malaria, severe pneumonia and severe malaria were the first, second and third causes of morbidity in Ludewa District. The fourth and fifth causes of illnesses were diarrhoea and ARI (Table 5.6).



Malaria ranked 1st cause of morbidity for in-patients in Ludewa district

Table 5. 6: Ten Most Commonly Reported Causes of Morbidity (In Patients), Ludewa District; 2010 and 2012

	2010		Cause	2011	
	Cases	Percent		Cases	Percent
Malaria severe	3,419	51	Malaria uncomplicated	2,290	37
Pneumonia severe	935	14	Pneumonia severe	927	15
Diarrhoea disease	846	13	Malaria severe	660	11
Diabetes	312	5	Diarrhoea disease	551	9
ARI	298	4	ARI	350	6
Sub Total	5,810	87	Sub Total	4,778	76
Clinical AIDS	294	4	Other diagnosis	596	10
Anaemia	215	3	Clinical AIDS	349	6
Fracture/Injuries	180	3	Emergency	195	3
Intestinal Worms	91	1	Fracture/Injuries	189	3
Peptic ulcers	69	1	Anaemia	155	2
District Total	6,659	100		6,262	100

Source: District Executive Director's Office (District Medical's Office), Ludewa District, 2013

5.1.3 Mortality

The available data do not give the true picture of the mortality level in Ludewa District. However, the medical records indicate that the dominant cause of mortality for inpatients of all ages in 2011 was ARI. Table 5.7 shows that out of 310 reported deaths in 2011, about 93 deaths (30 percent) were caused by ARI, followed by severe pneumonia (21.6 percent), severe malaria (16.8 percent), clinical AIDS (13.2 percent) and diarrhoea (6.1 percent). Other diseases were anemia and typhoid, tuberculosis, other diarrhea and cardiovascular disease.

Likewise, among the causes of mortality for inpatients of all ages in 2012 were severe Malaria (26.8 percent) followed by diarrhoea (24.1 percent), clinical AIDS (20.5 percent), severe pneumonia (9.4 percent), and other diagnosis (8.0 percent). Other diseases were anemia, typhoid and emergency surgical conditions (Table 5.7).

Table 5. 7: Ten Most Commonly Reported Causes of Mortality (In Patients), Ludewa District; 2011 and 2012

Cause	2011		Cause	2012	
	Cases	Percent		Cases	Percent
ARI	93	30.0	Malaria severe	60	26.8
Severe Pneumonia	67	21.6	Diarrhoeal	54	24.1
Malaria severe	52	16.8	Clinical AIDS	46	20.5
Clinical AIDS	41	13.2	Severe Pneumonia	21	9.4
Diarrhoeal	19	6.1	Other diagnosis	18	8.0
Sub Total	272	87.7	Sub Total	199	88.8
Anaemia	13	4.2	Anaemia	11	4.9
Typhoid	8	2.6	Typhoid	11	4.9
Tuberculosis	7	2.3	Emergency surgical conditions	1	0.4
Diarrhoeal	8	2.6	Other injuries	1	0.4
Cardiovascular disease	2	0.6	Dysentery	1	0.4
District Total	310	100.0		224	100.0

Source: District Executive Director's Office (District Medical's Office), Ludewa District, 2013

5.1.4 HIV/AIDS Infections

Though there are a number of ways that can be used to measure the extent and trend of HIV prevalence among the people, the ones used in Ludewa District are testing family blood donors, prevalence among VCT volunteers and expected mothers participating in the PMTCT service.

Though family blood donation is not a reliable indicator of the extent and the trend of the problem, Table 5.8 shows that out of 151 (111 males and 40 females) blood donors screened in 2009, about 14(7 males and 7 females) were found to be HIV positive and the number increased to 15 (8 males and 7 females) in 2010 from 153 (103 males and 50 females) blood donors tested. In 2011 however, the number of those screened decreased to 119 (69 males and 50 females) 20 (12 males and 8 females) were found to be HIV positive before decreasing again to 18 (11 males and 7 females) from a total of 171 (97 males and 74 females) blood donors tested in 2012. However, the absence of enough blood banks in most parts of the District makes it difficult to make a firm conclusion on HIV/AIDS through the blood donors.



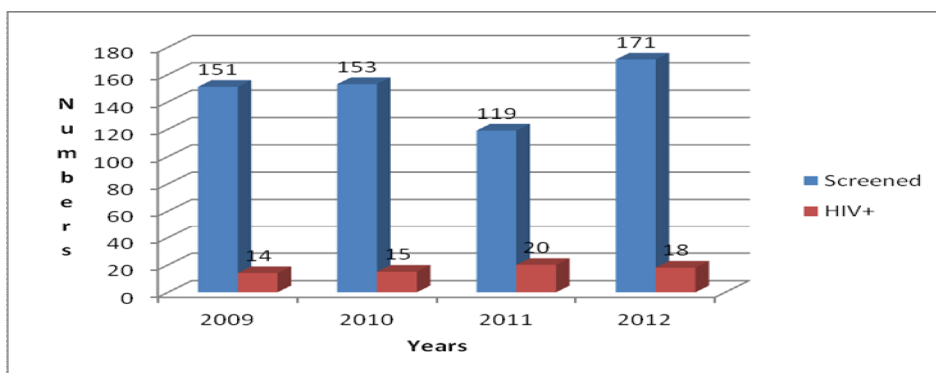
Awareness on HIV/AIDS increased the number of people attending CTC

Table 5. 8: HIV Infections among Family Blood Donors and New AIDS Cases, Ludewa District; 2009, 2010, 2011 and 2012

Year	Males			Female			New AIDS Cases		
	No. of Blood Donors	No. of HIV+	Percent of HIV+	No. of Blood Donors	No. of HIV+	Percent of HIV+	Male	Female	Total
2009	111	7	6.3	40	7	17.5	7	7	14
2010	103	8	7.8	50	7	14.0	8	7	15
2011	69	12	17.4	50	8	16.0	12	8	20
2012	97	11	11.3	74	7	9.5	11	7	18

Source: District Executive Director's Office (District Medical's Office), Ludewa District, 2013

Figure 37: HIV Infections among Family Blood Donors and New AIDS Cases, Ludewa District; 2009-2012



The prevalence of HIV/AIDS can also be learnt from reports from PMTCT service. In 2012 the report from the District Medical Office reveals that out of 3,028 expectant mothers who participated in that service and hence screened, 242 of them were found to be HIV positive and 227 were given AZT. The results also show that Liganga Division had the highest rate of

infection of 11 percent followed closely by Mwambao (10 percent). Masasi Division had the smallest percentage of 4 percent only (Table 5.9).

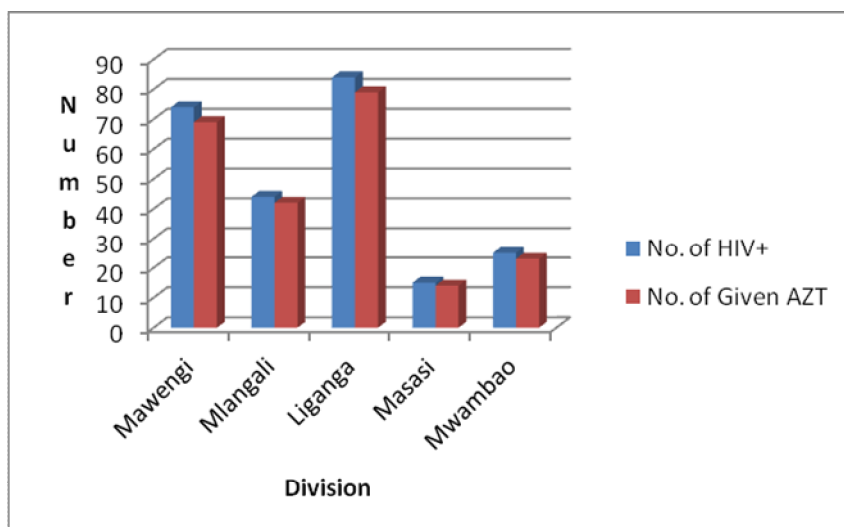
Table 5. 9: Number of Expectant Mothers who were screened for HIV through PMTCT Service and those Who received AZT by Division, Ludewa District; 2012

Division	No. Screened	No. of HIV+	Percent HIV+	No. of Given AZT	Percent of Given AZT
Mawengi	797	74	9	69	93
Mlangali	824	44	5	42	95
Liganga	793	84	11	79	94
Masasi	356	15	4	14	93
Mwambao	258	25	10	23	92
Total	3,028	242	8	227	94

Source: District Executive Director's Office (District Medical's Office), Ludewa District, 2013

Figure 41 shows that not all expectant mothers who are HIV positive attend clinics and receive AZTs. The proportions of HIV positive receiving AZT were as follows: Mwambao (92 percent), Masasi and Mawengi (93 percent each), Liganga (94 percent) and Mlangali (95 percent).

Figure 38: Number of Expectant Mothers with +HIV and those who received AZT by Division, Ludewa; 2012



Source: District Executive Director's Office (District Medical's Office), Ludewa District, 2013



It is a policy that all pregnant women are screened for HIV/AIDS

5.1.4.1 The Impact of HIV/AIDS

The socio-economic assessment of Ludewa district is not complete without addressing the extreme challenges caused by HIV/AIDS and the efforts so far made by various local and international organisations to combat the epidemic. HIV/AIDS is highlighted in this document, because it has been a major health problem since its advent at the end of 1987. The other reason for addressing the epidemic stems from the role it plays in impoverishing families and generating widows, orphans and vulnerable children due to the loss of breadwinners in their families.

The report from the District Medical Office (DMO) qualifies Ludewa as among the few districts with ever increasing rates of HIV/AIDS prevalence in the Region. Historically, Ludewa people are migrant labours who migrate to various parts of the country, which makes it easy for them to be engaged in sexual relationships. Other reasons include the traditional practice of prolonged drinking and unsafe sexual practices, polygamy, uncircumcision as well as poverty. The poor, especially young girls who migrate to urban centres end up being domestic workers and barmaids for sometime before resorting to prostitution for better survival.

i) The Increase of Widows

Understanding the status of HIV/AIDS prevalence in Ludewa is very difficult since the District does not have referral facilities such as adequate health centres and hospitals as a result, many people die at home. The lack of VCT in remote areas where people could be tested in order to know their health status is also a problem. Therefore, there are people who live with the HIV/AIDS virus without knowing that they have it.

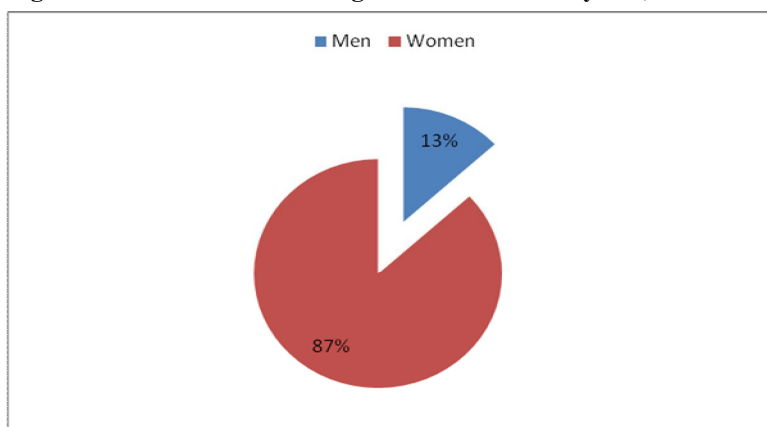
One of the indication of the high prevalence rate in the District is the rate of widowhood. The data gathered in 1988 and 2002 population censuses show that the number of persons widowed increased from 3,310 in 1988 to 5,012 in 2002. In 2002 the proportion of the widowed were 9.2 percent for women against 1.6 percent for men. There is a need of conducting a study that will gather information of widowed and their problems in order to come up with appropriate measures and solutions.

Table 5. 10: Marital Status of Population aged 10 years and Above by Sex, Ludewa District; 2002

Marital Status	Number			Percentage		
	Men	Women	Total	Men	Women	Total
Single/Never Married	21,851	20,361	42,212	54.4	43.18	48.30
Married/Living Together	17,238	20,738	37,976	42.92	43.98	43.49
Divorced/Separated	419	1,698	2,117	1.04	3.60	2.42
Widowed	659	4,353	5,012	1.64	9.23	5.74
Total	40,167	47,150	87,317	100.00	100.00	100.00

Source:URT, 2002 Population and Housing Census Report Ludewa District Profile(Vol. IV), 2004

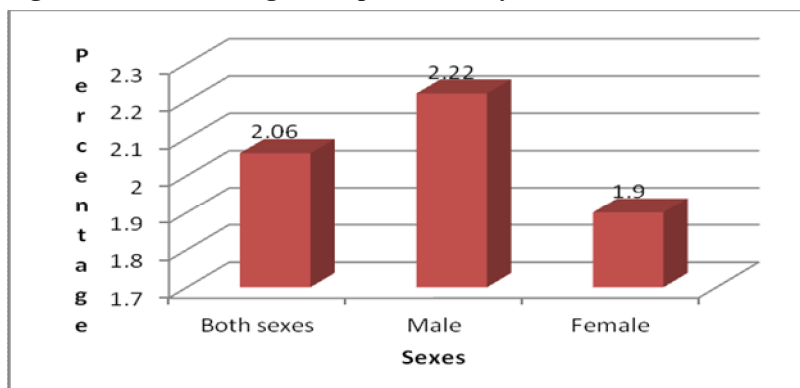
Figure 39: The Percentage of the Widowed by Sex, Ludewa District; 2002



Source: The 2002 Population and Housing Census (Vol. IV), Report, 2004

ii) The Increase of Orphaned Children

Orphans are persons for whom both parents (mother and father) are dead or those with a single parent whether father or mother alive. Data on survival of parents collected in the 2002 Population Census were used to determine the extent of orphanhood in Ludewa District as portrayed in Figure 40. According to the Census, about 2.06 percent of children aged 0 to 17 years were orphans. In terms of sexes, the incidence of orphanhood was the 2.22 percent for males and 1.90 percent for female children.

Figure 40: Percentage of Orphan hood by Sex, Ludewa District; 2002

Source:URT, 2002 Population and Housing Census (Vol. IV), 2004

There is a need of a study to be conducted to enable the District Authority identify the number and actual status of the most vulnerable children in the District as it has been done in other districts in the country. Understanding the status of orphans and most vulnerable children will enable the District Authority to adopt policies and measures that will reduce street children and improve their welfare.

5.1.4 Child Nutrition

Children, from the stage of foetuses to under - five years and their mothers are the most vulnerable group in the society. Therefore, reproductive and child health services are the most vital services. Besides vaccination programme, children are also weighed to reveal how prevalent underweight is among them and hence the extent of child malnutrition. Nutritional food intake is associated with child health and therefore, poor diet can result into severe malnutrition which in turn manifests itself in high infant and child mortality rates.



Children's weighing at the MCH clinic is one way of observing growth

Lack of health facilities particularly MCH in the District makes it difficult to determine the significance of severe malnutrition.

5.1.5.1 Mother and Child Health Care

Protection of expectant/lactating mothers and children from measles, tuberculosis, etc through immunisation programme (CSPD) which is supported by development partners has to a large extent reduced the risk of them being infected. This is evidenced by the decline of all mortality rates relating to mothers and children by 2012. Data from the 2002 Population Census show that the IMR for Ludewa District was 98 per 1,000 children while U5MR was 160 per 1,000 children. However, data from Ludewa Heath Department show that in 2012, Infant Mortality Rate reached 24 per 1,000 infants, deaths of children under five years were estimated at 46 per 1,000 children and the estimated maternal mortality rate was 50 per 100,000 mothers. This is quite encouraging as it shows big improvements in the health sector of Ludewa District. If these data are really true then the Health Authority should make sure that the situation is maintained.

Table 5. 11: Estimates of Mortality Indicators, Ludewa District; 2008- 2012,

Year	Estimated IMR (Per 1,000)	Estimated U5MR (Per 1,000)	Estimated MMR (Per 100,000)	Estimated Neonatal Mortality Rate* (Per 1,000)
2008	26/1000	52/1000	139/100,000	NA
2009	25/1000	51/1000	85/100,000	10/1000
2010	25/1000	49/1000	108/100,000	16/1000
2011	24/1000	48/1000	103/100,000	10/1000
2012	24/1000	46/1000	50/100,000	13/1000

*Deaths of children from day 0 to 28 days after birth per 1,000

NA Not available

Source: District Executive Director's Office (District Medical's Office), Ludewa District, 2013



Wide coverage of immunization helps to reduce deaths among children

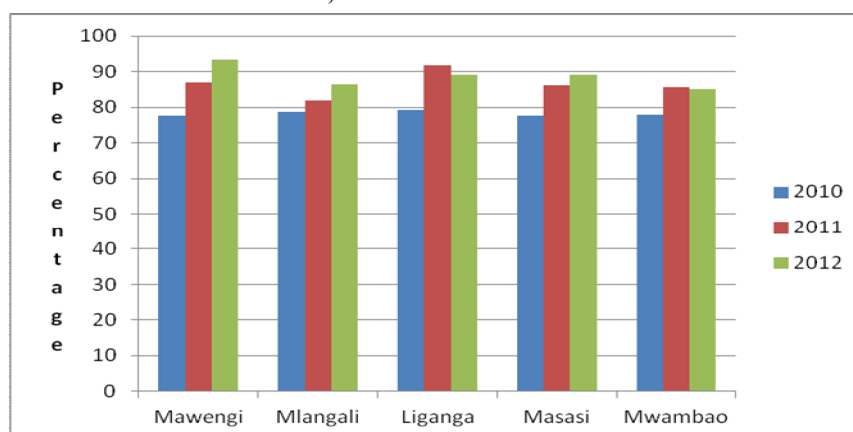
Reduction of deaths among children and their mothers is attributed to the wide coverage of immunisation campaigns in the District. Table 5.12 reveals that as much as 78.2 percent of targeted 4,511 expectant mothers were vaccinated with TT²⁺ in 2010. In 2011, out of 4,906 targeted expectant mothers 87 percent were vaccinated and 88 percent of 4,865 targeted expectant mothers were vaccinated with TT²⁺ in 2012. However, there is stillroom for improvement. Immunization could reach 90 percent and more.

Table 5. 12: Percentage of Expectant Mothers Vaccinated TT2+ by Division, Ludewa District; 2010-2012

Division	2010		2011		2012	
	Target	Percent Vaccinated	Target	Percent Vaccinated	Target	Percent Vaccinated
Mawengi	660	77.6	719	87.0	713	93.3
Mlangali	1360	78.8	1481	82.0	1468	86.4
Liganga	1326	79.2	1437	91.8	1424	89.0
Masasi	667	77.6	727	86.2	721	89.0
Mwambao	498	78.0	542	85.7	539	85.2
District Total	4511	78.2	4906	87.0	4865	88.0

Source: District Executive Director's Office (District Medical's Office), Ludewa District, 2013

Figure 41: Percentage of Expectant Mothers Vaccinated TT2+ by Division, Ludewa District; 2010-2012



Source: District Executive Director's Office (District Medical's Office), Ludewa District, 2013

At ward level, in 2010, Lugarawa and Madilu wards had the best coverages of 83 and 81 percent, respectively. In 2011, Lugarawa and Ibumi wards reported the best vaccination coverage of 118 percent and 92 percent respectively. In 2012, Luana (97 percent) and Ruhuhu (96 percent) had the best coverages. In 2010, 2011 and 2012 the wards with the lowest coverage were Lufuma (68 percent), Ludende (75 percent) and Lupingu (75 percent) respectively.

