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5 SOCIO-ECONOMIC BASELINE

5.1 INTRODUCTION

This Chapter describes the socio-economic characteristics of affected communities and PAPs. This information feeds into the understanding of impacts arising from Project land acquisition and informs the planning and implementation of compensation, assistance and livelihood restoration, including assistance to vulnerable persons. The gathering and use of socio-economic data in land acquisition and resettlement planning is a key requirement of IFC performance standards.

It covers the following socio-economic topics across Districts and within individual District profiles:

- Demographic and household characteristics.
- Education and health.
- Livelihood activities
- Land and agriculture.
- Farming improvements.
- Housing.
- Transport.
- Gender roles & issues.
- Access to communal services.
- Social networks.
- Vulnerability status.
- Household livelihood needs and restoration.

5.1.1 Methodology

The socio-economic data has been gathered using a combination of socio-economic household surveys, Key Informant Interviews (KII) and Focus Group Discussions (FGDs), as well as drawing on desk based review of published records, such as District Development Plans (DDP), the National Population and Housing Census 2014 and the National Development Plan (NDP lll).

Socio-Economic Survey: The socio-economic survey was conducted in parallel to the land and assets surveys and valuation. Institutions and government agencies, absentee PAPs and unknown PAPs were not covered in the socio-economic survey. Of the total 3,604 PAPs not including institutions, absentee PAPs and estimated number of unknown PAPs (3,471 along pipeline and 133 at the Priority Areas), 3,130 Project Affected Households (PAHs) participated in the surveys (3,045 along the pipeline route and 85 at the Priority Areas). These figures represent 88% of pipeline PAPs and 64% of Priority Area PAPs (87% of pipeline PAPs and Priority Area PAPs combined), though it should be noted that there may be more than one PAP in a PAH, so these percentage figures are only indicative of the percentage of households who participated. The distribution of respondents by district is shown in Table 5-1 below. The surveys involved face-to-face interviews using questionnaires. The original questionnaire

used in the Priority Areas was refined for use along the pipeline route and AGIs.

The trained field teams included: forty (40) enumerators who implemented the questionnaire; Assistant Sociologists in charge of quality control of questionnaire data; and Senior Sociologists in charge of field mobilization, liaison with local leaders to identify and trace property owners, preparation of property owners for interview and coordination with the technical team.

Table 5-1 Socio-Economic Survey Respondents Interviewed by District

District	Pipeline Survey Respondee PAP Households	No. of pipeline PAPs (not including Institutions, absentee or unknown PAPs)	Respondees as a Percentage of Pipeline PAPs	Priority Areas Survey Respondee PAP Households	No. of Priority Area PAPs (not including Institutions, absentee or unknown PAPs)	Respondees as a Percentage of Priority Area PAPs
Hoima	74	92	80%	-	-	-
Kikuube	358	410	87%	-	-	-
Kakumiro	297	333	89%	35	41	85%
Kyankwanzi	190	221	86%	-	-	-
Mubende	609	632	96%	15[2]	9	100%[2]
Gomba	30	38	79%	-	-	-
Sembabule	386	368	105%	23	49	47%
Lwengo	411	547	75%	-	-	-
Rakai	271	346	78%	-	-	-
Kyotera	419	484	87%	12	34	35%
Total	**3,045**	3,471	88%	**85**	133	64%

Note 1: It should be noted that there may be more than one PAP in a PAH, therefore these percentage figures are only indicative of the percentage of households who participated.

Note 2: For Priority Area (MCPY-02) in Mubende district, 6 of the 15 survey respondees are licensees who should not have been included in the survey data. The 9 surveyed PAPs represent 100% of PAPs at MCPY-02 (not including 2 institutional PAPs at MCPY-02).

Key Informant Interviews (KIIs): In addition to the socio-economic household survey, discussions were held with key informants with particular knowledge and experience of the socio-economic situation in the Project area. Key informants included: District Education Officers, Community Development Officers, District Planners, District Production Officers and District Health Officers. Representatives from the private sector such as traders and banks; civil society/ Non-Government Organizations and traditional leaders also participated. A total of 109 key informants were selected and interviewed from the 10 Districts. A semi-structured guide was developed to facilitate these interviews.

Focus Group Discussions (FGDs): were conducted with different groups of PAPs including women, men and vulnerable groups, using pre-prepared guides to facilitate the discussions. A total of 54 FGDs were conducted in the 10 districts comprising: male and female farmers (10 groups), female farmers (5), male farmers (2), cattle keepers (5), owners of forests planted

by hand (such eucalyptus, pine and teak) (3), female traders (2), male and female traders (2), wetland users and settlers (6), beekeepers (1), women VSLA group (1), men VSLA group (1), vulnerable groups (5), gender analysis FGDs (1), male and female youth (7), sub-county officials (2) and NGOs (1). A total of 631 participants (403 males and 228 females) took part in the FGDs.

Analysis: Quantitative data from the survey interviews was entered using the EPI-DATA programme and analysed using the Statistical Package for Social Sciences (SPSS) and Ms-Excel. Qualitative data generated through Focus Group Discussions, Key Informants' interviews and secondary data were entered in computer software Atlas Ti. All data was word-processed for ease of handling and later exported to ATLAS Ti. Thematic and content analysis methods were used to interpret the data and draw out conclusions.

5.2 Socio-Economic Setting Across All Districts Along the Pipeline

The following Section summarizes the socio-economic setting of PAHs in the 10 districts along the pipeline route and Section 5.3 provides information on the 10 individual districts. Section 5.4 provides socio-economic information for the 4 Priority Areas.

5.2.1 Demographic & Household Characteristics

Table 5-2 shows socio-economic characteristics of the surveyed Project affected households (PAHs) across all districts, showing household sizes, gender, age, marital status, religion and ethnicity.

Household size: The average household size of 6.8 persons was generally consistent across all districts. The 3,045 surveyed households along the pipeline route have a total population of 20,631; extrapolated to the 3,652 PAPs along the pipeline (not including the 140 PAHs at the PAs) gives a total of 24,744 household members.

Gender of Household Members: The gender percentage of males (51%) and females (49%) within households is generally consistent across all 10 districts.

Ages of Household Members: Fifty-six percent (56%) of household members are below 18 years of age, reflecting the young demographic and growing populations, and adults (aged 18 to 64 years) accounted for 41%. Only 3% of household members are 65 years or older.

Project affected communities therefore comprise largely young and adult age groups, with a small proportion of the elderly. The percentages for children, adult, and elderly range between:

- 49-59% for under 18 year olds (Gomba lowest, Hoima and Kakumiro highest);
- 23-30% for youth (18-35 years) (Kakumiro, Kyankwanzi and Lwengo lowest, Gomba highest);
- 14-17% for adults (36-64 years) (Hoima lowest, Kikuube, Gomba and Rakai highest);
- 1-5% for over 65 year old (Hoima lowest, Gomba highest).

***Gender of Household Head*:** Eighty-four percent (84%) of household heads are male and 16% are female. This pattern ranged from 76% male household heads in Hoima to 97% male household heads in Gomba. It reflects the context that household decision making and ownership of land and property is largely in the hands of men.

Age of Household Head: The age data for household heads shows that the majority (68%)

are aged 26 - 55 years, 14% are 56-65 years, 5% are 66-70 years and 7% are 71 years and above. With the remaining 6% being aged less than 26 years with only one household being headed by a child below the age of 18 years, living in Kyankwanzi district. This shows that the majority of household heads are in the productive age range and therefore are expected to be well placed to restore their livelihoods after land acquisition. However, a significant percentage (12%) are relatively elderly, over the age of 65 years, which needs to be taken into account in the design of livelihood restoration programmes.

***Marital status of household head*:** The majority (76%) of household heads are married. 64% are in monogamous marriages (with 1 wife) and 12% are in polygamous marriages, 10% of household heads are widows/widowers, 9% are divorced/separated and only 5% have never married. Given that the majority of the household heads are married, there is a need to promote the use of joint bank accounts with the spouse(s) for compensation payments.

***Religion*:** Forty-six percent (46%) of surveyed PAPs are Catholic, 28% are Anglican, 11% are Pentecostal, 10% are Muslim. Two percent (2%) subscribed to other religions such as traditional beliefs.

Ethnicity: Almost half (47%) of the respondents are Baganda, 15% Bakiga, 14% Banyankole, 10% Banyoro, 5% Banyarwanda, 1% Alur, 1% Batoro and 6% others (Basoga, Langi, Iteso, Banyara, Bagwere, Bafumbira, Lugbara, Karamojong and Baziba). The distribution of ethnic groups/tribes by district shows that Bakiga and Banyoro are predominant in Hoima, Kikuube and Kakumiro; Banyankore are in Gomba and Sembabule; and Baganda are in Kyotera, Rakai, Lwengo, Sembabule, Mubende and Kyankwanzi districts. The Bagungu ethnic group are not directly affected by the land acquisition program for the EACOP Uganda Project.

Language: The main languages spoken are Luganda and Runyakitara. Runyakitara is a combination of four languages i.e. Runyankore, Rukiga, Runyoro and Rutoro. The ethnicity of the PAPs will have implications for the language of communication and mode for relocation of graves and shrines.

Table 5-2 Demographic Characteristics of Project Affected Households along Pipeline Route

Characteristic:	Hoima	Kikuube	Kakumiro	Kyankwanzi	Mubende	Gomba	Sembabule	Lwengo	Kyotera	Rakai	Total
Total number of PAPs along Pipeline and Priority Areas											
Total no. of PAPs along pipeline[1]	92	410	336	227	650	44	433	565	371	524	3,652
Number of PAP Households participating in the Socio-Economic Survey *(data below in table is based on the survey responses of these households)*											
No. of surveyed households	74	358	297	190	609	30	386	411	271	419	3,045
Number of Household Members along pipeline route											
Total household members	463	2,297	2,026	1151	4,084	223	2,878	2,734	1,818	2,957	20,631
Average no. of HH members	6.3	6.4	6.8	6.1	6.7	7.4	7.5	6.7	6.7	7.1	6.8
Gender for Household Members											
Male	47%	52%	50%	51%	51%	54%	51%	52%	50%	51%	51%
Female	53%	48%	50%	49%	49%	46%	49%	48%	50%	49%	49%
Age of the Household Members											
Children (<18 years)	59%	55%	59%	58%	57%	49%	55%	58%	56%	56%	56%
Youth (18-35 years)	26%	27%	23%	23%	25%	30%	26%	23%	24%	24%	25%
Adults (35-64 years)	14%	17%	16%	16%	16%	17%	16%	16%	16%	17%	16%
Elderly (65 years +)	1%	2%	2%	2%	3%	5%	3%	3%	3%	4%	3%
Gender for Household head											
Male	76%	88%	85%	87%	85%	97%	87%	79%	78%	79%	84%
Female	24%	12%	15%	13%	15%	3%	13%	21%	22%	21%	16%
Age of Household Head:											
0-17	-%	-%	-%	0.4%	-%	-%	-%	-%	-%	-%	0.03%
18-25	14%	7%	5%	11%	6%	6%	4%	6%	3%	14%	6%
26-35	36%	22%	20%	20%	20%	14%	16%	16%	19%	35%	19%
36-45	24%	25%	30%	29%	28%	25%	26%	27%	29%	25%	27%
46-55	21%	24%	22%	22%	21%	17%	24%	21%	23%	21%	22%
56-65	3%	14%	15%	10%	14%	9%	15%	16%	16%	3%	14%
66-70	-%	4%	4%	1%	4%	20%	5%	6%	3%	-%	5%

[1] The total number of PAPs includes institutions and government bodies (65), unknown PAPs (estimated 50) and absentee landlords (66), who were not covered in the socio-economic survey.

Characteristic:	Hoima	Kikuube	Kakumiro	Kyankwanzi	Mubende	Gomba	Sembabule	Lwengo	Kyotera	Rakai	Total
71+	2%	4%	4%	7%	7%	9%	10%	8%	7%	2%	7%
Marital status of the household head											
Never married	6%	7%	3%	10%	4%	6%	3%	5%	5%	9%	5%
Married/cohabiting/monogamy	64%	62%	71%	66%	63%	82%	62%	57%	68%	65%	64%
Married/cohabiting/polygamous	5%	16%	10%	8%	16%	6%	18%	11%	6%	7%	12%
Widow/widower	8%	6%	9%	9%	10%	3%	10%	13%	13%	10%	10%
Separated/ divorce	17%	9%	7%	7%	7%	3%	7%	14%	8%	9%	9%
Religion											
Catholic	23%	39%	33%	49%	43%	15%	33%	63%	60%	49%	46%
Anglican	56%	35%	39%	20%	32%	71%	36%	14%	10%	28%	28%
Orthodox	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0.2%
Pentecostal	11%	11%	20%	8%	17%	11%	13%	9%	7%	7%	11%
Muslim	4%	7%	4%	8%	4%	0%	16%	12%	21%	12%	10%
Adventist	0%	0%	3%	14%	3%	3%	2%	2%	1%	3%	3%
Other	6%	8%	1%	1%	1%	0%	0%	0%	0%	1%	2%
Ethnicity:											
Muganda	4.0%	0.3%	5.0%	45.0%	35.0%	6.0%	41.0%	71.0%	93.0%	86.0%	47.0%
Musoga			1.0%		0.4%				0.3%		0.2%
Langi		0.3%	1.0%							0.2%	0.1%
Munyoro	4.0%	58.0%	16.0%	4.0%	7.0%		1.0%	2.0%	0.3%	1.0%	10.0%
Munyara		0.3%									0.0%
Itesot					0.1%					0.2%	0.1%
Mukiga	76.0%	31.0%	54.0%	10.0%	14.0%	6.0%	8.0%	4.0%	0.3%	0.4%	15.0%
Mugwere					0.1%						0.0%
Mutooro	1.0%	0.3%	4.0%	0.0%	2.0%						1.0%
Munyarwanda	1.0%		1.0%	6.0%	7.0%	9.0%	7.0%	11.0%	2.0%	2.0%	5.0%
Alur	6.0%	5.0%	2.0%	2.0%						0.2%	1.0%
Munyankole	2.0%	3.0%	11.0%	1.0%	20.0%	77.0%	42.0%	10.0%	3.0%	7.0%	14.0%
Other	6.0%	1.8%	5.0%	32.0%	14.4%	2.0%	1.0%	3.0%	1.1%	3.0%	6.6%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

5.2.2 Education and Health

***Education*:** As shown in Table 5-3 Education & Health Character, 85% of household heads are literate. The level is generally consistent across the districts, with the exception of Gomba district (72%). Forty-eight percent (48%) did not attend or complete primary education and a further 24% did not go on to attend secondary school. This shows that the majority of household heads have low levels of formal education and may require functional adult literacy programmes to enable them to understand their compensation schedules and compensation agreements and to operate bank accounts. The level of education will also inform the communication strategy in terms of channel and language of communication.

Nearly a third (27%) of household members lack any education (some of whom are infants below school age), and more than half of household members (56%) attained only primary education. Only 5% have tertiary level education. This shows that affected communities have low levels of educational attainment. The pattern of data is generally consistent across the 10 districts. The lower levels of educational attainment in Gomba district reflects the fact that the pipeline route passes through a cattle grazing corridor with limited access to educational services.