Table 5. 13: Percentage of Expectant Mothers Vaccinated TT²⁺ by Ward, Ludewa District; 2010- 2012

Ward	2010		2011		2012	
	Target	Percent Vaccinated	Target	Percent Vaccinated	Target	Percent Vaccinated
Mawengi	280	76	305	87	302	95
Ludewa	220	77	241	87	238	88
Luana	160	80	173	87	173	97
Mawengi Division	660	77.7	719	87.0	713	93.3
Lupanga	234	79	255	79	253	88
Mlanga	471	79	514	82	509	80
Madope	184	80	200	87	198	88
Milo	266	76	289	87	287	88
Ludende	205	80	223	75	221	88
Mlangali Division	1,360	78.8	1,481	82.0	1,468	86.4
Lugarawa	302	83	329	118	326	88
Madilu	359	81	390	85	386	93
Mundindi	262	80	285	82	282	88
Mavanga	223	71	244	87	242	89
Mkongobaki	145	80	151	87	150	88
Ibumi	35	80	38	92	38	88
Liganga Division	1,326	79.2	1,437	91.8	1,424	89.0
Nkomangombe	112	80	122	87	120	88
Luilo	157	77	171	83	170	91
Masasi	110	80	121	87	120	84
Manda	201	75	219	87	217	86
Ruhuhu	87	76	94	87	94	96
Masasi Division	667	77.6	727	86.2	721	89.0
Iwela	49	80	54	87	54	88
Lumbila	21	80	23	87	23	78
Kilondo	48	80	53	79	53	88
Lupingu	145	80	158	87	156	75
Makonde	66	80	71	87	70	88
Lifuma	169	68	183	87	183	88
Mwambao Division	498	78.0	542	85.7	539	84.2
Total	4,511	78.2	4,906	86.5	4,865	88.4

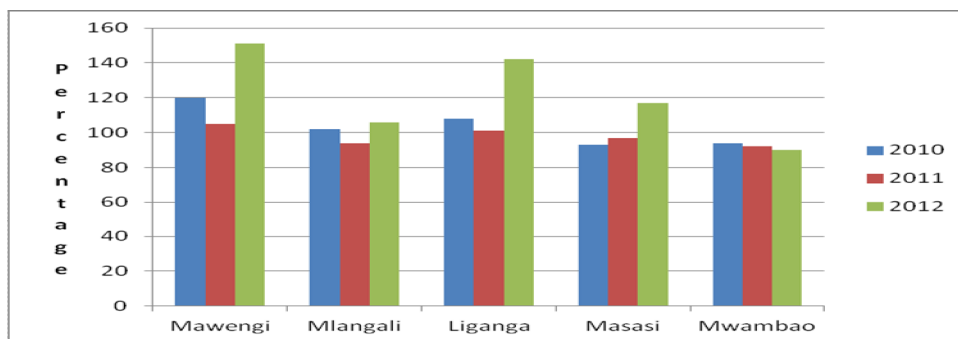
Source: District Executive Director's Office (District Medical's Office), Ludewa District, 2013

The trend of BCG vaccination for children under one year showed a fluctuating trend in the number of children vaccinated between 2010 and 2012. At district level the percentages of targeted children under one year vaccinated in 2010, 2011 and 2012 were 107 percent, 99 percent and 127 percent, respectively. The division with the highest coverage in 2010 was Mawengi (120 percent) and again in 2011 Mawengi (105 percent), had the highest coverage. Liganga had the highest coverage of 142 percent in 2012. The divisions with the lowest coverages were Masasi in 2010 and Mwambao in 2011 and 2012. The trend for Mwambao needs attention as it is falling year after year.

Table 5. 14: Percentage of Children Under One Year Vaccinated BCG by Division, Ludewa District; 2010-2012

Division	2010		2011		2012	
	Target	Percent Vaccinated	Target	Percent Vaccinated	Target	Percent Vaccinated
Mawengi	654	120	647	105	642	151
Mlangali	1,339	102	1,332	94	1,323	106
Liganga	1,322	108	1,292	101	1,283	142
Masasi	699	93	655	97	650	117
Mwambao	428	94	489	92	487	90
District Total	4,442	107	4,415	99	4,385	127

Source: District Executive Director's Office (District Medical's Office), Ludewa District, 2013

Figure 42: Percentage of Children under One Year Vaccinated BCG by Division, Ludewa District; 2010- 2012

Source: District Executive Director's Office (District Medical's Office), Ludewa District, 2013



Mother and child services still need improvement in the district

At ward level, Lugarawa had the best coverage (183 percent) in 2010. Lugarawa (134 percent) was again the best in 2011 while Ludewa was the best in 2012 with coverage of 272 percent of targeted children. Other wards with good coverages in 2010 were Ludewa (174 percent), and Lupingu (109 percent). In 2012, the coverage was also good in Lugarawa Ward covering 267 percent followed by Mavanga (207), Ruhuhu (187) and Milo (159 percent) (Table 5.15).

Table 5. 15: Percentage of Children under One Year Vaccinated BCG by Ward, Ludewa District; 2010-2012

Ward	2010		2011		2012	
	Target	Percent Vaccinated	Target	Percent Vaccinated	Target	Percent Vaccinated
Mawengi	276	97	274	99	272	96
Ludewa	220	174	217	122	214	272
Luana	158	90	156	93	156	86
Mawengi Division	654	120	647	105	642	151
Lupanga	230	99	229	91	228	96
Mlanga li	464	107	462	94	459	95
Milo	262	104	260	99	259	159
Ludende	202	100	201	86	199	89
Madope	181	98	180	99	178	93
Mlangali Division	1339	102	1332	94	1323	106
Lugarawa	314	183	296	134	294	267
Ibumi	34	96	34	105	34	88
Madilu	353	87	351	96	348	98
Mundindi	258	98	256	93	254	96
Mavanga	220	97	219	99	218	207
Mkongobaki	143	88	136	77	135	94
Liganga Division	1322	108	1292	101	1283	142
Nkomangombe	110	92	110	99	108	90
Luilo	155	87	154	94	153	93
Masasi	108	96	109	99	108	92
Manda	198	103	197	104	196	123
Ruhuhu	128	88	85	88	85	187
Masasi Division	699	93	655	97	650	117
Lumbila	21	92	21	87	21	90
Kilondo	47	93	48	90	48	88
Lupingu	143	109	142	99	141	93
Makonde	100	91	64	99	63	87
Lifuma	69	86	165	99	165	93
Iwela	48	95	49	78	49	90
Mwambao Division	428	94	489	92	487	90
Total	4442	107	4415	99	4385	127

Source: District Executive Director's Office (District Medical's Office), Ludewa District, 2013

In regard to DPT3, the coverage of immunisation in the District was steadily increasing. The proportion of vaccinated children increased from 77.7 percent in 2010 to 83.6 percent in

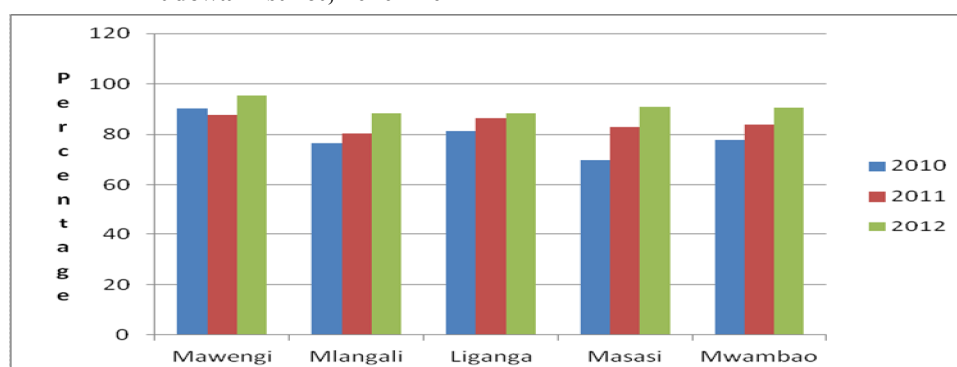
2011 and then to 90.7 percent in 2012. In 2010, Mawengi Division had the best coverage (90.3 percent of its target) followed by Liganga (81.3 percent). In 2011 and 2012, Mawengi was again the best Division with coverage of 87.7 and 95.4 percent respectively. Mwambao was the worst performer in the whole three year period.

Table 5. 16: Percentage of Children under One Year Vaccinated DPT3 by Division, Ludewa District; 2010- 2012

Ward	2010		2011		2012	
	Target	Percent Vaccinated	Target	Vaccinated Percent	Target	Percent Vaccinated
Mawengi	654	90.3	647	87.7	642	95.3
Mlangali	1339	76.4	1332	80.2	1323	88.4
Liganga	1332	81.3	1292	86.5	1283	88.4
Masasi	699	69.8	655	83	650	91
Mwambao	428	70.8	489	78.8	487	88
Total	4442	77.7	4415	83.6	4385	90.7

Source: District Executive Director's Office (District Medical's Office), Ludewa District, 2013

Figure 43: Percentage of Children under One Year Vaccinated DPT3 by Division, Ludewa District; 2010 - 2012



Source: District Executive Director's Office (District Medical's Office), Ludewa District, 2013

Table 5.17 reveals that at ward level, Ludewa ward had the highest proportion of vaccinated children (130 percent of the targeted children) in 2010 while Lugarawa led in 2011 by vaccinating 115 percent of the targeted children. The second, third and fourth wards in 2011 were Ludewa (105 percent), Ibumi (90 percent) and Manda (89 percent) respectively. The table also reveals that Makonde ward had the highest proportion of vaccinated children in 2012, being 105 percent of the targeted children, followed by Luana (99 percent), Ruhuhu (98 percent) and Mawengi (97 percent).

Table 5. 17: Percentage of Children under One Year Vaccinated DPT3 by Ward, Ludewa District; 2010-2012

Ward	2010		2011		2012	
	Target	Percent Vaccinated	Target	Percent Vaccinated	Target	Percent Vaccinated
Mawengi	276	73	274	85	272	97
Ludewa	220	130	217	105	214	90
Luana	158	68	156	79	156	99
Mawengi Division	654	90.3	647	87.7	642	95.3
Lupanga	230	74	229	78	228	90
Mlanga	464	81	462	80	459	82
Milo	262	78	260	85	259	90
Ludende	202	75	201	73	199	90
Madope	181	74	180	85	178	90
Mlangali Division	1339	76.4	1332	80.2	1323	88.4
Lugarawa	314	138	296	115	294	90
Ibumi	34	72	34	90	34	89
Madilu	353	66	351	83	348	95
Mundindi	258	73	256	80	254	90
Mavanga	220	73	219	85	218	91
Mkongobaki	143	66	136	66	135	90
Liganga Division	1332	81.3	1292	86.5	1283	88.4
Nkomangombe	110	69	110	85	108	90
Luilo	155	65	154	81	153	93
Masasi	108	72	109	85	108	86
Manda	198	77	197	89	196	88
Ruhuhu	128	66	85	75	85	98
Masasi Division	699	69.8	655	83.0	650	91.0
Lumbila	21	69	21	75	21	80
Kilondo	47	70	48	77	48	91
Lupingu	143	82	142	84	141	77
Makonde	100	68	64	85	63	105
Lifuma	69	64	165	85	165	84
Iwela	48	72	49	67	49	91
Mwambao Division	428	70.8	489	78.8	487	88.0
Total	4442	77.7	4415	83.6	4385	90.7

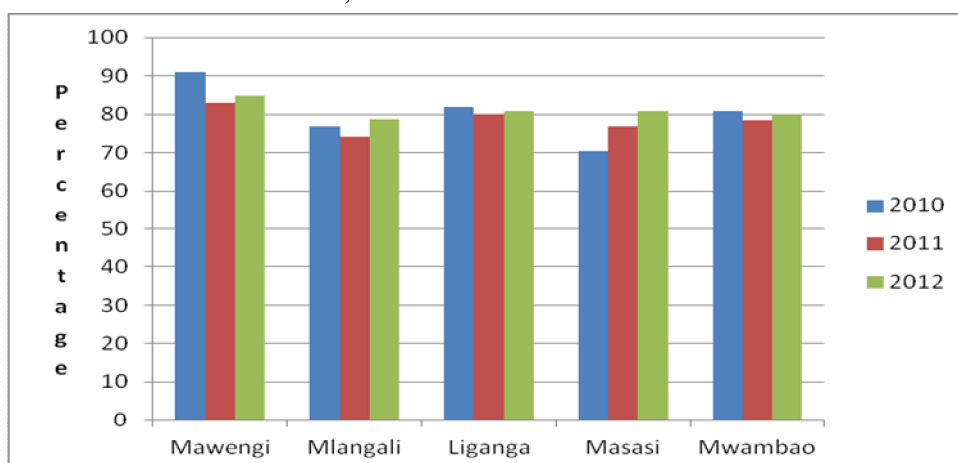
Source: District Executive Director's Office (District Medical's Office), Ludewa District, 2013

Coverage of the District's under one year children for OPV3 vaccination was 80.9 percent in 2010 but decreased to 78.4 percent in 2011 before increasing to 79.9 percent in 2012. At division level, Mawengi was the best performer in 2010 as well as in 2011 and 2012. The proportion of children vaccinated in this division decreased to 83.0 percent in 2011 before increasing slightly to 84.7 percent in 2012.

Table 5. 18: Percentage of Children under One Year Vaccinated OPV3 by Division, Ludewa District; 2010-2012

Division	2010		2011		2012	
	Target	Percent Vaccinated	Target	Percent Vaccinated	Target	Percent Vaccinated
Mawengi	654	91	647	83	642	84.7
Mlangali	1339	76.8	1332	74.2	1323	78.6
Liganga	1332	81.8	1292	80	1283	80.8
Masasi	699	70.4	655	76.8	650	80.8
Mwambao	428	71.5	489	73	487	78.2
District Total	4442	80.9	4415	78.4	4385	79.9

Source: District Executive Director's Office (District Medical's Office), Ludewa District, 2013

Figure 44: Percentage of Children under One Year Vaccinated OPV3 by Division, Ludewa District; 2010- 2012

Source: District Executive Director's Office (District Medical's Office), Ludewa District, 2013

Regarding the OPV3 vaccination of the under one year, Lugarawa Ward had the best coverage in 2010 (139 percent). The second ward was Ludewa (131 percent) followed by Lupingu (83 percent). In 2011, Lugarawa again was the best ward but was replaced by Luana in 2012 (Table 5.19).

Table 5. 19: Percentage of Children under One Year Vaccinated OPV3 by Ward, Ludewa District; 2010- 2012

Ward	2010		2011		2012	
	Target	Percent Vaccinated	Target	Percent Vaccinated	Target	Percent Vaccinated
Mawengi	276	74	274	78	272	86
Ludewa	220	131	217	97	214	80
Luana	158	68	156	74	156	88
Mawengi Division	654	91.0	647	83.0	642	84.7
Lupanga	230	75	229	72	228	80
Mlanga	464	81	462	74	459	73
Milo	262	79	260	78	259	80
Ludende	202	75	201	68	199	80
Madope	181	74	180	79	178	80
Mlangali Division	1339	76.8	1332	74.2	1323	78.6
Lugarawa	314	139	296	107	294	80
Ibumi	34	72	34	83	34	79
Madilu	353	66	351	77	348	85
Mundindi	258	74	256	74	254	80
Mavanga	220	73	219	78	218	81
Mkongobaki	143	67	136	61	135	80
Liganga Division	1332	81.8	1292	80.0	1283	80.8
Nkomangombe	110	69	110	78	108	80
Luilo	155	66	154	75	153	83
Masasi	108	73	109	78	108	76
Manda	198	78	197	83	196	78
Ruhuhu	128	66	85	70	85	87
Masasi Division	699	70.4	655	76.8	650	80.8
Lumbila	21	70	21	69	21	71
Kilondo	47	70	48	72	48	81
Lupingu	143	83	142	78	141	68
Makonde	100	69	64	79	63	93
Lifuma	69	65	165	78	165	75
Iwela	48	72	49	62	49	81
Mwambao Division	428	71.5	489	73.0	487	78.2
Total	4442	80.9	4415	78.4	4385	79.9

Source: District Executive Director's Office (District Medical's Office), Ludewa District, 2013

Measles vaccination is performed to protect children against measles. At the district level coverage for 2010 was 80 percent and increased slightly to 81.7 percent in 2011 and then rose to 96.7 percent in 2012. In 2010, 2011 and 2012 the best performer was Mawengi with coverage of 93.0 percent, 87.7 percent and 101.3 percent respectively (Table 5.20).

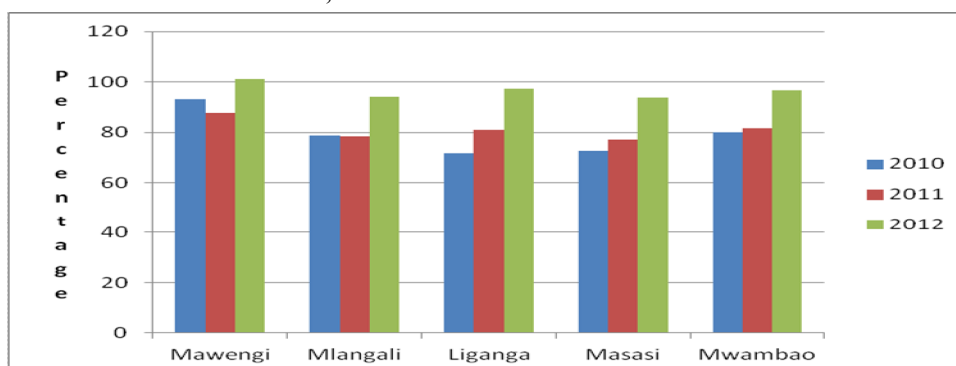
Table 5. 20: Percentage of Children under One Year Vaccinated Measles by Division, Ludewa District; 2010- 2012

Division	2010		2011		2012	
	Target	Percent Vaccinated	Target	Percent Vaccinated	Target	Percent Vaccinated
Mawengi	654	93	647	87.7	642	101.3
Mlangali	1339	78.6	1332	78.4	1323	94.2
Liganga	1322	83.8	1292	84.5	1283	97
Masasi	699	71.8	655	81	650	97.2
Mwambao	428	72.8	489	77.2	487	93.8
District Total	4442	80	4415	81.7	4385	96.7

Source: District Executive Director's Office (District Medical's Office), Ludewa District, 2013



Vaccination is important in reducing Infant and Under Five mortality rate

Figure 45: Percentage of Children under One Year Vaccinated Measles by Division, Ludewa District; 2010-2012

Source: District Executive Director's Office (District Medical's Office), Ludewa District, 2013

Table 5.21 shows that with coverage of 142 percent, Lugarawa was the best ward in 2010 and in 2011 with coverage of 13 percent. Makonde at 112 percent was the best in 2012

followed by Luana with coverage of 105 percent. The worst wards in 2012 were Lupingu (82 percent), Lumbila (85 percent) and Mlangali (87 percent).