Health: Reported good health and freedom from chronic illness and disability (physical disability, mentally disability, visual impairment, deaf/difficulty in hearing) amongst all household heads was high, with only 3% affected by chronic illness. The district specific data suggest that, Hoima has the highest percentage of PAPs in poor health, followed by Kikuube and Mubende. Overall, the reported number of household heads in poor health is small, ranging from 1 PAP in Kyankwanzi and Kyotera to 29 in Mubende.

Table 5-3 Education & Health Characteristics of PAH

Characteristic	Hoima	Kikuube	Kakumiro	Kyankwanzi	Mubende	Gomba	Sembabule	Lwengo	Kyotera	Rakai	Total
EDUCATION:											
Literacy of HH Head (%)	86%	92%	83%	83%	83%	72%	76%	81%	93%	91%	85%
Education of HH members:											
- None	33%	30%	29%	26%	27%	38%	30%	26%	21%	21%	27%
- Primary	52%	50%	53%	61%	57%	47%	55%	61%	52%	60%	56%
- Secondary	10%	15%	14%	10%	11%	10%	10%	8%	18%	13%	12%
- Tertiary	5%	5%	4%	3%	5%	5%	5%	5%	9%	6%	5%
HEALTH status of HH head (%)											
- has chronic illness or disability	12%	5%	3%	1%	5%	0%	2%	1%	1%	0%	3%
- in good health (no chronic illness)	88%	95%	97%	99%	95%	100%	98%	99%	99%	100%	97%

5.2.3 Livelihood Activities

Household Livelihood Activities: As shown in Table 5-4 Livelihood Activities, 99.6% of households have a member participating in economic / income-earning activities. Most households (84%) had 1-2 persons participating in economic activities and 26% had 3 or more persons. Reasons for why some members of a household are not participating in economic

activities include age, illness, schooling and lack of employable skills.

Sources of Livelihoods: Reflecting the fact that the majority of the pipeline route (92%) runs through rural areas, the livelihoods of most PAPs are land based, with households growing crops and economic trees for their own subsistence consumption and some income generation. As shown in Table 5-4 Livelihood Activities, agriculture (both crop farming and livestock) is a source of livelihoods for 86% of household members involved in economic activities: subsistence crop farming is undertaken by 74% of household members, with only 7% undertaking commercial crop farming. Subsistence livestock farming is a source of livelihood for 2% of household members and commercial livestock farming 3%. Only a small proportion of household members participate in off-farm/non-agricultural activities, in the form of self-employment, (10%) and wage-based activities (3%).

Key messages from this data include:

- Agriculture, mainly crop production is the dominant economic activity across the 10 districts.
- Commercial farming is carried out by a small minority of households.
- Households in the 10 districts tend to earn income from more than one economic activity, an indicator of livelihood diversification.
- Non-farm/off farm activities remain limited with only a small percentage earning income from wage-based sources of livelihood.
- There is a significant difference in the distribution of economic activities across the 10 districts. Subsistence crop farming is most widely practised in the districts of Kikuube (93%) Kakumiro (93%), reflecting remote rural locations, with poor road conditions, but with weather and soil conditions that are conducive to crop production.
- The highest rate of participation in commercial crop farming is in Mubende (20%), followed by Kyankwanzi (12%).
- Livestock farming, both subsistence and commercial, occurs most in the districts of Gomba and Sembabule. Parts of these two districts are situated in the cattle corridor, through which the pipeline route passes. The Sembabule District Development Plan (DDP) states that the district lies in the south-western dry rangelands (cattle corridor) and in some parts of the district up to 70% of the population is engaged in livestock production.
- The analysis highlights the importance of focusing livelihood restoration programmes on farming activities.

Monthly Income Levels: Household income levels amongst affected communities are generally low compared with average monthly income levels across Uganda of UGX 416,000 in 2016/17[2] (UGX 703,000 in urban areas and UGX 303,000 in rural areas), reflecting the remote rural setting of most affected areas and predominance of subsistence agriculture. As shown in Table 5-4 Livelihood Activities, 13% of households reported monthly income of less 150,000 UGX (US$41) or less than US$1.35 per day. Forty percent (40%) of households have reported monthly incomes of less than 450,000 UGX (US$122). Sixty percent (60%) of households have reported monthly incomes of less than 900,000 UGX (US$244). Twenty-four

[2] Uganda National Household Survey 2016/17 (Uganda Bureau of Statistics, 2018).

percent (24%) of households reported monthly incomes of over 1,700,000 UGX (US$461).

Table 5-4 Livelihood Activities

	Hoima	Kikuube	Kakumiro	Kyankwanzi	Mubende	Gomba	Sembabule	Lwengo	Rakai	Kyotera	Total
HH has sources of income (%)	100%	100%	100%	100%	100%	100%	100%	99%	99%	99%	99.6%
Sources of Livelihood for household members involved in economic activities (%):											
Crop farming - subsistence (1-10 acres)	76%	93%	93%	85%	56%	33%	70%	79%	77%	65%	74%
Crop farming - commercial (10 acres)	7%	3%	5%	12%	20%	5%	2%	3%	0%	6%	7%
Livestock farming-subsistence	1%	2%	0%	0%	2%	8%	7%	2%	1%	3%	2%
Livestock farming- commercial (above 20 heads of cattle)	1%	0%	0%	0%	5%	44%	10%	1%	1%	2%	3%
Wage based activities	1%	1%	0%	0%	3%	0%	2%	4%	2%	6%	3%
Self employed	14%	2%	1%	2%	13%	8%	10%	12%	18%	18%	10%
Others	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%
HH (reported) income levels per month (%):											
<150,000 UGX = US$ 41	16%	10%	6%	11%	15%	0%	14%	16%	13%	13%	13%
150,000<450,000 UGX = US$ 122	20%	28%	28%	33%	29%	3%	29%	25%	19%	25%	27%
450,000<900,000 UGX = US$ 244	22%	23%	18%	23%	20%	17%	17%	20%	16%	20%	20%
900,000<1,450,000 UGX = US$ 394	14%	14%	15%	15%	11%	7%	14%	11%	16%	14%	13%
1,450,000<1,700,000 UGX = US$ 461	5%	4%	4%	4%	4%	7%	4%	3%	3%	4%	4%
1,700,000+ UGX = US$ 461+	23%	21%	29%	15%	21%	67%	23%	24%	33%	25%	24%
Average % of HH income spent on food and schooling	183%	119%	138%	109%	46%	33%	80%	84%	101%	71%	89%
Household has a self-employed enterprise (%)	95%	95%	58%	55%	61%	83%	39%	42%	85%	73%	64%
% of enterprise keeping business records (%)	20%	22%	30%	18%	35%	23%	31%	34%	35%	31%	30%

Percentage of Household income spent on food and schooling*:* The proportion of household income spent on food and schooling is recognized as an indicator of poverty and levels of disposable income. Table 5-4 Livelihood Activities shows that PAHs report spending 89% of household income on food and schooling.

The data indicates that households in half of the districts tend to spend more than their regular household income – in Hoima, Kikuube, Kakumiro, Kyankwanzi and Rakai. Expenditure can exceed income when households source food from subsistence agriculture (non-monetary) and when they adopt coping strategies such as borrowing to meet immediate expenditure obligations. Households may also under estimate their income during the survey. The apparent low levels of disposable income in these districts are supported by information in the DDPs for Hoima, Kikuube, Kakumiro, Kyankwanzi and Rakai districts, which state that these districts depend on subsistence scale agricultural livelihoods and suffer from low agricultural production and productivity due to poor farming methods, pests and diseases and the effects of climate change.

5.2.4 Enterprise Based Livelihoods

Households with their own Enterprises: As shown in Table 5-4 Livelihood Activities, 64% of surveyed households undertake some self employed enterprise activity. This rate varies across the 10 districts. Hoima (95%), Kikuube (95%), Rakai (85%), Gomba (83%) and Kyotera (73%) have higher rates compared with districts such as Sembabule (39%), Lwengo (42%) and Kyankwanzi (55%).

Type of self-employment*:* A total of 1,965 self employed enterprise activities were identified as being run by the household members. The top ten activities reported are: agri-business (37% of survey responses), retail trade (30%), wholesaling (9%), vehicle driving (55%), hairdressing (3%), baking and cooking (2%), mechanical maintenance work (2%), earth extraction (2%), rental services (2%), and embroidery and tailoring (2%). Most of these are informal sector activities that do not require specialized skills. Very few respondents stated that they have professional skills, such as: civil engineering (4 respondents), veterinary services (3), pharmacy (2), financial analysis (2), accountancy (1), medical/physician (2), medical/pharmacy (2) and IT and communications (2).

Financial Records: Only 30% of these enterprise activities maintain any business records, i.e. 70% do not keep business records. This could indicate low levels of financial literacy among PAHs or that, given the small informal nature of some businesses, formal records are not seen as necessary.

Access and Use of Financial Services: Less than a half (47%) of household respondents stated that they had accessed any financial services (bank accounts, credit, savings, insurance services) within the 12-month preceding the survey, i.e. 53% had not. Across the 10 districts, there are slight differences in access to financial services, with Sembabule having the highest rate (65%), followed by Rakai (54%), Kakumiro (50%) and Hoima (53%); but with Gomba (32%) and Lwengo (33%).

5.2.5 Land & Agriculture

Access to land (owned, used or rented): Land ownership, interests and occupancy status of PAPs is described in Chapter 6. Less than half (< 50%) of the PAPs hold land titles (i.e. freehold, leasehold or mailo titles). With approximately 10% holding customary land rights within three districts of Hoima, Kikuube and Kakumiro. Approximately a third of PAPs who occupy Project-affected land hold land interests (i.e. Kibanja, lawful occupants or bonafide occupants).

Economic activities conducted on land: The survey shows that households in the Project area typically use land for several economic activities. Ninety one percent (91%) of households use land for crop farming, approximately a third (29%) use it for livestock production, and a smaller proportion use land for poultry (15%), planted trees (e.g. teak, eucalyptus, pine) (10%), cemetery/graves (5%), and for renting out (4%), with other purposes (3%) including under fallow, beekeeping, conservation, earth extraction, fishing, commercial building, recreational facilities, hunting and gathering and small scale industry.

The data shows general consistency in land use activities across the 10 districts, although a higher proportion of households use land for livestock production in Gomba and Sembabule, which tend to be drier than other districts and therefore less suited to crop production. Gomba has the lowest rate of households involved in crop production (47%) and the highest rate of

households involved in animal rearing (67%).

Crops & Economic Trees: The survey showed that affected households grow over 22 crop types. The most common crops are maize (grown by 77% of households), beans (73%), cassava (54%), banana (47%), coffee (43%), ground nuts (31%), sweet potato (23%), Irish potatoes (17%), rice (11%) and fruit trees (10%). This shows that the majority of households focus on the production of seasonal crops. With the exception of coffee and fruit trees, perennial crops such as sugar cane, tobacco, vanilla and tea are less frequently grown. Variations in terms of crops grown by percentages of households across the 10 districts include:

- Rice: The main rice growing districts on the pipeline route are Kikuube (69% of households grow rice), Hoima (37%) and Kakumiro (20%), whilst in other districts 0% to 7% of households grow rice. This variation reflects a number of factors: favourable climate and soils for rice growing in Kikuube, Hoima and Kakumiro where rainfall is lower and less reliable than further south and less suitable for maize cultivation; combined with NERICA (New Rice for Africa) programmes by the Japan International Cooperation Agency (JICA) in these districts to promote upland rice for food security, as well as Ugandan government support through the Agricultural Cluster Development Project for farmers by providing rice seeds at subsidised prices and agricultural extension services.
- Maize: The percentages of households growing maize vary between 91% in Kakumiro to 54% in Hoima and 60% in Kikuube, and generally reflect rainfall patterns since maize requires medium to high rainfall that is well distributed throughout the growing season. Rainfall generally declines in duration and reliability to the north of the pipeline route and hence the lower percentage of households growing maize in northern districts such as Hoima.

Livestock: *Forty-seven percent (*47%) of households reported that they keep poultry, followed by 36% for pigs and 34% for goats. Only a small proportion (17%) raise cattle (indigenous breeds). Of the 10 project districts, Gomba has the highest percentage of households keeping cattle, at 30%, 50% and 23% for indigenous, cross-breeds and exotic breeds respectively. The higher rates of cross-breeds and exotic breeds in Gomba compared with other districts indicates more developed livestock management practices in parts of the Gomba.

Table 5-5 Land & Agricultural Activities of PAH

	Hoima	Kikuube	Kakumiro	Kyankwanzi	Mubende	Gomba	Sembabule	Lwengo	Rakai	Kyotera	Total
Percentage of HH's land affected:											
- affected by Project (%)	22%	20%	29%	21%	24%	21%	25%	29%	26%	29%	25%
- not affected by Project (%)	78%	80%	71%	79%	76%	79%	75%	71%	74%	71%	75%
Economic activities conducted on land (%):											
Crop farming	93%	96%	98%	98%	90%	47%	93%	87%	87%	88%	91%
Animal rearing	43%	37%	33%	24%	32%	67%	40%	21%	13%	22%	29%
Poultry	30%	38%	21%	19%	14%	17%	10%	8%	6%	7%	15%
Planted Trees	30%	24%	5%	5%	9%	0%	4%	7%	17%	6%	10%
Cemetery (graves)	3%	6%	5%	6%	4%	0%	1%	3%	5%	10%	5%
Renting out land	8%	6%	5%	2%	6%	0%	2%	2%	1%	3%	4%

	Hoima	Kikuube	Kakumiro	Kyankwanzi	Mubende	Gomba	Sembabule	Lwengo	Rakai	Kyotera	Total
Other	8%	8%	3%	1%	4%	7%	1%	2%	2%	1%	3%
Crops and economic trees grown by HHs (%):											
Maize	54%	60%	91%	86%	87%	80%	87%	77%	66%	68%	77%
Beans	54%	65%	86%	81%	74%	83%	85%	65%	64%	68%	73%
Cassava	57%	65%	74%	65%	45%	67%	56%	54%	38%	49%	54%
Banana	19%	26%	45%	59%	45%	77%	65%	47%	50%	49%	47%
Coffee	11%	12%	26%	40%	27%	20%	70%	63%	61%	62%	43%
Ground nuts	49%	55%	46%	25%	30%	17%	36%	22%	15%	18%	31%
Sweet potato	19%	32%	33%	33%	24%	7%	18%	14%	13%	21%	23%
Irish potato	20%	8%	7%	17%	40%	20%	8%	6%	16%	17%	17%
Rice	37%	69%	20%	2%	0%	7%	0%	0%	0%	0%	11%
Fruit tree	12%	13%	10%	7%	7%	3%	5%	7%	15%	13%	10%
Others	16%	8%	7%	12%	9%	0%	6%	11%	16%	6%	9%
Livestock kept by Households (%):											
Poultry	68%	75%	55%	52%	51%	37%	44%	43%	25%	26%	47%
Pigs	49%	50%	43%	26%	41%	0%	30%	39%	21%	25%	36%
Goats	57%	41%	37%	33%	34%	60%	47%	32%	16%	19%	34%
Cattle indigenous	16%	14%	18%	8%	22%	30%	20%	11%	14%	16%	17%
Cattle cross-breed	1%	5%	9%	3%	8%	50%	22%	4%	6%	3%	8%
Cattle exotic	0%	1%	2%	1%	4%	23%	10%	2%	5%	6%	4%
Sheep	11%	6%	9%	3%	10%	23%	16%	3%	3%	4%	8%
Farm improvement training (%)											
HH received **training** in improved farming methods (%)	41%	49%	50%	39%	35%	13%	46%	32%	39%	32%	39%
HH has **applied** improved crop farming methods (%)	95%	90%	96%	98%	87%	100%	98%	93%	95%	95%	93%