Table 5. 21: Percentage of Children under One Year Vaccinated Measles by Ward, Ludewa District; 2010- 2012

Ward	2010		2011		2012	
	Target	Percent Vaccinated	Target	Percent Vaccinated	Target	Percent Vaccinated
Mawengi	276	75	274	83	272	103
Ludewa	220	134	217	102	214	96
Luana	158	70	156	78	156	105
Mawengi Division	654	93.0	647	87.7	642	101.3
Lupanga	230	76	229	76	228	96
Mlangali	464	83	462	78	459	87
Milo	262	81	260	83	259	96
Ludende	202	77	201	72	199	96
Madope	181	76	180	83	178	96
Mlangali Division	1339	78.6	1332	78.4	1323	94.2
Lugarawa	314	142	296	113	294	96
Ibumi	34	74	34	88	34	95
Madilu	353	68	351	81	348	102
Mundindi	258	76	256	78	254	96
Mavanga	220	75	219	83	218	97
Mkongobaki	143	68	136	64	135	96
Liganga Division	1322	83.8	1292	84.5	1283	97.0
Nkomangombe	110	71	110	83	108	96
Luilo	155	67	154	79	153	100
Masasi	108	74	109	83	108	92
Manda	198	79	197	87	196	94
Ruhuhu	128	68	85	73	85	104
Masasi Division	699	71.8	655	81.0	650	97.2
Lumbila	21	71	21	73	21	85
Kilondo	47	72	48	75	48	97
Lupingu	143	84	142	83	141	82
Makonde	100	70	64	83	63	112
Lifuma	69	66	165	83	165	90
Iwela	48	74	49	66	49	97
Mwambao Division	428	72.8	489	77.2	487	93.8
Total	4442	80.0	4415	81.7	4385	96.7

Source: District Executive Director's Office (District Medical's Office), Ludewa District, 2013

5.1.7 Policy Implication on Health sector

Provision of health services in Ludewa is still low.. The District has inadequate number of doctors. Besides inadequate number of doctors there is limited provision of health services such as PMTCT. However, health services can be improved through formulating policies which will motivate doctors and other health workers to work in rural areas. Likewise, the policy of constructing a dispensary in every village center in every ward should be adhered to for increasing accessibility of health services to the rural population

5.1.8 Investment Opportunities for Health Sector

This sub-sector faces many problems including prevalence of diseases such as malaria, ARI, pneumonia, diarrhoea, clinical Aids, etc; shortage of workers especially pharmaceutical technicians, radiographers and medicines. Investment is needed regarding to the construction of more health facilities e.g. health centers, supply of instruments/medicines and training of health/medical personnel.

EDUCATION SECTOR

5.2.0 An Overview

Education sector covers both formal and informal education. Formal education covers pre-primary, primary, secondary and higher education. Informal education includes adult education. Therefore, the development of the sector in Ludewa District involves improvements in all the above mentioned areas.

5.2.1 Pre-Primary Education

The availability of nursery schools in the district is one of the features depicting the level of development of the education system. Pre-schools are meant for children aged 3-6 years. The condition set by the Ministry of Education and Vocational Training that all children who start standard one must have received pre-primary education, accelerated the establishment of pre-primary schools all over the country. Most of such schools are annexes to government primary schools

As Table 5.22 shows the District remained with 97 schools over the years 2010-2012. The wards of Mlangali, Mawengi and Madilu had the largest number of pre primary schools, while Lifuma ward had the only one school in 2012.

Table 5. 22: Number of Pre-Primary Schools by Ownership and Ward, Ludewa District; 2010-2012

Ward	2010		2011		2012	
	Pub	Pri.	Pub	Pri	Pub	Pri
Lumbila	3	0	3	0	3	0
Kilondo	2	0	2	0	2	0
Mawengi	7	0	7	0	7	0
Lupanga	4	0	4	0	4	0
Mlangali	8	0	8	0	8	0
Milo	5	0	5	0	5	0
Lugarawa	7	0	4	0	4	0
Madope	4	0	4	0	4	0
Madilu	7	0	7	0	7	0
Mundindi	6	0	5	0	5	0
Mavanga	3	0	3	0	3	0
Ibumi	3	0	2	0	2	0
Nkomangombe	5	0	4	0	4	0
Luilo	5	0	5	0	5	0
Masasi	3	0	3	0	3	0
Manda	5	0	3	0	3	0
Lupingu	4	0	5	0	5	0
Ludewa	5	0	5	0	5	0
Ludende	3	0	3	0	3	0
Luana	4	0	4	0	4	0
Makonde	4	0	4	0	4	0
Lifuma	-	0	1	0	1	0
Mkongobaki	-	0	3	0	3	0
Ruhuhu	-	0	3	0	3	0
Total	97	0	97	0	97	0

Pub = Public, Pri = Private

Source: District Executive Director's Office (Education Department), Ludewa District, 2012**5.2.1.1 Enrolment in Pre-Primary Schools**

The motive for introducing pre-primary schools classes in government primary schools all over the country was to increase enrolment of children aged 3-6 years in such schools. In Ludewa District enrolment increased by 2 percent from 3958 pupils in 2010 to 4040 in 2011 and also increased by seven percent from 2011 to 2012 (Table 5.23). The increase in enrolment is due to improved accessibility of pre-primary schools and the realization of the benefit of pre-primary education among parents.

Table 5. 23: Pre-Primary Schools Enrolment by Ownership and Ward, Ludewa District; 2010– 2012

Ward	2010		2011		2012	
	Pub	Pri.	Pub	Pri.	Pub	Pri
Lumbila	82	0	96	0	141	0
Makonde	262	0	147	0	128	0
Lifuma	0	0	0	0	45	0
Kilondo	77	0	124	0	101	0
Lupingu	153	0	145	0	101	0
Manda	204	0	231	0	207	0
Ruhuhu	0	0	0	0	142	0
Masasi	81	0	96	0	98	0
Luilo	143	0	154	0	157	0
Nkomangombe	130	0	132	0	94	0
Ludewa	240	0	262	0	225	0
Luana	92	0	105	0	123	0
Mlangali	405	0	411	0	418	0
Mawengi	301	0	316	0	316	0
Ludende	270	0	302	0	309	0
Milo	174	0	203	0	215	0
Ibuni	54	0	39	0	45	0
Madope	142	0	146	0	148	0
Madilu	308	0	322	0	346	0
Lugarawa	326	0	227	0	234	0
Mkongobaki	0	0	0	0	104	0
Mundindi	171	0	201	0	216	0
Mavanga	207	0	221	0	229	0
Lupanga	136	0	160	0	168	0
Total	3958	0	4040	0	4310	0

Pub = Public Pri = Private

*New ward

Source: District Executive Director's Office (Education Department), Ludewa District, 2012

5.2.2 Primary Education

Tanzania Government formulated a Policy of Universal Primary Education in order to make primary education a basic right of every Tanzania child of age of 7 to 13 years. This policy has made it necessary to establish the number of primary schools that would make this goal possible.

Ludewa District has 102 primary schools which are distributed in all of its 25 wards as indicated in Table 5.24 except Iwela Ward whose education information is included in Nkomangombe Ward. Mlangali had the largest number of eight primary schools followed by Mawengi and Madilu with seven schools each. Kilondo and Lifuma had the least number of two schools each. All the schools in the District were owned by the Government.

Table 5. 24: Number of Primary Schools by Ownership and by Ward, Ludewa District; 2010-2012

Ward	2010		2011		2012	
	Pu	Pri	Pu	Pri	Pu	Pri
Lumbila	3	0	3	0	3	0
Kilondo	2	0	2	0	2	0
Mawengi	7	0	7	0	7	0
Lupanga	4	0	4	0	4	0
Mlangali	8	0	8	0	8	0
Milo	5	0	5	0	5	0
Lugarawa	4	0	4	0	4	0
Madope	4	0	4	0	4	0
Madilu	7	0	7	0	7	0
Mundindi	6	0	6	0	6	0
Mavanga	3	0	3	0	3	0
Ibumi	3	0	3	0	3	0
Nkomangøombe	5	0	5	0	5	0
Luilo	5	0	5	0	5	0
Masasi	3	0	3	0	3	0
Manda	5	0	5	0	5	0
Lupingu	4	0	4	0	4	0
Ludewa	5	0	5	0	5	0
Ludende	3	0	3	0	3	0
Luana	4	0	4	0	4	0
Makonde	4	0	4	0	4	0
Mkongobaki	3	0	3	0	3	0
Lifuma	2	0	2	0	2	0
Ruhuhu	3	0	3	0	3	0
Iwela	*	0	*	0	*	0
Total	102	0	102	0	102	0

Included in Nkomangøombe Ward

Source: District Executive Director's Office (Education Department), Ludewa District, 2012

5. 2.2.1 Standard One Enrolment

Over the period of three years 2010 to 2012 Ludewa District Council implemented successfully the call by the Government to increase enrolment in primary schools. According to Table 5.25, the enrolment of pupils increased by 49.5 percent over the period 2010 to 2012. Mawengi Ward enrolled the largest number of pupils in each of the three years followed by Mlangali Ward and then Madilu Ward, the wards that enrolled the least number of pupils in the three year period were Ibumi in 2010 and 2011 and Kilondo in 2012. The wards of Mkongobaki, Lifuma and Ruhuhu started enrolling pupils in the year 2012.

Table 5. 25: Standard I Enrolment in Public Primary Schools by Ward, Ludewa District; 2010-2012

Ward	2010		2011		2012		Total
	Pu	Pri	Pu	Pri	Pu	Pri	
Lumbila	96		116		151		363
Kilondo	96		99		132		327
Mawengi	416		467		528		1411
Lupanga	200		208		243		651
Mlangali	434		390		510		1334
Milo	285		287		334		906
Lugarawa	294		306		269		869
Madope	151		182		228		561
Madilu	355		376		409		1140
Mundindi	288		298		311		897
Mavanga	264		296		335		895
Ibumi	50		77		136		263
Nkomangombe	136		126		199		461
Luilo	163		179		274		616
Masasi	143		149		154		446
Manda	131		274		278		683
Lupingu	189		190		249		628
Ludewa	219		284		345		848
Ludende	228		248		272		748
Luana	163		179		228		570
Makonde	185		198		248		631
Mkongobaki	0		0		243		243
Lifuma	0		0		179		179
Ruhuhu	0		0		229		229
Iwela	*		*		*		*
Total	4486		4929		6484		15899

Included in Nkomangombe

Source: District Executive Director's Office (Education Department), Ludewa District, 2012

The UPE requirement of enrolling children at seven years was well implemented in Ludewa District in 2012 as of the children enrolled in standard one, 84.5 percent were aged seven years, while 13.2 percent were age eight year and 2.3 percent were more than eight years. The percentage of pupils enrolling in standard one while aged more than seven years, was more for boys (19.4 percent) than girls (11.4 percent).

Table 5. 26: Standard I Enrolment by Age Group, Ludewa District; 2012

Sex	Seven Years		Eight Years		Over Eight Years		Total	
	Number	Percentage	Number	Percentage	Number	Percentage	Number	Percentage
Boys	2697	80.6	530	15.8	119	3.6	3346	100.0
Girls	2780	88.6	325	10.4	33	1.0	3138	100.0
Total	5477	84.5	855	13.2	152	2.3	6484	100.0

Source: District Executive Director's Office (Education Department), Ludewa District, 2012

Table 5.27 shows that total enrolment of pupils increased slightly in 2011 and decreased in 2012. With exception of the year 2010 the enrollment of boys was higher than that of girls. The enrolment of pupils decreased sharply in 2012 for the wards of Makonde, Lugarawa and Manda because these wards were divided to form the wards of Lifuma, Mkongobaki and Ruhuhu. The Table also reveals there are significant differences in the number of enrolled pupils among wards. Most wards with urban characteristics have higher enrolment compared to pure rural wards.

Table 5. 27: Total (Std I - VII) Enrolment by Sex And by Ward, Ludewa District; 2010-2012

Ward	2010			2011			2012		
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Total
Lumbila	341	332	673	344	336	680	348	344	692
Makonde	863	876	1739	878	755	1633	568	566	1134
Lifuma	0	0	0	0	0	0	356	246	602
Kilondo	305	230	535	364	233	597	309	249	558
Lupingu	653	683	1336	665	651	1316	638	659	1297
Manda	1,147	1,064	2211	1104	1103	2207	600	602	1202
Ruhuhu	0	0	0	0	0	0	434	435	869
Masasi	381	295	676	516	279	795	334	287	621
Luilo	570	598	1168	569	562	1131	571	569	1140
Nkomangombe	485	456	941	465	436	901	458	439	897
Ludewa	979	1,031	2010	987	1,033	2020	936	1032	1968
Luana	581	571	1152	588	572	1160	522	582	1104
Mlangali	1,460	1,559	3019	1,539	1,531	3070	1,432	1,425	2857
Mawengi	1,182	1,194	2376	1,259	1,175	2434	1266	1,188	2454
Ludende	776	763	1539	936	769	1705	738	792	1530
Milo	836	878	1714	840	775	1615	761	779	1540
Ibumi	185	188	373	187	189	376	208	191	399
Madope	572	704	1276	580	596	1176	560	605	1165
Madilu	1,279	1,337	2616	1348	1,303	2651	1,299	1,316	2615
Lugarawa	1,406	1,444	2850	1581	1421	3002	937	973	1910
Mkongobaki	0	0	0	0	0	0	423	443	866
Mundindi	934	874	1808	943	865	1808	948	877	1825
Mavanga	774	788	1562	811	782	1593	818	828	1646
Lupanga	778	923	1701	865	731	1596	862	868	1730
Total	16,487	16,788	33,275	17,369	16,097	33,466	16,326	16,295	32,621

Source: District Executive Director's Office (Education Department), Ludewa District, 2012

5. 2.2.2 Completion Rate

The completion rate is an indicator of the efficiency of the school system that shows the extent to which a cohort of pupils admitted in Class One complete the primary education cycle irrespective of whether they sit for the final examinations or not. Table 5.28 reveals that 89.4 percent of 5057 pupils who were enrolled in 2005 completed the primary school cycle in 2011. The completion rate for girls (92.2 percent) were higher than that of boys (86.6

percent). The highest completion rate was observed in Ludende Ward (94.5 percent), followed by Mlangali (94.2 percent) and Lugarawa (93.8 percent). The smallest completion rate was observed in Ibumi Ward (73.3 percent) followed by Kilondo and Masasi (78.6 percent each). However the completion rates for these wards though relatively small they are fairly satisfactory.

Table 5. 28: Number of Pupils Enrolled in Std I in 2005 and Completed Std VII in 2011 by Ward, Ludewa District

Ward	2005 to 2011								
	Enrolled 2005			Completed 2011			Completion		Rate
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Boys and Girls
Lumbila	67	56	123	51	47	98	76.1	83.9	79.7
Makonde	144	148	292	126	136	262	87.5	91.9	89.7
Lifuma	0	0	0	0	0	0	0	0	0
Kilondo	58	45	103	45	36	81	77.6	80.0	78.6
Lupingu	109	110	219	94	103	197	86.2	93.6	90.0
Manda	168	148	316	152	136	288	90.5	91.9	91.1
Ruhuhu	0	0	0	0	0	0	0	0	0
Masasi	63	49	112	48	40	88	76.2	81.6	78.6
Luilo	97	106	203	82	95	177	84.5	89.6	87.2
Nkomangombe	75	73	148	62	64	126	82.7	87.7	85.1
Ludewa	166	167	333	151	156	307	91.0	93.4	92.2
Luana	97	123	220	82	113	195	84.5	91.9	88.6
Mlangali	199	213	412	186	202	388	93.5	94.8	94.2
Mawengi	167	175	342	153	165	318	91.6	94.3	93.0
Ludende	88	77	165	73	83	156	83	107.8	94.5
Milo	123	123	246	95	112	207	77.2	91.1	84.1
Ibumi	46	44	90	30	36	66	65.2	81.8	73.3
Madope	101	95	196	85	86	171	84.2	90.5	87.2
Madilu	182	192	374	167	180	347	91.8	93.8	92.8
Lugarawa	179	223	402	165	212	377	92.2	95.1	93.8
Mkongobaki	0	0	0	0	0	0	0	0	0
Mundindi	115	145	260	103	132	235	89.6	91.0	90.4
Mavanga	129	118	247	115	107	222	89.1	90.7	89.9
Lupanga	122	132	254	95	121	216	77.9	91.7	85.0
Total	2495	2562	5057	2160	2362	4522	86.6	92.2	89.4

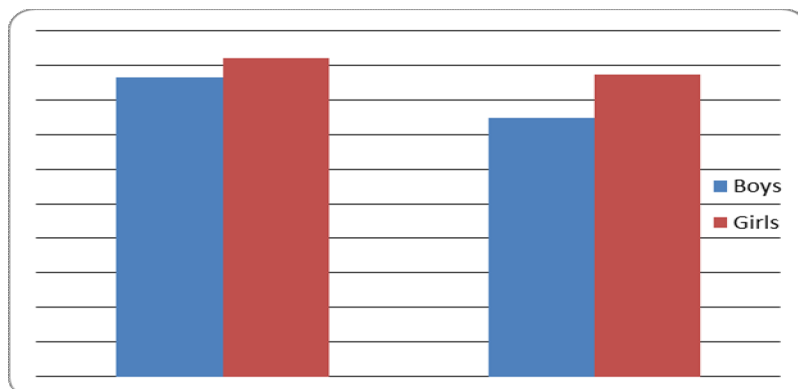
Source: District Executive Director's Office (Education Department), Ludewa District, 2013

Performance of primary schools in terms of completion rate was lower in 2012 compared to 2011. Among a cohort of 4729 pupils who joined primary school education in the year 2006, a total of 3838 (81.2 percent) of them completed the primary school cycle in 2012. Again in 2012 the completion rate for girls (87.5 percent) was higher than that of boys (74.9 percent). The Ward with the highest completion rate was Mlangali (97.0 percent) followed by Manda (96.5 percent) and Ludewa and Lugarawa (95.4 percent each). The Ward with the lowest completion rate was Kilondo (79.1 percent).