5.2.6 Farming Improvements

The socio-economic survey included a set of questions to assess the current level of household access to production inputs and support, including access to training on improved farming methods, extension services, use of farm tools, and application of value addition methods. Only 39% of households reported having received training in improved farming methods. Whilst this rate is generally consistent across all 10 districts, the lowest rate was recorded in Gomba at 13%, which is likely to reflect the prevalence of livestock farming as the primary economic activity in the district.

The survey showed that farmers in the 10 districts have received agricultural training provided by both Government and civil society organizations including:

- In Hoima, Kikuube, Kakumiro and Kyankwanzi, district staff from the Agriculture and Production Departments are in charge of training farmers and providing farm inputs under the Operation Wealth Creation program. Other organisations providing training include: Hoima Caritas Development Organization, Hoima District Farmers Association (HODFA), Uganda National Farmers' Federation (UNFFE), ECO-Agriculture Uganda, SNV, SWISS Contact, Agriculture Cluster Development Project, Youth Livelihood Programme, Operation

Wealth Creation, UNESCO and World Vision.

- In Kyotera and Rakai the training organisations include: NAADS, Radio Buddu, MADDO, Rakai District Farmers Association and Send a Cow.
- In Sembabule, Gomba and Lwengo: National Agricultural Advisory Services (NAADS), Uganda Livestock Farmers Association, Diary Cooperation, East Africa Diary Development, Uganda Meat Producers Cooperation, District, Sub-county, Sembabule District Farmer's Association (SEDFA) and SACCOs (Savings and Credit Cooperative Organizations).
- In Mubende district – Sub-county officials, Bageza SACCO, BUKADEF, NAADS, Kaweeri Coffee Factory, IBERU Coffee, FACOMU, Care Uganda, Tukolere Wamu Farmers Group, Fellow Farmers, Hunger Project and Nsanja Agro-Chemicals.

Almost all (93%) of respondents, stated that they had put the improved farming methods into practice. The main forms of improved farming methods adopted by farmers were reported to be: application of chemical pest control[3], intercropping, mulching, use of composite or other organic material, crop rotation, use of synthetic chemical fertiliser, use of disease resistant seeds and better storage.

5.2.7 Housing

House Structure Materials: the Project affects rural homesteads mainly of the following types:

- Over 75% of the existing houses affected by Project land requirements, are temporary or semi-permanent constructions generally comprising:
  - Grass thatched roofs with mud and wattle walls, and earth floors, with timber doors and windows (not glazed, where present); or
  - Galvanized corrugated iron sheets with mud and wattle walls, and earth floors, with timber doors and windows (general not glazed, where present).
- The remaining 25% of the existing houses are more permanent constructions generally comprising:
  - Galvanized corrugated iron sheets with burnt brick walls and cement screed floors, with either metal casement or timber doors and windows (some with glazing).

Elements of many of the temporary and semi-permanent house structures, which are more "traditional houses" are built from readily available local materials (e.g. grass, mud, sticks etc.). Some of these structures do have more permanent materials integrated into them, such as Galvanized iron sheets for roofs etc. Semi-permanent and temporary house structures though are generally less durable than the permanent more modern structures, although materials can often be obtained without cash and therefore more easily maintained or replaced. The permanent structures are generally constructed from more durable building materials, built using cement or burnt bricks, and cement screed floors.

Energy sources for cooking and lighting: Surveyed households identified six main energy sources used in a home: firewood, solar panel, kerosene, electricity, processed gas and charcoal:

[3] Note: There are moves away from the use of chemical pest control as a farming technique because of negative externalities and it is contested as a form of farming improvement.

- For **cooking,** almost all (97%) households use firewood, and very few use kerosene, electricity, biogas, processed gas or other fuel sources.
- For **lighting,** 62% use solar, a 31% use kerosene and only 12% use electricity.
- Some variation across the 10 districts exists in fuel sources as shown in Table 5-6.

Water Sources –Wet & Dry Season: As shown in Table 5-6, households tend to use different water sources in the wet and dry seasons. During the wet season, 63% of households depend on rain water harvesting, followed by unprotected springs (28%) and public boreholes (26%). During the dry season, households search for water from sources such as: public boreholes (31%), unprotected springs/wells (29%), protected springs (13%), valley dams/tanks (13%), private yard tap (9%) and rivers/lakes/swamps (7%). The greater variety of sources and lower percentages in the dry season reflect the seasonal scarcity of available water. Communities in the Project area generally rely on traditional water sources and only 9% of households reported that they have access to a safe piped water supply. The wide variation in responses across the 10 districts reflects the use of local sources which vary from place to place.

Problems with Water Sources: As shown in table below, common problems relating to water supply reported by surveyed households include: poor water quality (identified by 60% of surveyed households), long distances to water (47%), sources drying up in dry season (32%), crowds and long queues (29%) and low yield (18%).

The extent of water source problems vary across the districts. For example, poor water quality was reported by a high percentage of households in Gomba (83%), Sembabule (82%), Lwengo (73%) and Mubende (72%); but was much lower in Rakai (27%) and Hoima (40%). Similarly, the problem of water sources drying up was highest in Gomba (66%) and Sembabule (54%), but lower in Hoima (14%), Kikuube (20%) and Kyankwanzi (21%).

Table 5-6 Housing and Domestic Energy & Water Sources of Surveyed Households

	Hoima	Kikuube	Kakumiro	Kyankwanzi	Mubende	Gomba	Sembabule	Lwengo	Rakai	Kyotera	Total
Energy sources for cooking (%):											
Firewood/charcoal	99%	98%	99%	100%	97%	97%	97%	94%	96%	99%	97%
Kerosene	0%	3%	1%	1%	2%	0%	2%	2%	4%	3%	2%
Biogas	0%	1%	0%	0%	1%	7%	1%	0%	2%	0%	1%
Processed gas	0%	1%	0%	1%	1%	3%	1%	2%	3%	1%	1%
Electricity	4%	2%	1%	1%	2%	0%	2%	2%	3%	3%	2%
Other	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Energy sources for lighting (%):											
Firewood/charcoal	0%	0%	0%	2%	1%	0%	1%	1%	0%	1%	1%
Kerosene	34%	44%	14%	15%	21%	0%	29%	34%	35%	50%	31%
Biogas	0%	0%	0%	0%	0%	3%	0%	0%	0%	0%	0%
Processed gas	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%	0%
Electricity	10%	8%	7%	5%	8%	7%	8%	15%	26%	20%	12%

	Hoima	Kikuube	Kakumiro	Kyankwanzi	Mubende	Gomba	Sembabule	Lwengo	Rakai	Kyotera	Total
Solar	62%	72%	74%	79%	70%	77%	63%	53%	49%	42%	62%
Other	5%	10%	17%	11%	11%	17%	7%	1%	2%	3%	8%
Main water sources (%):											
Wet Season											
- Rain water harvesting	70%	75%	64%	80%	74%	17%	50%	53%	43%	67%	63%
- Unprotected spring/well	18%	36%	9%	17%	37%	17%	26%	43%	18%	20%	28%
- Public borehole	19%	36%	52%	60%	15%	0%	5%	13%	29%	33%	26%
- Protected spring/well	57%	42%	3%	6%	4%	3%	6%	6%	15%	10%	12%
- Valley Dam/Valley Tank	1%	1%	6%	2%	19%	70%	15%	8%	3%	11%	10%
- Private yard tap	4%	5%	3%	6%	9%	3%	5%	7%	25%	12%	9%
Dry Season											
-Public borehole	19%	29%	65%	65%	18%	0%	8%	22%	34%	43%	31%
-Unprotected spring/well	14%	27%	9%	18%	40%	17%	34%	43%	18%	25%	29%
-Protected spring/well	45%	39%	3%	7%	4%	3%	9%	9%	17%	12%	13%
-Valley Dam/Valley Tank	0%	1%	3%	2%	20%	73%	29%	12%	3%	13%	13%
-Private yard tap	4%	4%	3%	7%	10%	3%	7%	7%	23%	12%	9%
-River, lake, stream, swamp	12%	8%	16%	22%	4%	3%	5%	4%	2%	3%	7%

Table 5-7 Percentage of Surveyed PAHs Reporting Problems with Water Sources

District:	Poor quality of water	Long distance to the water source	Water dries up during dry season	Large crowd and long queue	Low yield (flow)	Insecurity	Other
Hoima	40%	63%	14%	44%	9%	4%	16%
Kikuube	60%	42%	20%	35%	16%	10%	19%
Kakumiro	44%	54%	24%	54%	16%	15%	40%
Kyankwanzi	50%	65%	21%	49%	18%	9%	22%
Mubende	72%	45%	25%	12%	9%	3%	26%
Gomba	83%	49%	66%	6%	23%	3%	3%
Sembabule	82%	47%	54%	17%	16%	13%	8%
Lwengo	73%	47%	41%	15%	15%	12%	11%
Rakai	27%	35%	25%	35%	29%	5%	28%
Kyotera	55%	50%	41%	44%	27%	4%	14%
All districts	**60%**	**47%**	**32%**	**29%**	**18%**	**8%**	**20%**

5.2.8 Means of Transport

As shown in Table 5-8 Reported means of Transport, 57% of surveyed households own a bicycle. Approximately a third (35%) own a motorcycle; and only 9% own a car. Some variation exists across the 10 districts: the majority of households in Kakumiro (70%) and Sembabule (71%) own a bicycle and a half of the households in Gomba (50%) and Sembabule (49%) own a motorbike. Location and affordability appear to influence access to means of transport, with

remote relatively poor districts tending to use bicycles, and remote but less poor communities (e.g. using income from livestock activities) having higher rates of motorcycle use.

Table 5-8 Reported means of Transport used by PAH

	Hoima	Kikuube	Kakumiro	Kyankwanzi	Mubende	Gomba	Sembabule	Lwengo	Rakai	Kyotera	Total
Household - owns means of transport (%):											
- Bicycle	32%	51%	70%	45%	34%	40%	71%	67%	66%	67%	57%
- Motorbike	37%	33%	29%	38%	33%	50%	49%	31%	38%	32%	35%
- Car/van	5%	5%	6%	7%	12%	27%	12%	7%	14%	9%	9%

5.2.9 Gender Roles and Issues

Gender Division of Labor: The survey examined the allocation of different types of work to male and female members of the household using the Triple Role Framework[4] that guides the analysis of functions and roles of household members. According to this framework, activities that household members normally undertake are categorized as *reproductive work, productive work* and *community work:*

- *Reproductive work* involves the care and maintenance of the household and its members.
- *Productive work* involves the production of goods and services for consumption and trade (in employment and self-employment).
- *Community work* includes the collective organization of social events and services - ceremonies and celebrations, activities to improve the community, participation in groups and organizations, local political activities etc.

Table 5-9 shows household responses to survey questions on who undertakes household tasks. For example, in 83% of households, women undertake domestic work, whilst men do so in only 28% of households. Responses were provided by a mix of household heads, their spouses and other family members.

Table 5-9 Reporting by PAH of Responsibilities for Undertaking Household Tasks by Gender

Type of work	Man	Woman	Girl child	Boy child
Reproductive Work:				
Domestic work	28%	83%	48%	42%
Fetching water	42%	58%	52%	55%
Food preparation	16%	85%	29%	11%
Taking care of children daily	39%	82%	12%	3%
Health seeking for household members	63%	63%	6%	5%
Productive Work:				
Farming (planting, weeding)	72%	76%	26%	22%
Harvesting cash crops	73%	71%	23%	25%

[4] The Triple Role Framework, a tool for analysing gender roles, developed by Caroline Moser in "Gender Planning and Development: Theory, Practice, and Training" (1993).

Type of work	Man	Woman	Girl child	Boy child
Livestock rearing	49%	43%	16%	23%
Working for outside income	73%	48%	1%	3%
Marketing produce (crops/livestock)	75%	51%	1%	2%
Deciding how to use income	74%	52%	1%	1%
Community Work[1]:				
Attending village meetings	72%	53%	0	0

Note 1: Other types of "Community Work" per the Triple Role Framework not included in the PAP survey include: holding social events, activities to care for community resources (e.g. land or irrigation ditches) and participating in groups or farmer organisations.

The survey results show that all household members, men, women, boys, girls participate in *reproductive work* and *productive work,* though *reproductive work* (e.g. food preparation, domestic work, taking care of children) is done more by women and children than by men. Men, women and children are involved in productive work, but certain tasks are undertaken more frequently by men (e.g. working outside for income and marketing produce); and other tasks more frequently by women (e.g. farming (planting and weeding)). In terms of *community work*, the survey did not cover a sufficiently broad range of potential community activities to allow conclusions to be drawn on gender roles in *community work*.

In 74% of households men are involved in deciding how income is used, compared with 52% of women.

Understanding of the way that men and women participate in livelihood activities and are involved household decision making processes will be important for the presentation to PAHs of in-kind compensation options and particularly for the design of livelihood restoration programmes to ensure that support for both men's and women's roles are included in the programmes.

Access to and Control Over Resources: Access to a resource means that a person can use a resource, though may not necessarily have control over it. Control over a resource is the ability to make decisions about its use, including decisions to buy and sell.

The survey shows that whilst both men and women have access to household resources, men have greater control over financial assets and natural resources (notably land) as shown in Table 5-10 Gender Aspects of Resource Access and Control.

Table 5-10 Gender Aspects of Resource Access and Control reported by PAH

Resource Type:	Access to resources		Control over resources	
	Male	Female	Male	Female
Basic needs provision	78%	58%	67%	63%
Cash	75%	62%	67%	62%
Outside income	71%	54%	55%	51%
Asset ownership	74%	49%	61%	49%
Land	72%	48%	68%	51%
Labor	71%	56%	65%	54%
Access to training	66%	47%	54%	45%
Education	71%	54%	59%	56%
Domestic equipment (bicycle, tools)	66%	48%	61%	46%

Reasons reported by PAH in focus group discussions, for women not having control over resources include:

- Patriarchy - Unequal power relations between men and women. Men have greater control over household resources, especially through inheritance and household headship;
- Cultural norms and practices; and
- Religions advocate for male superiority in a home.