Table 5. 29: Number of Pupils Enrolled in Std I in 2006 and Completed Std VII in 2012 by Ward in Ludewa District

Ward	2006-2012						Completion (%)		
	Enrolled 2006			Completed 2012					
	Boys	Girls	Total	Boys	Girls	Total	Boys	Girls	Percentage
Lumbila	55	39	94	51	28	79	92.7	71.8	84.0
Makonde	49	81	130	46	75	121	93.9	92.6	93.1
Lifuma	38	57	95	38	48	86	100.0	84.2	90.5
Kilondo	29	38	67	26	27	53	89.7	71.1	79.1
Lupingu	82	94	176	81	83	164	98.8	88.3	93.2
Manda	134	150	284	133	141	274	99.3	94.0	96.5
Ruhuhu	44	60	104	44	49	93	100.0	81.7	89.4
Masasi	42	60	102	38	48	86	90.5	80.0	84.3
Luilo	99	99	198	96	80	176	97.0	80.8	88.9
Nkomangombe	51	63	114	50	51	101	98.0	81.0	88.6
Ludewa	109	129	238	108	119	227	99.1	92.2	95.4
Luana	46	60	106	45	51	96	97.8	85.0	90.6
Mlangali	157	242	399	157	230	387	100.0	95.0	97.0
Mawengi	155	197	352	151	174	325	97.4	88.3	92.3
Ludende	67	98	165	63	81	144	94.0	82.7	87.3
Milo	78	108	186	75	92	167	96.2	85.2	89.8
Ibumi	25	35	60	25	23	48	100.0	65.7	80.0
Madope	35	69	104	33	56	89	94.3	81.2	85.6
Madilu	136	153	289	132	141	273	97.1	92.2	94.5
Lugarawa	124	159	283	121	149	270	97.6	93.7	95.4
Mkongobaki	48	50	98	45	39	84	93.8	78.0	85.7
Mundindi	115	124	239	109	112	221	94.8	90.3	92.5
Mavanga	92	104	196	89	93	182	96.7	89.4	92.9
Lupanga	36	73	109	33	59	92	91.7	80.8	84.4
Total	2387	2342	4729	1789	2049	3838	74.9	87.5	81.2

Source: District Executive Director's Office (Education Department), Ludewa District, 2012

Figure 45: Rates of Completion of Primary Education in Ludewa District, 2011 and 2012

Source: District Executive Director's Office (Education Department), Ludewa District, 2013

5.2.2.3 Primary School Dropout Rate

Dropout of pupils in primary schools is indicated in Table 5.30. Truancy was the main cause dropout where 122 cases caused by truancy were reported, death was the second reason for dropout, according to the table 5.30 death cases occurred and caused 30.3 percent of dropout. Dropout due to pregnancy was only 8.1 percent. The dropout was higher for boys than girls in all years.

Table 5. 30: Primary School Dropouts by Reasons, Ludewa District; 2010 – 2011

Reason	2010			2011			2012			Total (2010-2012)	
	Boys	Girl's	Total	Boys	Girl's	Total	Boys	Girl's	Total	Number	Percentage
Truancy	6	2	8	17	21	38	10	5	15	61	60.4
Pregnancy	-	2	2	-	1	1	-	5	5	8	7.9
Death	9	4	13	10	2	12	4	1	5	30	29.7
Other	0	0	0	1	1	2	0	0	0	2	2.0
Total	15	8	23	28	25	53	14	11	25	101	100.0
Percentage	65.2	34.8	100	52.8	47.2	100	56.0	44.0	100		

Source: District Executive Director's Office (Education Department), Ludewa District, 2013

5.2.2.4 Pass Rate

Pass rate refers to the percentage of pupils who passed standard seven examinations out of the total pupils who sat for the examinations. From 2010 to 2012 pass rate for standard seven pupils was increasing. It increased from 60 percent in 2010 to 61 percent in 2012 and then it was maintained at 61 percent in 2012. 60 percent of pupils who sat for examination were selected to join form I. The percentage of selected girls was higher (52 percent) than boys (48 percent).

Table 5. 31: Number of Students Who Joined Form I in Public Secondary Schools, Ludewa District; 2010-2012

Year	Pupils Sitting for Examinations					Students Selected					Percent Selected
	Boys		Girls		Total	Boys		Girls		Total	
	Number	Percent	Number	Percent		Number	Percent	Number	Percent		
2010	2128	48	2296	52	4424	1310	50	1330	50	2640	60
2011	2160	48	2362	52	4522	1280	47	1459	53	2739	61
2012	1789	47	2049	53	3838	1123	48	1202	52	2325	61
Total	6077	48	6707	52	12784	3713	48	3991	52	7704	60

Source: District Executive Director's Office (Education Department), Ludewa District, 2013

Table 5.31 (a) reveals that, out of 4,522 pupils who sat for Standard VII examination, more than half (2,739 pupils) equivalent to 61 percent joined Form One in 2011. The proportion of girls who were selected to join Form I (61.8 percent) than that of boys (59.3 percent). Luana Ward had the largest percentage of selected pupils (75.8 percent) followed by Milo

(74.9 percent), Ludende (73.1 percent), Madope (72.4 percent) and Mundindi (70.1 percent). Makonde Ward had the smallest percentage of selection (44.0 percent) followed by Lupingu Ward (45.7 percent).

Table 5.31 a: Number of Students Who Joined Form I in Public Secondary Schools by Sex and by Ward in Ludewa District, 2011

Ward	Pupils Sitting for			Pupils Joining Form I			Percent Selected		
	Std VII Examinations								
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Lumbila	49	48	97	38	23	61	77.6	47.9	62.9
Makonde	126	106	232	58	44	102	46.0	41.5	44.0
Lifuma	0	0	0	0	0	0			
Kilondo	44	37	81	29	19	48	65.9	51.4	59.3
Lupingu	93	104	197	37	53	90	39.8	51.0	45.7
Manda	150	140	290	72	78	150	48.0	55.7	51.7
Ruhuhu	0	0	0	0	0	0			
Masasi	47	46	93	32	27	59	68.1	58.7	63.4
Luilo	81	96	177	36	44	80	44.4	45.8	45.2
Nkomangombe	61	64	125	38	46	84	62.3	71.9	67.2
Ludewa	150	157	307	77	101	178	51.3	64.3	58.0
Luana	81	109	190	62	82	144	76.5	75.2	75.8
Mlangali	194	198	392	76	134	210	39.2	67.7	53.6
Mawengi	152	166	318	66	129	195	43.4	77.7	61.3
Ludende	72	84	156	64	50	114	88.9	59.5	73.1
Milo	94	113	207	66	89	155	70.2	78.8	74.9
Ibumi	24	36	60	16	22	38	66.7	61.1	63.3
Madope	84	86	170	70	53	123	83.3	61.6	72.4
Madilu	171	186	357	88	103	191	51.5	55.4	53.5
Lugarawa	166	228	394	117	137	254	70.5	60.1	64.5
Mkongobaki	0	0	0	0	0	0			
Mundindi	102	129	231	86	76	162	84.3	58.9	70.1
Mavanga	116	113	229	90	70	160	77.6	61.9	69.9
Lupanga	103	116	219	62	79	141	60.2	68.1	64.4
Total	2160	2362	4522	1280	1459	2739	59.3	61.8	60.6

Source: District Executive Director's Office (Education Department), Ludewa District, 2013

For the year 2012 out of 3920 pupils who sat for examinations 2370 (60.5 percent) were selected to join Form I. The percent selected for girls dropped compared to the previous year. The percent selected was 58.4 for girls and 60.5 for boys. Madope Ward was leading with 81.4 percent selected followed by Manda (80.3 percent) and Lumbila (79.1 percent). The wards with a selection of less than fifty percent were Luilo (42.2 percent), Milo (42.4 percent), Luana (46.7 percent), Lupanga (46.8 percent) and Mkongobaki (49.5 percent)

Table 5.31 b: Number of Students Who Joined Form I in Public Secondary Schools by Sex and in Ludewa District by Ward, 2012

Ward	Pupils Sitting for			Pupils Joinning Form I			Percent Selected		
	Std VII Examinations			Male	Female	Total	Male	Female	Total
	Male	Female	Total						
Lumbila	34	33	67	32	21	53	94.1	63.6	79.1
Makonde	95	107	202	65	64	129	68.4	59.8	63.9
Lifuma	40	42	82	25	20	45	62.5	47.6	54.9
Kilondo	29	22	51	22	17	39	75.9	77.3	76.5
Lupingu	78	89	167	50	56	106	64.1	62.9	63.5
Manda	70	67	137	59	51	110	84.3	76.1	80.3
Ruhuhu	50	41	91	39	29	68	78.0	70.7	74.7
Masasi	32	29	61	26	15	41	81.3	51.7	67.2
Luilo	66	81	147	30	32	62	45.5	39.5	42.2
Nkomangombe	46	49	95	22	29	51	47.8	59.2	53.7
Ludewa	135	142	277	103	101	204	76.3	71.1	73.6
Luana	66	99	165	40	37	77	60.6	37.4	46.7
Mlangali	170	188	358	99	125	224	58.2	66.5	62.6
Mawengi	137	151	288	81	83	164	59.1	55.0	56.9
Ludende	57	69	126	38	38	76	66.7	55.1	60.3
Milo	79	98	177	30	45	75	38.0	45.9	42.4
Ibumi	22	20	42	12	14	26	54.5	70.0	61.9
Madope	69	71	140	64	50	114	92.8	70.4	81.4
Madilu	151	166	317	75	91	166	49.7	54.8	52.4
Lugarawa	88	139	227	63	109	172	71.6	78.4	75.8
Mkongobaki	48	59	107	25	28	53	52.1	47.5	49.5
Mundindi	87	129	216	50	73	123	57.5	56.6	56.9
Mavanga	101	93	194	57	48	105	56.4	51.6	54.1
Lupanga	79	107	186	41	46	87	51.9	43.0	46.8
Total	1829	2091	3920	1148	1222	2370	62.8	58.4	60.5

Source: District Executive Director's Office (Education Department), Ludewa District, 2013

5. 2.2.5 Primary School Facilities

It is the duty of educational authorities like the Ministry of Education to collaborate with beneficiaries (the community) and make sure that teachers and basic education facilities such as classrooms, toilets, staff houses, furniture, libraries, bookstores and textbooks are in place.

i) Classrooms

The national standard for classroom pupil ratio in Tanzania is 1:45. Ludewa District has a CPR of 1:47 which is above the national standard, the required number of classrooms in order to achieve the national standard is 936 classrooms while the District has 688 classrooms therefore the deficit is 248 classrooms or 26.5 percent. Most wards in Ludewa District had not achieved the national standard of 1:45. Milo Ward had the worst situation at 1:70, followed by Mavanga (1:69) and Lugarawa (1:58). The wards in better condition were Lumbila, Makonde, Manda, Ruhuhu, Masasi, Luilo, Nkomangombe, Mlangali, Ludende, Ibumi, Madope and Mkongobaki. Each of these wards had a CPR that was equal or less than 1:45.



Pupils attending class in Ludewa District

Table 5. 32: Availability of Classrooms in Primary Schools by Ward, Ludewa District; 2011

Ward	Number of Schools	Total Pupils	Available Classrooms	Classroom Pupils Ratio (CPR)	Required Classrooms	Deficit of Classrooms	
						Number	Percent
Lumbila	3	692	19	1:36	22	3	13.6
Makonde	4	1134	25	1:45	33	8	24.2
Lifuma	2	602	13	1:46	20	7	35.0
Kilondo	2	558	10	1:56	19	9	47.4
Lupingu	4	1297	27	1:48	37	10	27.0
Manda	5	1202	27	1:45	35	8	22.9
Ruhuhu	3	869	20	1:43	27	7	25.9
Masasi	3	621	19	1:33	21	2	9.5
Luilo	5	1140	28	1:41	34	6	17.6
Nkomangombe	5	897	28	1:32	27	-1	-3.7
Ludewa	5	1968	38	1:52	54	16	29.6
Luana	4	1104	24	1:46	33	9	27.3
Mlangali	8	2857	68	1:42	76	8	10.5
Mawengi	7	2454	51	1:48	66	15	22.7
Ludende	3	1530	23	1:37	43	20	46.5
Milo	5	1540	22	1:70	44	22	50.0
Ibumi	3	399	15	1:27	15	0	0.0
Madope	4	1165	29	1:40	34	5	14.7
Madilu	7	2615	57	1:46	70	13	18.6
Lugarawa	4	1910	33	1:58	53	20	37.7
Mkongobaki	3	866	21	1:41	27	6	22.2
Mundindi	6	1825	35	1:52	52	17	32.7
Mavanga	3	1646	24	1:69	46	22	47.8
Lupanga	4	1730	32	1:54	48	16	33.3
Total	102	32621	688	1:47	936	248	26.5

Source: District Executive Director's Office (Education Department), Ludewa District, 2013

ii) Toilets



There is a need of building more toilets in primary schools to alleviate a shortage.

The national standard for toilets a Toilet Pupil Ratio of 1:23. Table 5.33 shows that Ludewa District had a total of 1,067 toilets for 32,621 pupils, that means the TPR of the District was 1:31 which is higher than the official standard. The required number of toilets in Ludewa district is 1642 hence the deficit was 35 percent. At ward level the leading wards in deficit of toilets in the District were Lifuma and Kilondo (61 percent each), Ibumi (58 percent), Lupanga (53 percent) and Lupingu (52 percent). These wards had deficits of more than fifty percent. Therefore, one toilet was used by double the number of pupils required. Nkomangombe and Mundindi had very low deficits of 8 percent and 7 percent respectively.

Table 5. 33: Availability of Toilets in Primary Schools by Ward, Ludewa District; 2012

Ward	Total Pupils	Available Toilet	Toilet Pupils Ratio	Required Toilet	Deficit of Toilets	
					Number	Percent
Lumbila	692	21	1:33	31	10	32
Makonde	1134	35	1:32	51	16	31
Lifuma	602	13	1:46	33	20	61
Kilondo	558	13	1:43	33	20	61
Lupingu	1297	32	1:41	66	34	52
Manda	1202	52	1:23	62	10	16
Ruhuhu	869	26	1:33	47	21	45
Masasi	621	21	1:30	36	15	42
Luilo	1140	40	1:29	59	19	32
Nkomangombe	897	44	1:20	48	4	8
Ludewa	1968	59	1:33	97	38	39
Luana	1104	38	1:29	58	20	34
Mlangali	2857	89	1:32	137	48	35
Mawengi	2454	76	1:32	118	42	36
Ludende	1530	46	1:33	77	31	40
Milo	1540	50	1:31	77	27	35

Ibumi	399	11	1:36	26	15	58
Madope	1165	50	1:23	61	11	18
Madilu	2615	74	1:35	126	52	41
Lugarawa	1910	79	1:24	94	15	16
Mkongobaki	866	29	1:30	47	18	38
Mundindi	1825	84	1:22	90	6	7
Mavanga	1646	45	1:37	82	37	45
Lupanga	1730	40	1:43	86	46	53
Total	32621	1067	1:31	1642	575	35

Source: District Executive Director's Office (Education Department), Ludewa District, 2012

iii) Staff Houses



Staff quarters are an important incentive for the teachers

As one of the various teaching incentives, the provision of staff quarters is very crucial as it facilitates the retention of teachers and also promotes teaching morale. Table 5.34 reveals that Ludewa District had a total of 485 teachersthe houses compared to actual requirement of 810 houses for 810 estimated teachers. The deficit of houses based on the required House Teacher Ratio (HTR) of 1:1 325 houses (equivalent to 40 percent deficit).

Mlangali Ward with its urban nature had the highest number of teacher houses of 49 and 31 percent deficit. It was followed by Mawengi Ward with 40 teacher houses and 34 percent deficit. The highest deficit was observed in Milo Ward which had of 74 percent deficit followed by Ruhuhu Ward with 73 percent deficit. The only ward which has a surplus of houses was Ibumi with 13 teacher houses for 10 teachers and therefore a surplus of 3 houses.

Table 5. 34: Availability of Primary School Teachers' Houses by Ward, Ludewa District; 2012

Ward	Number of Available Teachers	Estimated Teachers	Actual Requirement of Houses	Available Houses	Deficit of Houses	
					No.	Percent
Lumbila	13	17	17	13	4	24
Makonde	15	28	28	10	18	64
Lifuma	9	15	15	11	4	27
Kilondo	10	14	14	10	4	29
Lupingu	22	30	30	20	10	33
Manda	23	30	30	18	12	40
Ruhuhu	16	22	22	6	16	73
Masasi	12	16	16	10	6	38
Luilo	22	28	28	18	10	36
Nkomangombe	24	22	22	22	0	0
Ludewa	68	49	49	19	30	61
Luana	36	28	28	14	14	50
Mlangali	78	71	71	49	22	31
Mawengi	61	61	61	40	21	34
Ludende	24	38	38	27	11	29
Milo	43	38	38	10	28	74
Ibumi	10	10	10	13	-3	0
Madope	28	29	29	16	13	45
Madilu	65	65	65	43	22	34
Lugarawa	48	48	48	29	19	40
Mkongobaki	16	21	21	17	4	19
Mundindi	50	46	46	24	22	48
Mavanga	34	41	41	22	19	46
Lupanga	35	43	43	24	19	44
Total	762	810	810	485	325	40

Source: District Executive Director's Office (Education Department), Ludewa District, 2013

iv) Furniture (Desks)

The official Desk Pupil Ratio for primary schools is 1:3. The average number of pupils per desk is an important indicator of the provision of favorable and conducive learning environment for the pupils. Table 5.35 reveals that Ludewa District had an average DPR of 1:3. The District was in good condition in terms of number of desks available with except for a few wards whose DPRs were substantially higher than the national official standard. These wards were Lumbila (1:5), Ruhuhu (1:6), Luana (1:5), and Mkongobaki (1:5). The wards of Masasi, Luilo, Madilu, Madope, Kilondo and Lupanga had a DPR of 1:4 each. Besides, there were Wards whose DPRs were below the required 1:3. These were Ludewa, Makonde, and Mawengi (1:2 each), and the remaining wards had the required DPR of 1:3.

Table 5. 35: Availability of Desks in Primary Schools by Ward, Ludewa District; 2012

Ward	Total Pupils	Available Desks	Desk Pupils Ratio	Required Desks	Deficit of Desks		Deficit Based on DPR	Percent Deficit Based on DPR
					No.	Percent		
Lumbila	692	137	1:5	346	209	60	94	41
Makonde	1134	503	1:2	567	64	11	0	0
Lifuma	602	195	1:3	301	106	35	6	3
Kilondo	558	144	1:4	279	135	48	42	23
Lupingu	1297	414	1:3	649	235	36	18	4
Manda	1202	477	1:3	601	124	21	0	0
Ruhuhu	869	152	1:6	435	283	65	138	48
Masasi	621	149	1:4	310	161	52	58	28
Luilo	1140	309	1:4	570	261	46	71	19
Nkomangombe	897	311	1:3	448	137	31	0	0
Ludewa	1968	958	1:2	984	26	3	0	0
Luana	1104	208	1:5	552	344	62	160	43
Mlangali	2857	963	1:3	1429	466	33	0	0
Mawengi	2454	1005	1:2	1227	222	18	0	0
Ludende	1530	361	1:4	765	404	53	149	29
Milo	1540	558	1:3	770	212	28	0	0
Ibumi	399	109	1:3	200	91	46	24	18
Madope	1165	269	1:4	582	313	54	119	31
Madilu	2615	743	1:4	1307	564	43	129	15
Lugarawa	1910	815	1:3	955	140	15	0	0
Mkongobaki	866	186	1:5	433	247	57	103	36
Mundindi	1825	620	1:3	912	292	32	0	0
Mavanga	1646	580	1:3	823	243	30	0	0
Lupanga	1730	407	1:4	865	458	53	170	29
Total	32621	10573	1:3	16310	5737	35	301	3

Source: District Executive Director's Office (Education Department), Ludewa District, 2013

v) Accessibility of Water

Ludewa District has water shortage in most of its wards. This increase pressure on the need of water tanks for water storage in schools. Unfortunately, as Table 5.36 shows, from 2010 up to the end of 2012 no water tanks had been seen in schools in the district.