Gender-Based Violence: Gender-based violence (GBV) in Uganda continues to be a major challenge in many parts of the Country. It includes domestic violence, sexual violence and early marriage. The 2016 Uganda Demographic and Health Survey revealed that up to 22% of women aged 15 to 49 had experienced some form of sexual violence. The report also revealed that annually, 13% of women aged 15 to 49 report experiencing an incident of sexual violence. This translates to more than 1 million women exposed to sexual violence every year in Uganda.

In the Project area, forms of GBV identified in focus group discussions include: domestic violence and child abuse. Cases reported under domestic violence include spousal fights as a result of drunkenness, sexual harassment and unwanted advances; and child abuse includes corporal punishment and a few cases of defilement. Cases of GBV have the potential to increase if there are disagreements over sharing/use of compensation.

5.2.10 Access to Communal Services

Children Attending School: *Eighty-five percent* (85%) of surveyed households have a child/children attending school. As shown in Table 5-11 Access to Communal Services education attendance rates are consistent across the 10 districts.

Seventy-three percent (73%) of households have at least one child attending primary school and 31% have a child attending secondary school. There is no significant cross-district differences, except for Gomba and Sembabule where a slightly higher percentage of households have children attending Secondary school.

Use of Health Facilities: Survey results show that 79% of households seek health services from the clinic/drug shops located with the administrative area (parish and/or sub-county) where they live. In addition, 43% and 37% seek health services from health centres (I, II, III, IV) and hospitals located in the administrative area. It is usual practice in Uganda to seek practice self medication or to seek health services initially from local primary healthcare units and to seek health services from secondary and tertiary health facilities for more complex / serious illnesses.

Factors behind the choice of health facility used include severity of illness, availability of health services, costs (medical and transport) and the perceived quality of health services. For instance, Table 5-11 Access to Communal Services shows that unlike other districts, most (70%-88%) of the households in Hoima district seek health services from multiple sources likely to be related to their proximity to a range of health services, and possibly affordability and quality of care. A similar pattern applies to the districts of Lwengo, Rakai, and Kyotera (close to Masaka district), and Kikuube close to Hoima district.

Perceived Quality of Education and Health Services: Forty-six percent (46%) and 52% of the respondents rated the quality of education and health services respectively as good or extremely good. A further 34% rated the quality of education and health services as fair. In other words, over 80% of the respondents rated the quality of these services as fair or better. Households in Rakai gave the highest rating to education and health services, with 83% and

87% good or extremely good for health and education services respectively. Households in Sembabule gave the lowest satisfaction ratings for both education and health.

Based on review of District Development Plans, factors that appear to influence the quality of services include high population growth, poor road conditions and budget constraints.

Table 5-11 Access to Communal Services

	Hoima	Kikuube	Kakumiro	Kyankwanzi	Mubende	Gomba	Sembabule	Lwengo	Rakai	Kyotera	Total
Household has children attending school (%)	78%	81%	88%	80%	86%	80%	86%	83%	84%	88%	85%
Household has children attending Primary school (%)	70%	69%	78%	72%	73%	53%	76%	73%	72%	76%	73%
Household has children attending Secondary school (%)	16%	29%	32%	20%	22%	43%	40%	31%	37%	42%	31%
Household access to health facilities (%):											
- Clinic / drug shop in affected location	87%	96%	89%	89%	82%	83%	62%	70%	64%	76%	79%
- Health centre in affected location	70%	58%	36%	52%	47%	33%	31%	50%	17%	46%	43%
- Hospital in affected location	88%	71%	11%	0%	24%	0%	18%	23%	47%	51%	37%
Perceived quality of education services (%):											
- extremely good	0%	1%	3%	3%	7%	3%	4%	6%	4%	4%	4%
- good	47%	41%	41%	34%	41%	28%	25%	36%	79%	48%	42%
- fair	39%	44%	32%	44%	38%	45%	30%	33%	14%	35%	34%
- poor	11%	15%	22%	17%	13%	17%	31%	19%	3%	12%	16%
- extremely poor	3%	0%	2%	2%	2%	7%	10%	6%	0%	1%	3%
Perceived quality of health services (%):											
- extremely good	0%	1%	1%	3%	7%	8%	2%	5%	5%	4%	4%
- good	52%	45%	53%	29%	49%	28%	26%	39%	82%	60%	48%
- fair	37%	43%	35%	46%	36%	12%	38%	35%	12%	30%	34%
- poor	12%	11%	10%	21%	8%	40%	29%	18%	2%	5%	13%
- extremely poor	0%	0%	2%	1%	1%	12%	6%	4%	0%	1%	2%

5.2.11 Social Networks

The socio-economic survey results show that households have a range of social networks and support available, including the immediate family (80%), friends (75%), spiritual leaders (61%) and relatives (56%). A small proportion of households also noted workmates, politicians, government officials, clubs, traditional leaders, Civil Society Organizations and professional organizations as providing support.

The three top areas in which support is sought are care, moral support and labor. Others include material support (necessities), credit and food. The survey shows strong social ties amongst Project-affected households. Efforts will be made to avoid and minimize any disruption of these linkages during relocation.

5.2.12 Household Vulnerabilities

Food Security:

'Food security exists when all people, at all times, have physical and economic access to sufficient safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life' - World Food Summit 1996 [5].

As part of assessing the baseline conditions and household vulnerability to agricultural related hazards, the socio-economic survey included questions to examine the occurrence and seasonality of food insecurity. Findings show that 85% of surveyed households suffer from food shortage in certain months of the year. This data is generally consistent across the 10 districts, but with higher rates of food insecurity in Gomba (97%), Sembabule (91%) and Kyotera (91%). Gomba and Sembabule districts are particularly susceptible to food insecurity due to being located in the dry cattle corridor where conditions are less suited to crop faming.

According to DDPs, other factors contributing to food insecurity include: changing climate and unpredictable seasonal rains; geographic rain shadows; dependence on fishing activities in Hoima; subsistence farming; use of middlemen in selling harvest produce; rapidly expanding population; high levels of poverty; deterioration in soil condition due to weather-induced erosion; poor farming methods; deforestation; effects of pest/disease/vermin; poor storage facilities; lack of knowledge on value-addition; and unaffordable high food prices during food insecure months.

Seasonality of food shortages: Across the 10 districts, the survey showed that food insecurity can occur during any month, but is commonly more severe during the months of January, March, April, July, and November – see Figure 5-1 Percentage of Households Experiencing Food Shortages by Month, Table 5-12 and Figure 5-2.

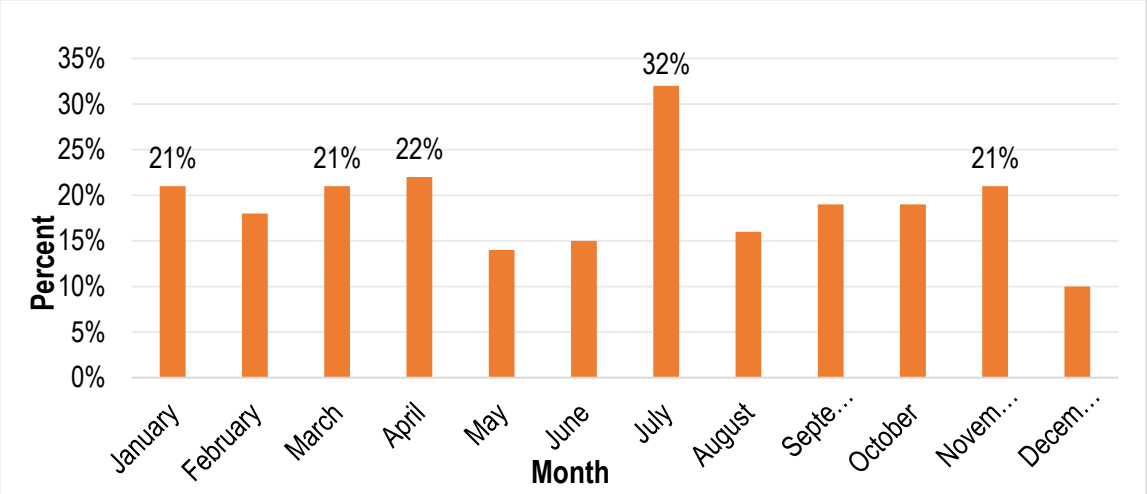

Figure 5-1 Percentage of Households Experiencing Food Shortages by Month

The monthly patterns of food insecurity reported in the socio-economic survey indicate that where households in Project areas suffer from food insecurity, this tends to be transitional/temporary rather than lasting throughout the year, though a small minority of households (approximately 2% to 7%) reported food insecurity in all months. PAHs reported that food insecurity is associated with cyclical factors and events, mainly unpredictable