Table 5. 36: Availability Water Tanks in Primary Schools by Ward, Ludewa District; 2011-2012

Ward	2010			2011			2012		
	Required	Available	Deficit	Required	Available	Deficit	Required	Available	Deficit
Lumbila	3	-	3	3	-	3	3	-	3
Makonde	6	-	6	6	-	6	6	-	6
Lifuma	0	-	0	0	-	0	0	-	0
Kilondo	2	-	2	2	-	2	2	-	2
Lupingu	4	-	4	4	-	4	4	-	4
Manda	8	-	8	8	-	8	8	-	8
Ruhuhu	0	-	0	0	-	0	0	-	0
Masasi	3	-	3	3	-	3	3	-	3
Luilo	5	-	5	5	-	5	5	-	5
Nkomangombe	5	-	5	5	-	5	5	-	5
Ludewa	5	-	5	5	-	5	5	-	5
Luana	4	-	4	4	-	4	4	-	4
Mlangali	8	-	8	8	-	8	8	-	8
Mawengi	7	-	7	7	-	7	7	-	7
Ludende	3	-	3	3	-	3	3	-	3
Milo	5	-	5	5	-	5	5	-	5
Ibumi	3	-	3	3	-	3	3	-	3
Madope	4	-	4	4	-	4	4	-	4
Madilu	7	-	7	7	-	7	7	-	7
Lugarawa	7	-	7	7	-	7	7	-	7
Mkongobaki	0	-	0	0	-	0	0	-	0
Mundindi	6	-	6	6	-	6	6	-	6
Mavanga	3	-	3	3	-	3	3	-	3
Lupanga	4	-	4	4	-	4	4	-	4
Total	102		102	102		102	102		102

Source: District Executive Director's Office (Education Department), Ludewa District, 2013

iv) Teachers

The teacher to pupil ratio is an important indicator which shows the quality of education provided in schools. The standard requirement is that one teacher should serve a class of 45 pupils (1:45). Ludewa District has an average TPR of 1:43.

From experience, in most districts wards which are located in remote areas experience the shortage of teachers. Despite the district's encouraging TPR of 1:43 there are some wards with TPRs that are higher than the national standard. These include Makonde (1:76), Lifuma (1:67), Lupingu 1:59, Kilondo (1:56), Ruhuhu (1:54) and Lumbila (1:53). The wards with acceptable TPRs were Ludewa (1:29), Luana (1:31), Milo (1:35), Mundindi, Nkomangombe and Mlangali (1:37 each), Ibumi (1:39), Lugarawa, Madilu and Mawengi (1:40 each) and Mdope (1:42)..



The teacher pupil ratio is an important indicator for quality education

Table 5. 37: Availability of Primary School Teachers (Grade A, B, Diploma and Degree) by Ward, Ludewa District; 2012

Ward	Total Pupils	Actually Required Teachers	Available Teachers	Deficit	Percent Deficit	Deficit Based on TPR	Percent Deficit Based on TPR	Teacher Pupils Ratio
Lumbila	692	17	13	4	24	3	20	1:53
Makonde	1134	28	15	13	46	11	44	1:76
Lifuma	602	15	9	6	40	5	37	1:67
Kilondo	558	14	10	4	29	3	24	1:56
Lupingu	1297	30	22	8	27	7	24	1:59
Manda	1202	30	23	7	23	4	15	1:52
Ruhuhu	869	22	16	6	27	4	21	1:54
Masasi	621	16	12	4	25	2	14	1:52
Luilo	1140	28	22	6	21	4	16	1:52
Nkomangombe	897	22	24	-2	-9	0	0	1:37
Ludewa	1968	49	68	-19	-39	0	0	1:29
Luana	1104	28	36	-8	-29	0	0	1:31
Mlangali	2857	71	78	-7	-10	0	0	1:37
Mawengi	2454	61	61	0	0	0	0	1:40
Ludende	1530	38	24	14	37	10	29	1:64
Milo	1540	38	43	-5	-13	0	0	1:35
Ibumi	399	10	10	0	0	0	0	1:39
Madope	1165	29	28	1	3	0	0	1:42
Madilu	2615	65	65	0	0	0	0	1:40
Lugarawa	1910	48	48	0	0	0	0	1:40
Mkongobaki	866	21	16	5	24	4	21	1:54
Mundindi	1825	46	50	-4	-9	0	0	1:37
Mavanga	1646	41	34	7	17	3	8	1:48
Lupanga	1730	43	35	8	19	4	10	1:49
Total	32621	810	762	48	6	0	0	1:43

Source: District Executive Director's Office (Education Department), Ludewa District, 2013

5.2.3 Secondary Education

For the three year period indicated in Table 5.38 the number Public of secondary schools in Ludewa District remained constant at 17 while the number of Private Secondary schools increased from one in 2010 to four schools in 2011 and 2012. The Government resolve of establishing at least one secondary school in each ward had not yet been achieved. Table 5.38 shows that by 2012 eight out of 25 Wards had no Secondary Schools. These Wards were Lumbila, Lifuma, Kilondo, Ruhuhu, Masasi, Ibumi, Mkongobaki and Iwela.

Table 5. 38: Number of Secondary Schools by Ownership and by Ward, Ludewa District; 2010- 2012

Ward	2010		2011		2012	
	Public	Private	Public	Private	Public	Private
Lumbila	0	0	0	0	0	0
Makonde	1	0	1	0	1	0
Lifuma	0	0	0	0	0	0
Kilondo	0	0	0	0	0	0
Lupingu	1	0	1	0	1	0
Manda	1	0	1	0	1	0
Ruhuhu	0	0	0	0	0	0
Masasi	0	0	0	0	0	0
Luilu	1	0	1	2	1	2
Nkomangombe	1	0	1	0	1	0
Ludewa	1	1	1	2	1	2
Luana	1	0	1	0	1	0
Mlangali	1	0	1	0	1	0
Mawengi	1	0	1	0	1	0
Ludende	1	0	1	0	1	0
Milo	1	0	1	0	1	0
Ibumi	0	0	0	0	0	0
Madope	1	0	1	0	1	0
Madilu	1	0	1	0	1	0
Lugarawa	1	0	1	0	1	0
Mkongobaki	0	0	0	0	0	0
Mundindi	1	0	1	0	1	0
Mavanga	1	0	1	0	1	0
Lupanga	1	0	1	0	1	0
Total	17	1	17	4	17	4

Source: District Executive Director's Office (Education Department), Ludewa District, 2013

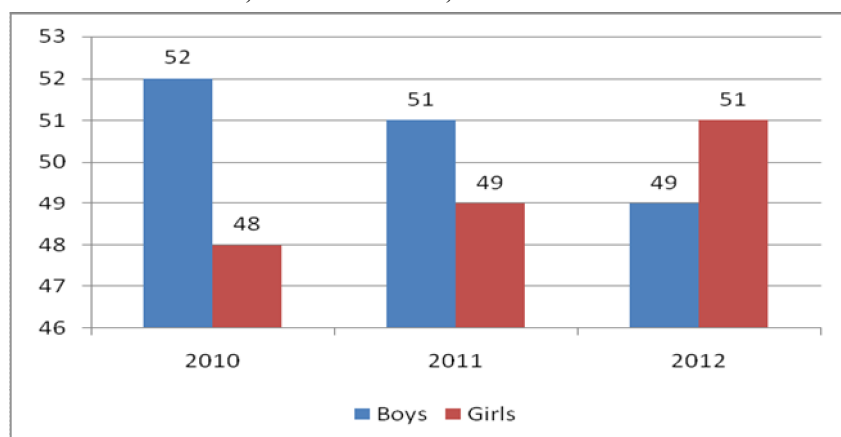
5.2.3.1 Secondary School Enrolment

Over the period of three years from 2010 to 2012, the enrollment of Form I students in Public Secondary School in Ludewa District decreased by three percent in 2011, then further by six percent in 2012. In the first two years the enrolment of boys was higher than that of girls. In 2010 it was 51.6 for boys against 48.4 percent for girls and in 2011 it was 51.0 percent for boys against 49.0 percent for girls. However enrolment was 46.7 percent for boys and 51.3 percent for girls

Table 5. 39: Total Form 1 Enrolment in Public Secondary Schools by Sex, Ludewa District; 2010, 2011 and 2012

Year	Boys		Girls		Total	Percent Change
	Number	Percentage	Number	Percentage		
2010	4764	51.6	4462	48.4	9226	
2011	4580	51.0	4393	49.0	8973	-3
2012	4108	46.7	4332	51.3	8440	-6

Source: District Executive Director's Office (Education Department), Ludewa District, 2013

Table 5. 40: Percent Form I Enrolment by Sex in Public Secondary Schools, Ludewa District; 2010 to 2012

Source: District Executive Director's Office (Education Department), Ludewa District, 2013

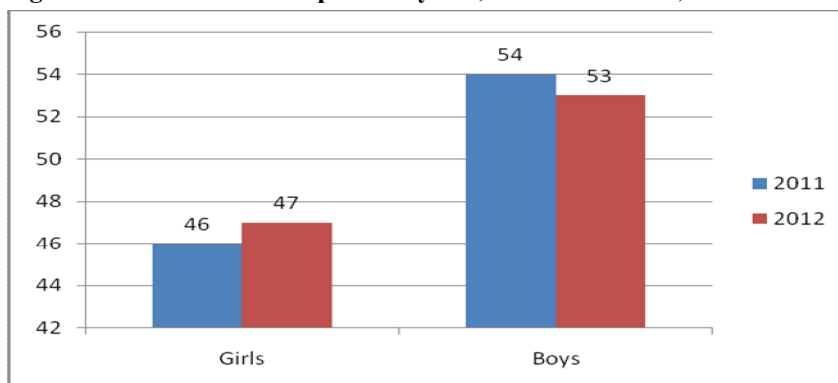
5.2.3.2 Completion at Ordinary Level.

The Completion Ordinary Level (Form IV) in Ludewa District is shown in Table 5.41. The number of students who completed Form Four decreased by 25 percent in the year 2011 and increased by 23 percent in 2012. The completion by sex (Table 5.39) show that girls were leading in the year 2010 as out of 2230 students who completed secondary education, 1176 or 53 percent were girls. In the next two years the number of students completing was higher for boys than girls. Table 5.39 shows that of those completing in 2011, 54 percent were boys and 46 percent were girls while in 2012, 53 percent were boys and 47 percent were girls.

Table 5. 41: Number of Students Completed Form IV in Public Secondary Schools by Sex, Ludewa District; 2010 - 2012

Year	Boys		Girls		Total	Percent Change
	Number	Percent	Number	Percent		
2010	1054	47	1176	53	2230	
2011	916	54	766	46	1682	-25
2012	1092	53	970	47	2062	23

Source: District Executive Director's Office (Education Department), Ludewa District, 2013

Figure 46: Form IV Completion by Sex, Ludewa District; 2011 and 2012

Source: District Executive Director's Office (Education Department), Ludewa District, 2013

5.2.3.3 High School Enrolment

According to Table 5.42, the enrollment of students in high school increase by 40 percent in the year 2011 but decreased by 12 percent in 2012. The enrollment of boys was higher in 2010 (54 percent) and 2012 (60 percent) but lower in 2011 (46 percent) than that of girls.

Table 5. 42: Total Form V Enrolment by Sex in Public Secondary Schools, Ludewa District; 2009, 2010 and 2011

Year	Boys		Girls		Total	Percent Change
	Number	Percentage	Number	Percentage		
2010	131	54	111	46	242	
2011	155	46	185	54	340	40
2012	180	60	121	40	301	-12
Total	466	53	417	47	883	

Source: District Executive Director's Office (Education Department), Ludewa District, 2013

Figure 47: Total Form V Enrolment by Sex in Public Secondary Schools, Ludewa District; 2011 and 2012

Source: District Executive Director's Office (Education Department), Ludewa District, 2013

5.2.3. A –Level Completion

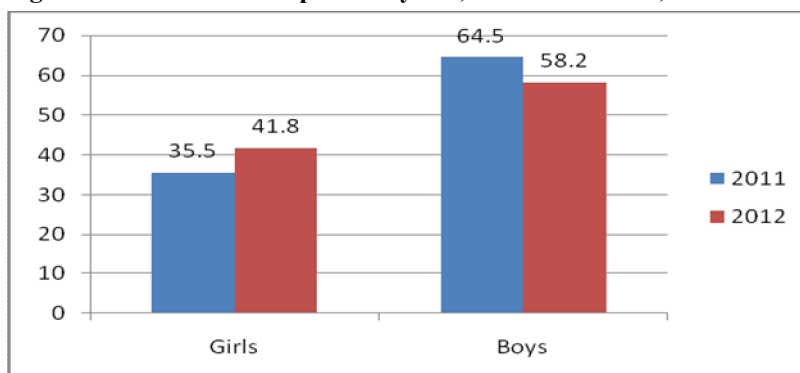
Table 5.43 shows the number of students who completed A-level Education in 2010, 2011 and 2012. The number of student completing increased by 68 percent in 2011 where 64.5 percent were boys and 35.5 percent were girls. In 2012 the number completing increased by 18 percent of whom 58.2 percent were boys and 41.8 percent were girls. In the three year period 59.6 percent of those completing were boys and 40.4 percent were girls.

Table 5. 43: Number of Students Completed “A” Level Education by Sex, Ludewa District; 2012

Year	Boys		Girls		Total	Percent change
	Number	Percentage	Number	Percentage		
2010	40	54.1	34	45.9	74	
2011	80	64.5	44	35.5	124	68
2012	85	58.2	61	41.8	146	18
Total	205	59.6	139	40.4	344	

Source: District Executive Director's Office (Education Department), Ludewa District, 201

Figure 48: A – Level Completion by Sex, Ludewa District; 2011 and 2012



Source: District Executive Director's Office (Education Department), Ludewa District, 2013

5.2.3.4 Quantity and State of School Facilities

The quantity and quality of facilities for the secondary school system in Ludewa District are below the standards set by the educational authorities. The most common facilities are classrooms, toilets, staff quarters, libraries, laboratories, dormitories, desks and teachers. The following discussion only aims at indicating quantitative adequacy of the facilities in the District.

i) Teachers

Expansion of secondary education should always go hand in hand with the increase in the number of teaching staff. Table 5.44 reveals that Ludewa had 243 teachers for 17 schools which give a School Teacher Ratio of 1:14. The District has a requirement of 404 teachers

and hence the deficit is 40 percent. The Wards with the largest deficit were Makonde and Ludende 965 percent each). They were followed by Makonde (59 percent), Milo (58 percent), Lupingu (55 percent), Luana (52 percent) and Lupanga (50 percent). The Ward with the least deficit was Madope (15 percent) followed by Nkomangømbø (22 percent) and Mlangali (26 percent).

Table 5. 44: Availability of Public Secondary School Teachers by Ward, Ludewa District; 2012

Ward	No. of Schools	Required Teachers	Available Teachers	Deficit of Teachers		School Teacher Ratio
				Number	Percent	
Lumbila	-	-	-	-	-	-
Makonde	1	17	7	10	59	1:7
Lifuma	-	-	-	-	-	-
Kilondo	-	-	-	-	-	-
Lupingu	1	22	10	12	55	1:10
Manda	1	31	11	20	65	1:11
Ruhuhu	-	-	-	-	-	-
Masasi	-	-	-	-	-	-
Luilo	1	18	10	8	44	1:10
Nkomangømbø	1	9	7	2	22	1: 7
Ludewa	1	33	27	6	18	1:27
Luana	1	21	10	11	52	1:10
Mlangali	1	38	28	10	26	1:28
Mawengi	1	32	22	10	31	1:22
Ludende	1	20	7	13	65	1:7
Milo	1	26	11	15	58	1:26
Ibumi	-	-	-	-	-	-
Madope	1	20	17	3	15	1:17
Madilu	1	27	14	13	48	1:14
Lugarawa	1	30	20	10	33	1:20
Mkongobaki	-	-	-	-	-	-
Mundindi	1	20	14	6	30	1:14
Mavanga	1	20	18	2	10	1:18
Lupanga	1	20	10	10	50	1:10
Total	17	404	243	161	40	1:14

*No Secondary School

Source: District Executive Director's Office (Education Department), Ludewa District, 2012

ii) Staff Quarters

There was a deficit of 284 (79 percent deficit) teachers' houses in the districts with a requirement of 362 houses. The District had only 77 teachers' houses. Makonde and Milo wards had the most deficits (100 percent) but all Wards had large deficits with Rugarawa having the lowest deficit of 40 percent.

Table 5. 45: Availability of Teachers Houses in Public Secondary Schools by Ward Ludewa District; 2012

Ward	No. of Schools	Number of Houses			Percent Deficit	Rank
		Required	Available	Deficit		
Kilondo	-	-	-	-	-	-
Lupingu	1	22	3	19	86	4
Manda	1	31	10	21	68	8
Ruhuhu	-	-	-	-	-	-
Masasi	-	-	-	-	-	-
Luilo	1	18	3	15	83	6
Nkomangombe	1	9	3	6	67	9
Ludewa	1	33	3	30	91	2
Luana	1	21	3	18	86	4
Mlangali	1	38	17	21	55	10
Mawengi	1	32	8	24	75	7
Ludende	1	20	3	17	85	5
Milo	1	1	0	1	100	1
Ibumi	-	-	-	-	-	-
Madope	1	20	3	17	85	5
Madilu	1	27	4	23	85	-
Lugarawa	1	15	9	6	40	11
Mkongobaki	-	-	-	-	-	-
Mundindi	1	18	2	16	89	3
Mavanga	1	20	3	17	85	5
Lupanga	1	20	3	17	85	5
Makonde	1	17	0	17	100	1
Lifuma	-	-	-	-	-	-
Lumbila	-	-	-	-	-	-
Total	17	362	77	284	79	

Source: District Executive Director's Office (Education Department), Ludewa District, 2013

iii) Classrooms



Increased number of classrooms is important for learning improvement

The available number of classrooms in the whole of Ludewa District was 185 for the 17 schools. According to Table 5.46 the actual requirement was 258 classrooms leaving a deficit of 73 classrooms. The deficit of classes was high in the wards of Ludende (75 percent), Nkomangøombe (69 percent) and Mundindi (56 percent). The remaining wards had a deficit of less than 50 percent, with the least deficit being in the wards of Manda and Lugarawa (13 percent each). In the Wards of Ludewa, Madope and Mlangali the available classrooms equal to the required number therefore these wards had no deficit.

Table 5. 46: Availability of Classrooms in Public Secondary Schools by Ward, Ludewa District; 2012

Ward	No. of Schools	Number of Classroom			Percent Deficit	Ranking of Deficit
		Required	Available	Deficit		
Lumbila	-	-	-	-	-	-
Makonde	1	10	8	2	20	9
Lifuma	-	-	-	-	-	-
Kilondo	-	-	-	-	-	-
Lupingu	1	16	9	7	44	5
Manda	1	16	14	2	13	12
Ruhuhu	-	-	-	-	-	-
Masasi	-	-	-	-	-	-
Luilo	1	16	10	6	38	6
Nkomangøombe	1	16	5	11	69	2
Ludewa	1	16	16	0	0	-
Luana	1	11	7	4	36	7
Mlangali	1	24	24	0	0	-
Mawengi	1	16	13	3	19	10
Ludende	1	16	4	12	75	1
Milo	1	16	13	3	19	10
Ibumi	-	-	-	-	-	-
Madope	1	16	16	0	0	-
Madilu	1	15	8	7	47	4
Lugarawa	1	16	14	2	13	12
Mkongobaki	-	-	-	-	-	-
Mundindi	1	16	7	9	56	3
Mavanga	1	16	12	4	25	8
Lupanga	1	6	5	1	17	11
Total	17	258	185	73	28	

Source: District Executive Director's Office (Education Department), Ludewa District, 2013

iv) Toilets

Table 5.47 reveals that Ludewa District required 393 toilets to serve students in 17 secondary schools in the District out of which 193 toilets were available leaving a deficit of

200 (51 percent) toilets. Makonde Ward had the largest deficit of 72 percent. It was followed by Ludewa Ward with a deficit of 69 percent then Lugarawa with a 67 percent deficit.

Table 5. 47: Availability of Toilets in Public Secondary Schools by Ward, Ludewa District; 2012

Name of School	Ward	No. of Schools	Number of Toilets			Percent Deficit	Rank
			Required	Available	Deficit		
Makonde	Lumbila	-	-	-	-	-	0
	Makonde	1	11	3	8	72	1
	Lifuma	-	-	-	-	-	-
	Kilondo	-	-	-	-	-	-
Mt. livingstone	Lupingu	1	23	10	13	57	5
Manda	Manda	1	28	20	8	29	12
	Ruhuhu	-	-	-	-	-	-
Mchuchuma	Masasi	-	-	-	-	-	-
	Luilo	1	27	14	13	48	8
Ketewaka	Nkomangombe	1	6	3	3	50	6
C. Kidulile	Ludewa	1	36	11	25	69	2
Luana	Luana	1	15	10	5	33	11
Ulayasi	Mlangali	1	46	18	28	61	4
Madunda	Mawengi	1	28	11	17	61	4
Ikovo	Ludende	1	10	6	4	40	10
Mavala	Milo	1	30	20	10	33	11
	Ibuni	-	-	-	-	-	-
Kayao	Madope	1	21	18	3	14	13
Madilu	Madilu	1	24	12	12	50	7
Lugarawa	Lugarawa	1	36	12	24	67	3
	Mkongobaki	-	-	-	-	-	-
Mundindi	Mundindi	1	11	5	6	55	6
Mavanga	Mavanga	1	23	10	13	57	5
Mt. Masusa	Lupanga	1	18	10	8	44	9
TOTAL		17	393	193	200	51	

Source: District Executive Director's Office (Education Department), Ludewa District, 2013

v) Dormitories



Dormitories are essential in rural secondary schools especially for girls

Construction of dormitories in rural areas is very essential due to the geographic nature of these areas and distribution of human settlements. The availability of dormitories help students to solve the problem of walking long distances to school and reduce the rates of drop outs due to pregnancies and truancy. Table 5.48 reveals the shortage of 56 (69 percent) dormitories in the District in 2012.

In ranking of deficit by ward, Lugarawa was leading then Mavanga, Lupanga, Makonde, Lupingu, Luilo, Ludewa, Luana and Madilu wards ranked second with a deficit of 75 percent each. The third was Mlangali with a deficit of 70 percent after which came Manda, Nkomangøombe and Mawengi each with deficit of 67 percent. The remaining wards of Ludende, Milo, Madope and Mundindi were had a deficit of 50 percent each.

Table 5. 48: Availability of Dormitories/Hostels in Public Secondary Schools by Ward; Ludewa District; 2012

Ward	No. of Schools	Number of Dormitories			Percent Deficit	Rank
		Required	Available	Deficit		
Lumbila	-	-	-	-	-	-
Makonde	1	4	1	3	75	2
Lifuma	-	-	-	-	-	-
Kilondo	-	-	-	-	-	-
Lupingu	1	4	1	3	75	2
Manda	1	6	2	4	67	4
Ruhuhu	-	-	-	-	-	-
Masasi	-	-	-	-	-	-
Luilo	1	4	1	3	75	2
Nkomangøombe	1	3	1	2	67	4
Ludewa	1	8	2	6	75	2
Luana	1	4	1	3	75	2
Mlangali	1	10	3	7	70	3
Mawengi	1	6	2	4	67	4
Ludende	1	2	1	1	50	5
Milo	1	4	2	2	50	5
Ibumi	-	-	-	-	-	-
Madope	1	4	2	2	50	5
Madilu	1	4	1	3	75	2
Lugarawa	1	6	1	5	83	1
Mkongobaki	-	-	-	-	-	-
Mundindi	1	4	2	2	50	5
Mavanga	1	4	1	3	75	2
Lupanga	1	4	1	3	75	2
Total	17	81	25	56	69	

Source: District Executive Director's Office (Education Department), Ludewa District, 2013

vi) Libraries

The library facility is considered essential but not crucial for the development of knowledge and skills of a student. According to the standards set by the Ministry of Education and Vocational Training, every secondary school should have a library to enable students to borrow and use supplementary books besides textbooks. Table 5.49 shows that all wards except Mlangali had no libraries in 2012. This implies that no supplementary books were available for renting to students in the whole District of Ludewa, except in Mlangali Ward. Therefore there is a need for local authorities to include provision of libraries in school development plans in the near future.

Table 5. 49: Availability of Libraries in Public Secondary Schools by Ward, Ludewa District; 2012

Ward	No. of Schools	Number of Libraries			Percent Deficit	Rank
		Required	Available	Deficit		
Lumbila	0	0	0	0		-
Makonde	1	1	0	1	100	1
Lifuma	0	0	0	0		-
Kilondo	0	0	0	0		-
Lupingu	1	1	0	1	100	1
Manda	1	1	0	1	100	1
Ruhuhu	0	0	0	0	-	-
Masasi	0	0	0	0	-	-
Luilo	1	1	0	1	100	1
Nkomangombe	1	1	0	1	100	1
Ludewa	1	1	0	1	100	1
Luana	1	1	0	1	100	1
Mlangali	1	1	1	0	0	1
Mawengi	1	1	0	1	100	1
Ludende	1	1	0	1	100	1
Milo	1	1	0	1	100	1
Ibumi	0	0	0	0		-
Madope	1	1	0	1	100	1
Madilu	1	1	0	1	100	1
Lugarawa	1	1	0	1	100	1
Mkongobaki	0	0	0	0	-	-
Mundindi	1	1	0	1	100	1
Mavanga	1	1	0	1	100	1
Lupanga	1	1	0	1	100	1
Total	17	17	1	16		

Source: District Executive Director's Office (Education Department), Ludewa District, 2013

vii) Desks

Table 5.50, shows the number of desks available in Ludewa District. The District had a small shortage of only one percent (69 desks). Most wards had the needed number of desks. Only four wards had a shortage of desks; these were Makonde (6 percent), Lupanga (5 percent), Ludewa (2 percent) and Manda (2 percent). The district authorities have managed to overcome the problem of shortage of desks which is a concern in most districts of Tanzania Mainland.

Table 5. 50: Availability of Desks in Public Secondary Schools by Ward, Ludewa District; 2012

Ward	No. of Schools	Number of Desks			Percent of Shortage	Rank
		Required	Available	Deficit		
Lumbila	-	-	-	-	-	-
Makonde	1	394	370	24	6	1
Lifuma	-	-	-	-	-	-
Kilondo	-	-	-	-	-	-
Lupingu	1	303	303	0	0	0
Manda	1	612	600	12	2	3
Ruhuhu	-	-	-	-	-	-
Masasi	-	-	-	-	-	-
Luilo	1	462	462	0	0	6
Nkomangombe	1	194	194	0	0	6
Ludewa	1	615	605	10	2	3
Luana	1	400	400	0	0	6
Mlangali	1	1004	1004	0	0	6
Mawengi	1	685	685	0	0	6
Ludende	1	368	368	0	0	6
Milo	1	565	565	0	0	0
Ibuni	-	-	-	-	-	-
Madope	1	410	410	0	0	0
Madilu	1	525	525	0	0	0
Lugarawa	1	651	651	0	0	0
Mkongobaki	-	-	-	-	-	-
Mundindi	1	371	371	0	0	0
Mavanga	1	388	388	0	0	0
Lupanga	1	488	465	23	5	2
Total	17	8435	8366	69	1	

Source: District Executive Director's Office (Education Department), Ludewa District, 2013

viii) Laboratories



*A laboratory is a necessary facility for students majoring in science subjects:
Physics laboratory in Mchuchuma Secondary School.*

The laboratory is a necessary facility for students majoring in science subjects. The requirements are that each school should have at least three laboratories for physics, chemistry and biology subjects. As in the case of libraries, Table 5.51 shows that Mlangali was the only Ward in the District with a laboratory. The actual demand was 51 laboratories and hence the deficit was 50 laboratories (98 percent).

Table 5. 51: Availability of Laboratories in Public Secondary Schools by Ward, Ludewa District; 2012

Ward	No. of Schools	Number of Laboratories			Percent Deficit	Rank
		Required	Available	Deficit		
Lumbila	0	0	0	0	0	0
Makonde	1	3	0	3	100	1
Lifuma	0	0	0	0	100	0
Kilondo	0	0	0	0	100	0
Lupingu	1	3	0	3	100	1
Manda	1	3	0	3	100	1
Ruhuhu	0	0	0	0	100	0
Masasi	0	0	0	0	100	0
Luilo	1	3	0	3	100	1
Nkomangombe	1	3	0	3	100	1
Ludewa	1	3	0	3	100	1
Luana	1	3	0	3	100	0
Mlangali	1	3	1	2	33	2
Mawengi	1	3	0	3	100	1
Ludende	1	3	0	3	100	1
Milo	1	3	0	3	100	1
Ibumi	0	0	0	0	100	0

Table 5.51 (ctd): Availability of Laboratories in Public Secondary Schools by Ward, Ludewa District; 2012

Ward	No. of Schools	Number of Laboratories			Percent Deficit	Rank
		Required	Available	Deficit		
Madope	1	3	0	3	100	1
Madilu	1	3	0	3	100	1
Lugarawa	1	3	0	3	100	1
Mkongobaki	0	0	0	0	100	1
Mundindi	1	3	0	3	100	1
Mavanga	1	3	0	3	100	1
Lupanga	1	3	0	3	100	1
TOTAL	17	51	1	50	98	

Source: District Executive Director's Office (Education Department), Ludewa District, 2013

5.2.4 Adult Education

The district had 102 centers for MEMKWA programme in 2011 and 2012 distributed in its all wards Table 5.52. Other students were using primary school classrooms. Enrolment of MUKEJA and MEMKWA programs in 2011 were 9518 and 194 respectively. However, in 2012 adult enrolments in the MUKEJA programs decreased to 1942 and MEMKWA enrollment increased to 301. The decrease in number of adults in MUKEJA programs is not a good indicator. The district council should have regular sensitization campaigns for sustainability of the two programs.

Table 5.52: Number of Adult Education Centers and Enrolment by Ward, Ludewa District; 2011 and 2012

Ward	Number of Centres		Centres' Enrolment		MEMKWA's Enrolment	
	2011	2012	2011	2012	2011	2012
Lumbila	3	3	279	356	0	0
Makonde	6	6	198	626	0	0
Lifuma	0	0	210	90	0	0
Kilondo	2	2	2100	1637	0	0
Lupingu	4	4	205	54	0	0
Manda	8	8	215	349	0	0
Ruhuhu	0	0	315	284	0	0
Masasi	3	3	351	616	0	0
Luilo	5	5	176	1633	0	0
Nkomangombe	5	5	200	180	0	0
Ludewa	5	5	120	436	21	22
Luana	4	4	70	1285	0	0
Mlangali	8	8	216	1276	38	62
Mawengi	7	7	223	1936	0	1
Ludende	3	3	2000	3573	0	1
Milo	5	5	644	860	6	10
Ibuni	3	3	597	341	0	0

Table 5.52(ctd): Number of Adult Education Centers and Enrolment by Ward, Ludewa District; 2011 and 2012

Ward	Number of Centres		Centres' Enrolment		MEMKWA's Enrolment	
	2011	2012	2011	2012	2011	2012
Madope	4	4	34	415	45	90
Madilu	7	7	200	756	18	21
Lugarawa	7	7	363	1073	27	33
Mkongobaki	0	0	460	2 470	8	15
Mundindi	6	6	204	1316	0	0
Mavanga	3	3	86	497	16	23
Lupanga	4	4	52	129	15	23
Total	102	102	9518	1942	194	301

Source: District Executive Director's Office (Education Department), Ludewa District, 2013

5.2.8 Policy Implication on Education sector

Although there is recognizable development in both primary and secondary education, policy intervention need to take place to alleviate the few challenges observed. The district need to put more effort in construction of girls' dormitories which will help to prevent or reduce girls' dropout due to pregnancy and also increasing pass rate for girls pupils/students. In addition to that, for learning improvement in primary schools, the school feeding programme is of paramount important.

Since both primary and secondary schools in the district have a shortage of toilet holes, more toilet holes should be constructed to satisfy the education policy of one toilet hole for 20 girls and one toilet hole for 24 boys. Likewise, the number of desks in some of primary and secondary schools should be increased to meet education policy of one desk per three pupils/students.

Most of primary and secondary schools in Ludewa have no access to clean and safe water. Therefore, initiatives are needed to supply the schools with clean and safe water through tap water or construction of boreholes. Rain water harvest technology can also help to alleviate the water shortage problem. Moreover, if not all, boarding schools should be supplied with electricity to enhance learning environment.

5.2.9 Investment Opportunities in Education.

Further investment is required in both secondary and primary education so that quality education is availed. Quality education can be attained when there is sufficient investment in all school facilities including qualified teachers, staff quarters, classrooms, laboratories, libraries, dormitories, school pit latrines, learning and teaching materials.

WATER SUPPLY AND SANITATION

5.3.0 An Overview

Water Supply and Sanitation Sector cover rural and urban water supply in terms of water sources, schemes and technology used to supply water. Besides that, staffing situation is also highlighted especially the work of the districts' water and sanitation engineers/technicians in providing sustainable water and sanitation services.

5.3.1 Water Supply

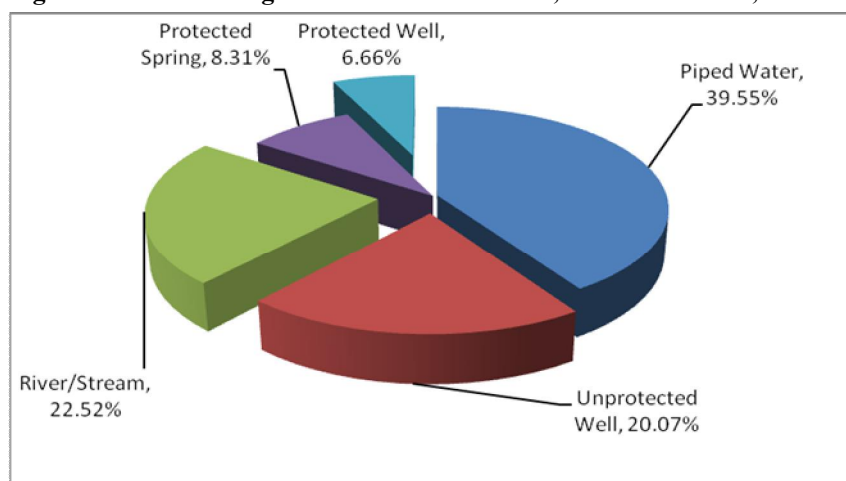
Availability of adequate supply of clean potable water for the residents of Ludewa District is of utmost importance. This is because water is very useful to human beings, livestock and agriculture. According to the Iringa Region results of National Sample Census of Agriculture 2007/08, piped water was the main source of drinking water for 36 percent of the agriculture households during dry season and 37 percent during wet season followed by unprotected well (25 and 21 percent in the dry and wet season respectively). In urban areas however, piped water accounted for about 51 per cent of the households and unprotected well and river/stream water catchment accounted for 15 percent each.

5.3.1 Rural Water Supply



Rivers/Streams form the second main source of Water Supply in the rural areas of Ludewa District, 2012

Since Ludewa District like most districts is dominated by the rural population, the district mainly focused on supplying water through the provision of water pipes and wells. Table 5.60 shows that the main source of water for the rural population in Ludewa District is the piped water followed by River/ Stream and unprotected wells (Figure 51)

Figure 49: Percentage of Rural Water Source, Ludewa District; 2012

Source: District Executive Director's Office (Water Supply and Sanitation Department), Ludewa District, 2013

Table 5.53 also shows that the District is well endowed with water sources. Only Masasi Ward had an average of 0.3 sources per village the rest had three or more sources of water. At ward level, springs and river water were the most common sources of water accounting for 59.5 and 22.0 percent respectively followed by piped scheme (8.4 percent). The least source of water is bore holes accounting for only 1.2 percent. The worst ward was Masasi which had only one source of water. The well endowed wards with many water sources were Lupanga (83), Lupingu (40), Mlangali (32), Ibumi (31), Lugarawa and Mundindi (27 each), Luana and Madilu (26 each).

Table 5. 53: Number and Type of Rural Water Sources by Ward, Ludewa District; 2012

Ward	Number of Village	Water Source												Total Water Sources	Water Source Village Ratio	
		Spring		Shallow Well		Rain water Harvest Tanks		Bore Holes		Piped Scheme		River Water				Lake Water
		W	NW	W	NW	W	NW	W	NW	W	NW	P	S			
Ludewa	2	6	-	-	-	2	2	-	-	-	-	6	-	-	16	8
Luana	3	18	-	-	-	1	1	-	-	-	-	6	-	-	26	8.7
Mawengi	5	10	-	-	-	1	-	-	-	3	-	2	-	-	16	3.2
Ibumi	2	20	-	-	-	-	-	-	-	2	-	9	-	-	31	15.5
Ludende	3	4	-	-	-	-	-	-	-	1	-	4	-	-	9	3
Milo	3	5	-	-	-	1	-	-	-	1	-	3	-	-	10	3.3
Lupanga	3	76	-	-	-	-	-	-	-	2	1	4	-	-	83	27.7
Mlangali	7	17	-	-	-	1	-	-	-	10	-	4	-	-	32	4.6
Lugarawa	3	14	-	-	-	2	-	-	-	4	1	6	-	-	27	9

Madope	3	10	-	-	-	-	-	-	-	3	-	3	-	-	16	5.3
Madilu	5	16	-	-	-	-	-	-	-	4	1	5	-	-	26	5.2
Mundindi	3	7	-	1	-	-	-	-	-	3	-	16	-	-	27	9
Mavanga	2	5	-	-	-	-	-	-	-	1	-	6	-	-	12	6
Mkongobaki	3	15	-	-	-	-	-	-	-	2	-	2	-	-	19	6.3
Nkomangómbe	2	5	-	-	-	-	-	-	-	1	-	2	-	-	8	4
Luilo	4	4	-	2	-	-	-	-	-	1	-	2	-	-	9	2.3
Masasi	3	-	-	-	-	-	-	-	-	-	-	1	-	-	1	0.3
Manda	3	-	-	9	2	-	-	3	2	-	-	2	2	1	21	7
Iwela	1	2	-	3	2	-	-	-	-	-	-	3	-	1	11	11
Ruhuhu	3	-	-	7	1	-	-	-	1	1	-	1	-	1	12	4
Makonde	3	7	-	-	-	-	-	-	-	-	-	4	-	1	12	4
Lifuma	2	11	-	-	-	-	-	-	-	-	-	4	-	1	16	8
Lumbila	3	-	16	-	-	-	-	-	-	-	1	6	-	1	24	8
Kilondo	2	8	-	-	-	-	-	-	-	-	-	1	-	1	10	5
Lupingu	4	30	-	-	-	-	-	-	-	-	-	9	-	1	40	10
Total	77	290	16	22	5	8	3	3	3	39	4	111	2	8	514	6.7

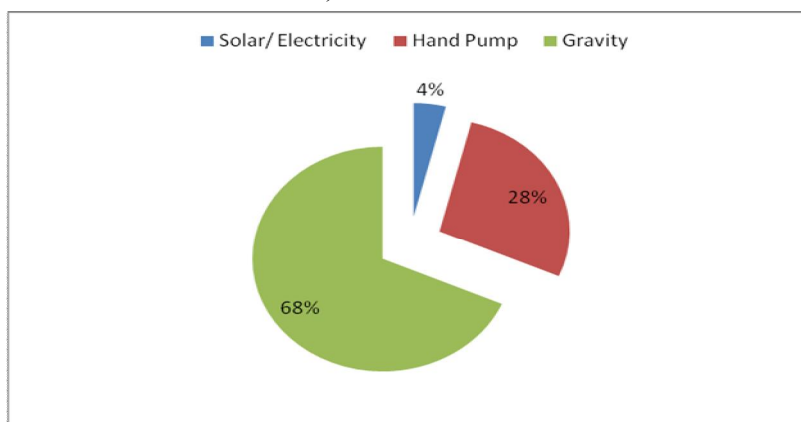
W: Working

NW: Not working

Source: District Executive Director's Office (Water Supply and Sanitation Department), LUDEWA District, 2013

In order to make sure that there is a fairly sufficient supply of water to the residents of Ludewa District, different types of water technologies are used. Table 5.52 and figure 52 shows that the gravity (68.42 percent) is the leading technology used in the District followed by hand pump (27.63 percent) then solar/electricity pump (3.95)

Figure 50: Percent of Technology Used in Rural Water Schemes, Ludewa District; 2012

**Source:** District Executive Director's Office (Water Supply and Sanitation Department), 2013

At ward level, gravity is the most used technology in supplying water in almost all wards with the exception of Kilindo, Makonde, Lifuma, and Manda wards. Lugarawa, Madilu and Ludewa wards are leading by having 4 schemes each followed by Mawengi and Madope (3 each), Mkongobaki, Ibumi, Mundindi and Lupanga (2 each). The second important water delivery technology is the hand pump which was used in 3 out of the 25 wards in Iwela, Manda and Ruhuhu wards.

Table 5. 54: Number and Type of Water Delivery Technologies Used in Rural Water Schemes by Ward; Ludewa District; 2011

Ward	Number Of Villages	Type of Technology											
		Wind Mill		Solar/ Electricity Pump		Diesel Pump		Hand Pump		Gravity Piped		Total	
		W	NW	W	NW	W	NW	W	NW	W	NW	W	NW
Ludewa	2	-	-	-	-	-	-	-	-	4	-	4	-
Luana	3	-	-	-	-	-	-	-	-	1	1	1	1
Mawengi	5	-	-	-	-	-	-	-	-	3	-	3	-
Ibumi	2	-	-	-	-	-	-	-	-	2	-	2	-
Ludende	3	-	-	-	-	-	-	-	-	1	-	1	-
Milo	3	-	-	-	-	-	-	-	-	1	-	1	-
Lupanga	3	-	-	-	-	-	-	-	-	2	1	2	1
Mlangali	7	-	-	-	-	-	-	-	-	10	-	10	-
Lugarawa	3	-	-	-	-	-	-	-	-	4	1	4	1
Madope	3	-	-	-	-	-	-	-	-	3	-	3	-
Madilu	5	-	-	-	-	-	-	-	-	4	1	4	1
Mundindi	3	-	-	-	-	-	-	-	-	2	-	2	-
Mavanga	2	-	-	-	-	-	-	-	-	1	-	1	-
Mkongobaki	3	-	-	-	-	-	-	-	-	2	-	2	-
Nkomangómbe	2	-	-	-	-	-	-	-	-	1	-	1	-
Luilo	4	-	-	-	-	-	-	-	-	2	-	2	-
Masasi	3	-	-	-	-	-	-	-	-	1	-	1	-
Manda	3	-	-	1	-	-	-	9	2	-	-	10	2
Iwela	1	-	-	-	-	-	-	2	1	1	-	3	1
Ruhuhu	3	-	-	1	1	-	-	6	1	1	-	8	2
Makonde	3	-	-	-	-	-	-	-	-	-	-	-	-
Lifuma	2	-	-	-	-	-	-	-	-	-	-	-	-
Lumbila	3	-	-	-	-	-	-	-	-	-	1	-	1
Kilondo	2	-	-	-	-	-	-	-	-	-	-	-	-
Lupingu	4	-	-	-	-	-	-	-	-	1	-	1	-
Total	77	-	-	2	1	-	-	17	4	47	5	60	10

W: Working, NW : Not working

Source: District Executive Director's Office (Water Supply and Sanitation Department), Ludewa District, 2012

The existing water supply infrastructure supplies water to a small part of the population (Table 5.55). In 2010, only 58.1 percent of the 148,625 people had access to clean and safe water in Ludewa District. The percentage of people getting clean water increased slightly to 58.2 percent in 2011 and increased further to 61.4 percent in 2012. In 2012, at division level, Mawengi had the highest percentage of the people getting clean water followed by Liganga and Mlangali divisions. Mwambao division reported the lowest percent of the people who got clean water. In 2012, at ward level, Ibumi Ward had the highest percentage (96.45 percent) of people who got clean water, followed by Mawengi (96.32 percent) and Mundindi (88.11 percent). Lupingu and Masasi wards reported the lowest percentages of the people who received clean water in all three years.

Table 5. 55: Water Supply Coverage by Ward, Ludewa District; 2010-2012

Ward/Division	2010			2011			2012		
	Estimated Population	Estimated Population Covered	Percent of Population Covered	Estimated Population	Estimated Population Covered	Percent of Population Covered	Estimated Population	Estimated Population Covered	Percent of Population Covered
Ludewa	10102	5872	58.13	10247	5965	58.21	10380	6064	58.42
Luana	5156	2149	41.68	5216	2295	44.00	5277	2667	50.54
Mawengi	10613	10075	94.93	10729	10294	95.95	10843	10444	96.32
Ibumi	1587	1524	96.03	1611	1537	95.41	1635	1577	96.45
Mawengi Div.	27458	19620	71.45	27803	20091	72.26	28135	20752	73.76
Ludende	6812	3964	58.82	6897	3983	57.75	6985	4249	60.83
Milo	8302	5863	70.62	8414	5979	71.06	8502	6110	71.87
Lupanga	7406	3989	53.86	7493	4303	57.43	7576	4389	57.93
Mlangali	17152	9748	56.87	17349	9945	57.35	17521	10130	57.80
Mlangali Div.	39672	23564	59.40	40153	24210	60.29	40584	24878	61.30
Lugarawa	14346	8182	57.08	14514	8321	57.36	10045	7568	75.30
Madope	5674	3645	64.24	5746	3647	63.47	5818	3957	68.01
Madilu	10870	7452	68.56	11005	7680	69.79	11133	8180	73.48
Mundindi	8087	6968	86.16	8205	7202	87.78	8310	7322	88.11
Mavanga	7085	5973	84.30	7196	5236	72.76	7301	5511	75.48
Mkongobaki	0	0	0	0	0	0	4625	2046	45.84
Liganga Div.	46062	32220	69.95	46666	32086	68.76	47232	34584	73.22
Nkomangombe	3312	2445	73.82	3356	2496	74.37	3400	2538	74.65
Luiilo	4382	2523	57.58	4437	2576	58.06	4479	2617	58.43
Masasi	2702	543	20.10	2730	571	20.92	2757	598	21.69
Manda	9355	3787	40.48	9479	3911	41.26	5802	3520	60.67
Iwela	1370	817	59.64	1392	839	60.27	1411	858	60.81
Ruhuhu	0	0	0	0	0	0	3796	2232	58.80
Masasi Div.	21121	10115	47.89	21394	10393	48.58	21645	12363	57.12
Makonde	5891	0	0	5964	0	0	3359	0	0
Lifuma	0	0	0	0	0	0	2680	0	0
Lumbila	1391	0	0	1401	0	0	1427	0	0
Kilondo	1970	0	0	1992	0	0	2025	0	0
Lupingu	5060	788	15.57	5135	863	16.81	5198	926	21.75
Mwambao Div.	14312	788	5.51	14492	863	6.00	14689	926	6.30
TOTAL	148625	86307	58.07	150508	87643	58.23	152285	93503	61.40

Source: District Executive Director's Office (Water Supply and Sanitation Department), Ludewa District, 2013

In order to facilitate provision of water to the population of Ludewa District sustainably, the District established the management of rural water supply schemes by introducing village water committees (VWCs) as well as village water funds (VWFs) so that the problem of water supply can be tackled efficiently. This is in accordance with the National Water Policy. Table 5.56 shows that there were 21 active village water committees in Ludewa District with an average of one committee per village except in three wards of Lifuma, Makonde, Kilondo and Lumbila. According to Table 5.64, the village water committees had a total of TShs 25,317,336.35 as on 31st December, 2012. Luana Ward recorded the highest revenue (TShs. 4,180,000) followed by Madope (TShs 4,085,000), Lugarawa (TShs 3, 392,000) and Manda (TShs 2,334,000). The least revenue was that of Ibumi (Tshs.63, 500), Nkomangómbe (TShs. 84,850) and Luilo (TShs. 199,200). There is a need to establish village water committees in those wards which had novillage water committees.

Table 5. 56: Number of Village Water Committee Members and Village Water Funds by Ward, Ludewa District; as at 31st Dec 2012

Ward	Village Water Committee Members			Village Water Funds (VWF)/Water Users Group (WUG) (TShs)
	Male	Female	Total	
Mawengi	16	14	30	780,000
Ludewa	7	9	16	1,540,000
Luana	11	12	23	4,180,000
Lumbila	0	0	0	0
Kilondo	0	0	0	0
Makonde	0	0	0	0
Iwela	3	3	6	1,800,000
Lupingu	10	5	15	341,500
Lifuma	0	0	0	0
Manda	19	22	41	2,334,000
Masasi	13	9	22	231,000
Ruhuhu	8	6	14	337,000
Luilo	12	10	22	199,200
Nkomangómbe	5	9	14	84,850
Mlangali	26	27	53	1,479,000.5
Lupanga	13	9	22	385,785.85
Milo	13	11	24	498,000
Ludende	8	15	23	276,500
Madope	8	6	14	4,085,000
Mundindi	11	10	21	1,070,000
Ibumi	0	10	17	63,500
Mavanga	6	8	14	235,000
Madilu	21	20	41	1,540,000
Lugarawa	15	8	23	3,392,000
Mkongobaki	4	11	15	465,000
Total	236	234	470	25,317,336.35

* VFWs = Village Water Funds, WUG = Water Users Groups

Source: District Executive Director's Office (Water Supply and Sanitation Department), Ludewa District, 2013

Staff Establishment

For ensuring that water and sanitation services are accessible to the majority of Ludewa residents (urban and rural population), equipping water and sanitation department with required number of staff, and, with necessary working facilities, is vital.

As long as water and sanitation department is facing staffing shortage of 33.3 percent (Table 5.55), the District has a long way to go to achieve the millennium development goal of supplying clean and safe water to a significant number of her residents. Therefore, for promising future in the provision of water and sanitation services, initiatives are needed to solve staffing shortage highlighted in Table 5.57.

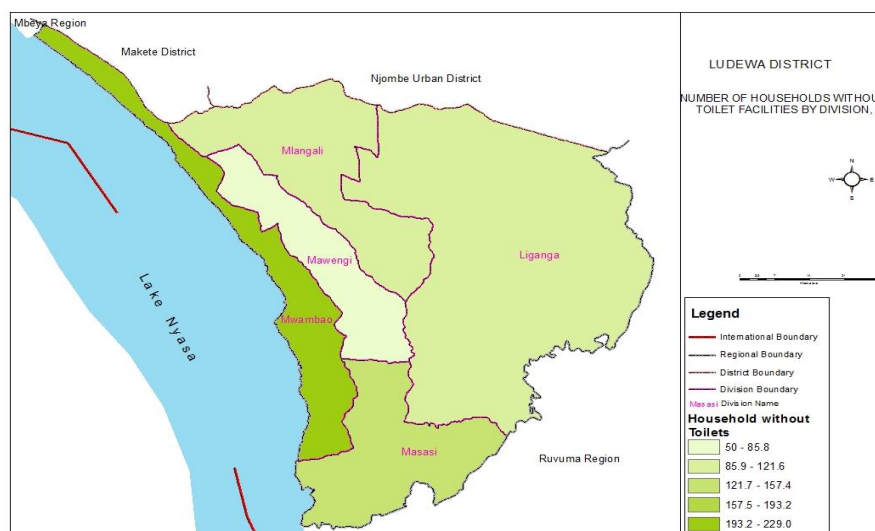
Table 5. 57: Staff Establishment in Water Sub-Sector, Ludewa District; 2012

Type of Professionals	Demand	Actual	Deficit/Surplus	
			Number	Percent
Engineers	2	0	2	100.0
Technicians	7	6	1	14.3
Total	9	6	3	33.3

Source: District Executive Director's Office (Water Supply and Sanitation Department), Ludewa District, 2013

5.3.4 Sewage and Sanitation

Sanitation facilities are essential for good health and favourable living environment in any society. Table 5.58 shows that about 98 percent of the total households in Ludewa District had toilet facilities in 2012. The remaining 2 percent of the households did not have toilet facilities. Although this situation is encouraging, the authorities of Ludewa District have the responsibility of advocating the importance of toilet facilities so as to make sure that they get rid of communicable diseases like diarrhoea and water borne diseases. Looking at division level, Mwambao and Masasi were the worst divisions with 4.8 and 2.9 percent of their households without toilet facilities respectively in 2012. Mawengi and Mlangali divisions had fewer households without toilet facilities (1.0 and 1.1 percent respectively).

Map 5: Showing number of Households without Toilet Facilities by Division, Ludewa District; 2012

Source: NBS, GIS Unit; 2013

Table 5. 58: Number of Households with Toilet Facilities by Division, Ludewa District; 2012

Division	Estimated Number of Households	Number of Households with Toilets	Percent of Households with Toilets	Number of Households without Toilets	Percent of Households without Toilets
Mawengi	5,066	5,016	99.01	50	0.99
Mlangali	9,534	9,433	98.94	101	1.06
Liganga	7,583	7,462	98.40	121	1.60
Masasi	4,627	4,495	97.15	132	2.85
Mwambao	4,806	4,577	95.24	229	4.76
Total	31,616	30,983	98.00	633	2.00

Source: District Executive Director's Office, (Water Supply and Sanitation Department), Ludewa District, 2013

At ward level, again the traditional pit latrine was dominant. It was followed by the VIP latrine and then flush toilets. The percentage of households with toilets at ward level in urban areas was almost 100 percent while in rural wards the range was from 99 percent in Mawengi Ward to 87 percent in Ruhuhu Ward.

Table 5. 59: Number of Households with Sanitation Facilities (Toilet) by Ward, Ludewa District; 2012

Ward	Estimated Number of Households	Number of Households with Toilets	Percent of Households with Toilets	Total Number of Households without Toilets	Percent of Households without Toilets
Mawengi	1,940	1,925	99.22	15	0.77
Ludewa	2,099	2,085	99.33	14	0.67
Luana	1,027	1,006	97.96	21	2.04
Mawengi Division	5,066	5,016	99.01	50	0.99
Mlangali	2,992	2,984	99.73	8	0.27
Lupanga	1,408	1,392	98.86	16	1.14
Milo	1,675	1,664	99.34	11	0.66
Ludende	1,325	1,297	97.89	28	2.11
Madope	906	894	98.68	12	1.32
Mundindi	1,228	1,202	97.88	26	2.12
Mlangali Division	9,534	9,433	98.94	101	1.06
Ibumi	405	380	93.83	25	6.17
Mavanga	1,502	1,465	97.54	37	2.46
Madilu	2,117	2,104	99.39	13	0.16
Lugarawa	2,796	2,764	98.86	32	1.14
Mkongobaki	763	749	98.17	14	1.83
Liganga Division	7583	7462	98.40	121	1.60
Manda	1,789	1,714	95.81	75	4.19
Masasi	540	535	99.07	5	0.01
Ruhuhu	750	730	87.33	20	2.67
Luilo	850	841	98.94	9	1.06
Nkomangombe	698	675	96.70	23	3.3
Masasi Division	4,627	4,495	97.15	132	2.85
Lumbila	491	451	91.85	40	8.15
Kilondo	588	532	90.48	56	9.52
Makonde	1,319	1,251	94.84	68	5.16
Iwela	227	222	97.80	5	0.02
Lupingu	1,196	1,161	97.07	35	2.93
Lifuma	985	960	97.46	25	2.54
Mwambao Division	4806	4577	95.24	229	4.76
Total	31,616	30,983	96.96	633	2.00

Source: District Executive Director's Office, (Water Supply and Sanitation Department), Ludewa District, 2013

5.3.5 Policy Implication on Water sector

Accessibility of clean and safe water is a very common problem in many districts of our country including Ludewa. Lack of reliable and permanent water sources in wards like Lumbila, Kilondo, Makonde and Lifuma is believed to be the corner stone of the problem.

To alleviate the situation, extensive research is needed to make sure the problem is alleviated otherwise people in these wards will not be free from communicable diseases.

5.3.6 Investment Opportunities in Water Supply

Ludewa District is endowed with various types of water sources with river water taking the lion's share. However, the District has very few piped water schemes comparing with the water sources they have. In this regard, investment is needed in regard to supply of pipes, building of storage tanks and pumping equipment and increase the capacity of water storage. Investment is also needed in connection with for the supply of electricity/solar power for use in pumps.

CHAPTER SIX

Other Development Issues

6.0 Introduction

Chapter Six discusses other development issues including gender empowerment such as day care centres, women economic groups, youth economic groups, cooperative development (SACCOS) as well as women's participation in managerial, political, professional and technical fields.

6.1 Gender Empowerment

Gender empowerment, ensures that all sexes, particularly women, fully participate in policy and decision-making processes and in all aspects of economic, socio-cultural and political life. Various measures have already been put in place to minimize time spent by women and girls in attending home activities (household chores) to allow more time to be used in the above mentioned activities. These measures include the use of family planning, opening and operating of day care centers, establishment of women economic groups, participation on SACCOS, CBOs and other cooperative activities.

6.1.1 Day Care Centers

Day care centers are important for looking after children aged 3 to 4 before they join pre-primary school. Day care centers are important because they keep children away from their mothers and hence give them (mothers) opportunities to participate in economic activities and hence improve their social economic status. Unfortunately, there were no day care centers reported in Ludewa District.

6.1.2 Women Economic Groups

The emancipation of women from poverty and economic discrimination is something women themselves can do with some help from an understanding government and society. The formation of economic groups for women is the strategy towards this emancipation. The groups also serve the additional purpose of providing a forum for the discussion of gender issues leading to women equality and equity with men. In 2011 and 2012 Ludewa District recorded a total of 223 women economic groups with members totaling 504. All the economic groups were assisted with loans amounting to 1,286,906,729 (Table 6.1).

Table 6. 1: Number of Women Economic Groups by Ward, Ludewa District; 2011 and 2012

Ward	2011		2012			
	Total Number of Groups	Total Members	Total Number of Groups	Total Members	No. of Groups Assisted	Total Loaned TShs
Mkongobaki	9	10	9	10	9	3,517,664
Mavanga	9	42	9	42	9	55,855,000
Mawengi	11	3	11	3	11	538,500
Ibumi	8	0	8	0	8	0
Mundindi	8	0	8	0	8	0
Luana	9	15	9	15	9	3,300,000
Iwela	8	0	8	0	8	0
Luilo	8	0	8	0	8	0
Nkomangombe	8	0	8	0	8	0
Lumbila	8	0	8	0	8	0
Masasi	8	0	8	0	8	0
Lupanga	9	14	9	14	9	6,552,000
Madope	9	24	9	24	9	80,078,200
Makonde	8	0	8	0	8	0
Lugarawa	12	47	12	47	12	33,863,800
Manda	9	11	9	11	9	20,138,303
Ruhuhu	8	0	8	0	8	0
Ludende	8	0	8	0	8	0
Milo	10	40	10	40	10	57,454,113
Kilondo	8	0	8	0	8	0
Mlangali	10	114	10	114	10	747,791,786
Madilu	8	0	8	0	8	0
Lifuma	8	0	8	0	8	0
Lupingu	8	0	8	0	8	0
Ludewa	14	184	14	184	14	277,817,363
Total	223	504	223	504	223	1,286,906,729

Source: District Executive Director's Office (Community Development unit), Ludewa District, 2013

6.1.3 Women's Participation in Policy and Decision-Making

Table 6.2 reveals a discouraging level of female participation in managerial, professional and political posts, in Ludewa District. It shows that in 2012 a total of 623 people participated in all the three kinds of posts highlighted in the table. Female participation was only 158 (25.4 percent). There is a need to purposely encourage women to participate in different posts and especially political posts which basically are involved in decision making; this will give females the opportunity to deal with many problems that many women face in the society. Female participation in managerial posts was 16.0 percent; in professional posts it was 33.0 percent which is the highest level of participation in all three types of posts. Participation in political posts was 24.2 percent of the total posts available (Table 6.2). Ward-wise analysis of Table 6.2 reveals that Ludewa Ward which is the District headquarters had the highest number of all participants (94, or 15.1 percent) followed by

Manda (34, or 5.5 percent) , Mkomangømbø (31, or 5.0 percent) . However, Ibumi (14, or 2.2 percent) had the least number of participants.

Table 6. 2: Participation as Managerial, Political, Professional and Technical Personnel by Gender and by Ward, Ludewa District; 2012

Ward	Managers			Professionals/ Technicians			Politicians (MPs, DC, Councillors)			Total			
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Percent
Mkongobaki	9	0	9	7	0	7	1	0	1	17	0	17	2.7
Mavanga	5	1	6	9	0	9	1	1	2	15	2	17	2.7
Mawengi	8	1	9	7	4	11	1	0	1	16	5	21	3.4
Ibumi	5	0	5	6	2	8	1	0	1	12	2	14	2.2
Mundindi	4	1	5	9	5	14	1	0	1	14	6	20	3.2
Luana	5	1	6	4	6	10	1	0	1	10	7	17	2.7
Iwela	13	0	13	6	0	6	1	0	1	20	0	20	3.2
Luilo	15	1	16	6	5	11	1	2	3	22	8	30	4.8
Nkomangømbø	10	0	10	13	7	20	1	0	1	24	7	31	5.0
Lumbila	11	1	12	6	0	6	1	0	1	18	1	19	3.0
Masasi	9	3	12	12	3	15	1	0	1	22	6	28	4.5
Lupanga	7	0	7	11	4	15	1	0	1	19	4	23	3.7
Madope	5	0	5	7	4	11	1	1	2	13	5	18	2.9
Makonde	9	0	9	7	3	10	1	0	1	17	3	20	3.2
Lugarawa	8	2	10	9	1	10	1	0	1	18	3	21	3.4
Manda	12	5	17	11	4	15	1	1	2	24	10	34	5.5
Ruhuhu	4	2	6	7	1	8	1	0	1	12	3	15	2.4
Ludende	10	4	14	6	3	9	1	0	1	17	7	24	3.9
Milo	6	1	7	7	6	13	1	0	1	14	7	21	3.4
Kilondo	10	0	10	9	0	9	1	0	1	20	0	20	3.2
Mlangali	8	1	9	7	9	16	1	0	1	16	10	26	4.2
Madilu	11	0	11	8	6	14	1	1	2	20	7	27	4.3
Lifuma	6	0	6	8	0	8	1	0	1	15	0	15	2.4
Lupingu	11	1	12	13	4	17	1	1	2	25	6	31	5.0
Ludewa	20	17	37	24	31	55	1	1	2	45	49	94	15.1
Total	2210	42	63	219	108	327	25	8	33	465	158	623	100
Percent	84.0	16.0	100	67.0	33.0	100	75.8	24.2	100	74.6	25.4	100	
Percent of participation			42.2			52.5			5.3			100	

Source: District Executive Director's Office (Community Development unit), Ludewa District, 2013

6.2 Youth Economic Groups

Youth economic groups are important in reducing poverty among youths. Youths in Ludewa District are not behind in the formation of youth economic groups in an attempt to get loans for undertaking their economic activities. Unfortunately data for youth economic groups for the year 2012 was not provided. The Department of Social Development should collaborate with the District Planning Office to make sure that data on youth economic groups are made available.

6.3 Orphaned Children

Ludewa District in the year 2012 had a total of 6,239 vulnerable children (Table 6.3). Among them 2,353 (38 percent) were orphans while 3,886 (62 percent) were non orphans but were facing other aspects of vulnerability like parents negligency, child abuse and the like. The state of orphanhood was higher among girls (51 percent) than boys (49 percent). In case of vulnerability among non orphaned children the percentage for boys was higher (51 percent) than that of girls (49 percent). The most affected wards were Milo Ward which had the highest percentage of vulnerable children (10 percent) with more non orphans than orphans, it was followed by Mlangali Ward (9 percent) then Makonde and Manda wards (7 percent each).

Table 6. 3: Number of Most Vulnerable Children by Ward, Ludewa District; 2011/12

Ward	Non Orphans					Orphans					Grand Total	Percent
	Girls	Girls Percent	Boys	Boys Percent	Total	Girls	Girls Percent	Boys	Boys Percent	Total		
Mkongobaki	0	0	0	0	0	0	0	0	0	0	0	0
Mavanga	76	72	29	28	105	98	54	84	46	182	287	5
Mawengi	50	57	37	43	87	95	93	7	7	102	189	3
Ibumi	30	67	15	33	45	19	70	8	30	27	72	1
Mundindi	117	49	124	51	241	30	54	26	46	56	297	5
Luana	40	43	54	57	94	12	48	13	52	25	119	2
Iwela	3	23	10	77	13	30	50	30	50	60	73	1
Luilo	107	37	180	63	287	5	38	8	62	13	300	5
Nkomangombe	58	51	56	49	114	0	0	6	100	6	120	2
Lumbila	34	35	64	65	98	45	54	39	46	84	182	3
Masasi	61	40	90	60	151	25	35	46	65	71	222	4
Lupanga	61	50	60	50	121	55	57	42	43	97	218	3
Madope	32	33	66	67	98	85	45	106	55	191	289	5
Makonde	46	20	184	80	230	94	53	84	47	178	408	7
Lugarawa	70	54	60	46	130	82	42	114	58	196	326	5
Manda	121	47	137	53	258	84	47	94	53	178	436	7
Ruhuhu	70	42	98	58	168	65	45	80	55	145	313	5
Ludende	243	85	44	15	287	12	63	7	37	19	306	5
Milo	251	48	273	52	524	57	58	42	42	99	623	10
Kilondo	21	58	15	42	36	16	42	22	58	38	74	1
Mlangali	251	54	214	46	465	42	51	41	49	83	548	9
Madilu	37	31	82	69	119	98	39	151	61	249	368	6
Lifuma	0	0	0	0	0	0	0	0	0	0	0	0
Lupingu	23	32	49	68	72	81	56	64	44	145	217	3
Ludewa	88	62	55	38	143	76	70	33	30	109	252	4
Total	1,890	49	1,996	51	3,886	1,206	51	1,147	49	2,353	6,239	100

Source: District Executive Director's Office (Community Development unit), Ludewa District, 2012

6.4 Savings and Credit Cooperative Societies (SACCOS)

Ludewa had a total of 23 registered SACCOSs in the year 2012 (Table 6.4). The total number of members for these SACCOSs was 1,657 out of which female members were 504 while male members were 1153. In total all SACCOSs shares worth TShs 103,471,171. The total money loaned to members was TShs 1,286,906,729 of which TShs 802,065,482 had been recovered. Ludewa Ward which is the District headquarters had the largest number of SACCOSs with the largest number of 556 members. Mlangali Ward had the highest value of shares at TShs 31,076,000 followed by Ludewa Ward (TShs 24,758,581).

Table 6. 4: Savings and Credit Cooperative Societies in Ludewa District; 2012

Ward	No. of SACCOS (Registered)		Total Members		Total Members	Total Value of Shares (TShs) as on 31.12.2012	Total Money Loaned to Members Jan –Dec 2012 (TShs)	Total Loans Recovered from Members Jan - Dec 2012 (TShs)
	Active	Dormant	Male	Female				
Mkongobaki	0	1	31	10	41	648,010	3,517,664	570,000
Mavanga	0	1	56	42	98	12,242,087	55,855,000	27,714,500
Mawengi	0	3	44	3	47	1,040,125	538,500	0
Ibuni	0	0	0	0	0	0	0	0
Mundindi	0	0	0	0	0	0	0	0
Luana	1	0	21	15	36	2,630,000	3,300,000	0
Iwela	0	0	0	0	0	0	0	0
Luilo	0	0	0	0	0	0	0	0
Nkomangombe	0	0	0	0	0	0	0	0
Lumbila	0	0	0	0	0	0	0	0
Masasi	0	0	0	0	0	0	0	0
Lupanga	0	1	54	14	68	2,962,000	6,552,000	172,000
Madope	1	0	83	24	107	9,605,000	80,078,200	44,798,000
Makonde	0	0	0	0	0	0	0	0
Lugarawa	2	2	97	47	144	7,208,177	33,863,800	27,215,000
Manda	1	0	36	11	47	2,574,560	20,138,303	1,100,000
Ruhuhu	0	0	0	0	0	0	0	0
Ludende	0	0	0	0	0	0	0	0
Milo	1	1	134	40	174	8,726,631	57,454,113	4,570,464
Kilondo	0	0	0	0	0	0	0	0
Mlangali	1	1	225	114	339	31,076,000	747,791,786	656,032,936
Madilu	0	0	0	0	0	0	0	0

Table 6.4 (ctd): Savings and Credit Cooperative Societies in Ludewa District; 2012

Ward	No. of SACCOS (Registered)		Total Members		Total Members	Total Value of Shares (TShs) as on 31.12.2012	Total Money Loaned to Members Jan –Dec 2012 (TShs)	Total Loans Recovered from Members Jan - Dec 2012 (TShs)
	Active	Dormant	Male	Female				
Lifuma	0	0	0	0	0	0	0	0
Lupingu	0	0	0	0	0	0	0	0
Ludewa	5	1	372	184	556	24,758,581	277,817,363	39,892,582
Total	12	11	1153	504	1657	103471171	1286906729	802065482

Source: District Executive Director's Office (Community Development unit), Ludewa District, 2012

6.5 Financial Institutions

National Micro Finance Bank (NMB) was the only bank that operated in Ludewa District. With the Government effort to encourage people to form VICOBA's, Ludewa District established VICOBA in 2012; therefore by the end of 2012 Ludewa District had two financial institutions that were operating.

Table 6. 5: List of financial institution in Ludewa district 2012

2010	2011	2012
NMB	NMB	NMB
		Inter-Religious Village Community Banks (VICOBA's)

Source: District Executive Director's Office (Trade unit), Ludewa District, 2012

6.6 Crime statistics

6.6.1 Introduction

Crime cases have been increasing with the increase of moral erosions in the society. Population increase which goes hand in hand with unemployment also contributes to the increase of crimes. Ludewa District like other districts in the country has experienced an increase in crime as well as erosion of morals.

6.6.2 Crime cases reported

Table 6.6, shows that from January 2010 to December 2011 a total of 916 crime cases were reported at the Ludewa District police head office. Property crimes were dominant at 81.0 percent followed by violent crime cases (16.8 percent). Drug crimes had the least reported

cases at 2.2 percent of total crimes reported. From the total reported crime cases, 475 persons (52 percent) were jailed.

Table 6. 6: Total Number of Crimes Reported in District Police Station and Number of People Jailed, January 2010 to December, 2012, Ludewa District

Year	Total no. of Police in the District	Total Number of Reported			Total Crimes	Total Number of People Jailed			Total Jailed
		Violent Crimes	Property Crimes	Drug Crimes		Violent Crimes	Property Crimes	Drug Crimes	
2010	52	91	332	8	431	50	190	4	244
2011	60	34	241	4	279	25	110	3	138
2012	67	29	169	8	206	10	78	5	93
Total	179	154	742	20	916	85	378	12	475
Percent		16.8	81.0	2.2	100.0	17.9	79.6	2.5	100.0

Source: DistrictsøPolice Head Office, Ludewa District, 2012

6.6.3 Road Accidents

According to Table 6.7 in Ludewa District 43 accidents involving 53 victims occurred from January 2010 to December 2012. Out of the total victims, five people (9.4 percent) died and 48 people (90.6 percent) were injured. Accidents involving motor cycles only had the highest percentage of 32.6 while those accidents involving motor vehicles against motor cycles had the lowest (18.6 percent). Accidents involving motor vehicles only and motor vehicles and motor cycles versus pedestrian caused more injuries at 28.3 percent.

Table 6. 7: Number of Accidents Reported in the District Police Station and Number of People Injured/Died by Type of Accident, January 2010- December, 2012, Ludewa District

Year	Total Number of Accidents involving					Total number of people Died/Injured from Accidents involving														
	Motor vehicles Only	Motor Vehicles Versus Motor Cycles	Motor Cycles Only	Motor Vehicles and Motor Cycles versus Pedestrian	Total	Motor vehicles Only		Motor Vehicles Versus Motor Cycles		Motor Cycles Only		Motor Vehicles and Motor Cycles versus Pedestrian		Sub-Total		Grand Total				
						D	I	D	I	D	I	D	I	D	I					
2010	3	4	7	3	17	0	4	0	3	1	2	0	4	1	13	14				
2011	5	2	5	0	12	0	8	0	4	1	4	0	6	1	22	23				
2012	2	2	2	8	14	1	3	0	2	1	3	1	5	3	13	16				
Total	10	8	14	11	43	1	15	0	9	3	9	1	15	5	48	53				
Percent	23.3	18.6	32.6	25.6	100.0	1.9	28.3	0.0	17.0	5.7	17.0	1.9	28.3	9.4	90.6	100.0				

Note: D: Died, I: Injured. Source: DistrictsøPolice Head Office, Ludewa District, 2012

6.6.4 Theft Cases

Table 6.8 highlights theft cases reported in the District police station from January 2010 to December 2011. Theft of livestock, particularly cattle was very common in Ludewa District.

The cattle stolen in the District were 178 (96.2 percent). Moreover, over the same period three bicycles and four motorcycle were also stolen. Around 28 people were jailed from theft of which 25 of them or 89.3 percent were jailed due to cattle stealing.

Table 6. 8: Number of Theft Cases Reported in the District Police Station and Number of People Jailed for Theft, January 2010-December, 2011, Ludewa District

Year	Number of Police in the District	Total number of				Total number of people jailed due to stealing					
		Motor vehicles stolen	Motor cycles stolen	Bicycles stolen	Cattle stolen	Total	Motor vehicles	Motor cycles	Bicycles	Cattle	Total
2010	52	0	1	1	27	29	0	0	0	10	10
2011	60	0	1	0	21	22	0	1	0	8	9
2012	67	0	2	2	130	134	0	1	1	7	9
Total	179	0	4	3	178	185	0	2	1	25	28
Percent		0	2.2	1.6	96.2	100.0	0	7.1	3.6	89.3	100

Source: Districts Police Head Office, Ludewa District, 2012

6.6.5 Policy Implication on Other Development Issues

The policy of empowering women is being implemented in Ludewa District. Women are empowered economically through establishment of women economic groups (SACCOSs) and CBOs. However, there is a need to encourage women to occupy decision making posts especially political positions.

In the case of youth economic groups there were no data kept, However, it is important to encourage youths to form economic groups as a way of overcoming the problem of unemployment. This can also be away of reducing crime.

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9. Infant and Child Mortality Report, March 2006, National Bureau of Statistics, Dar es Salaam and

Ludewa District Council

Vision

To be the best Council providing better and sustainable services to all stakeholders
by 2025

Mission

To deliver better Socio-economic services in collaboration with all stakeholders
using resources within and out of the council