[5] FAO & European Union: An Introduction to the Basic Concepts of Food Security, http://www.fao.org/3/al936e/al936e00.pdf

seasonal rains, shortfalls in seasonal harvest, dwindling food stocks due to household consumption and increases in food prices towards the end of the dry season. The months of food insecurity broadly coincide with dry season months as reported in the DDPs, i.e. January, February-March and June-July.

The existence of food insecurity highlights the need for the livelihood restoration program to include measures to promote food security such as:

- support with improved water control and water harvesting;
- improved tillage systems and soil management;
- growing drought-resistant varieties of crops and agroforestry species; and
- reducing post-harvest losses (e.g. storage) and promoting value-addition.

In addition, transitional support will be important and the Project should plan relocation activities to enable PAPs to harvest seasonal crops whenever possible before construction work commences.

Table 5-12 Percentages of Households Experiencing Food Shortages by Month

	Hoima	Kikuube	Kakumiro	Kyankwanzi	Mubende	Gomba	Sembabule	Lwengo	Rakai	Kyotera	Total
Household suffers from food shortages (%)	87%	85%	86%	77%	74%	97%	91%	88%	86%	91%	85%
Which months are there food shortages (%)											
January	16%	17%	18%	28%	28%	28%	17%	20%	19%	21%	21%
February	23%	22%	24%	22%	26%	28%	11%	14%	18%	12%	18%
March	41%	40%	49%	37%	16%	14%	7%	13%	14%	10%	21%
April	61%	45%	41%	46%	24%	3%	2%	12%	11%	12%	22%
May	45%	31%	16%	22%	14%	7%	5%	9%	7%	7%	14%
June	19%	13%	9%	15%	19%	38%	18%	15%	11%	16%	15%
July	3%	11%	11%	19%	34%	83%	57%	41%	30%	36%	32%
August	2%	6%	17%	12%	10%	55%	18%	25%	15%	21%	16%
September	2%	9%	6%	11%	15%	17%	19%	36%	20%	30%	19%
October	6%	9%	15%	9%	9%	7%	12%	32%	23%	36%	19%
November	11%	19%	5%	2%	6%	7%	5%	24%	42%	62%	21%
December	8%	9%	5%	3%	5%	3%	6%	10%	13%	23%	10%

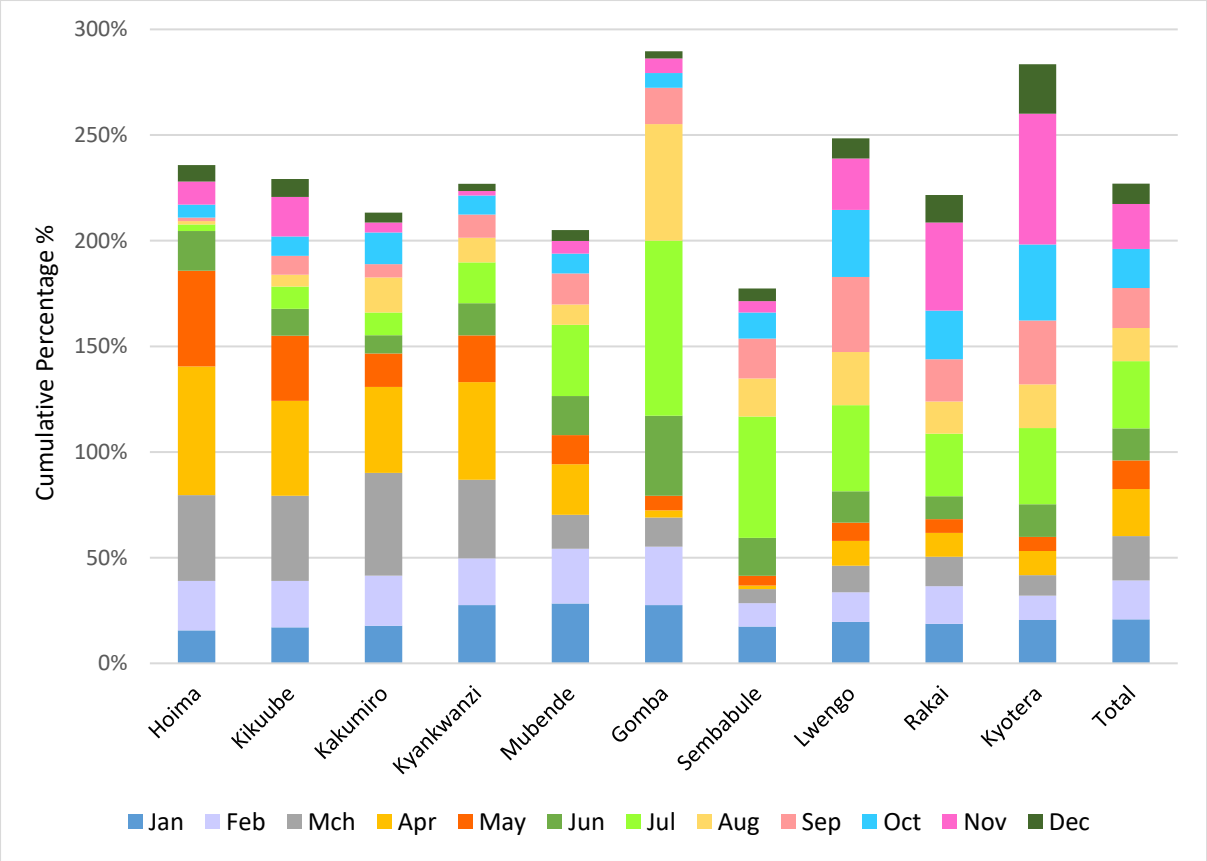

Figure 5-2 Percentage of Households Experiencing Food Shortages by Month and by District

Major problems affecting agricultural production: Agriculture in the 10 districts suffers from several constraints and challenges. As shown in Table 5-13, surveyed households identified the following key problems: low prices for sale of produce (identified by 85% of households), pests and diseases (82%) and weather conditions (80%). The problems of low prices are more common in the remote rural districts of Kakumiro, Kyankwanzi, Gomba, and Sembabule.

The problems presented in the table below can be categorized as:

- **Physical-ecological** factors affecting production of crops and livestock. The most widespread problems reported by surveyed households were pests/diseases/vermin (85% of households) and unpredictable weather conditions (notably drought) (80% of households); and less widespread problems included infertile soils (21%), shortage of water for livestock (8%) and crop irrigation, which contribute to poor yield (reported by 33% of surveyed households).
- **Post-harvest losses** are characterized by leakages and losses through theft (reported by 34% of surveyed households), poor storage of harvested crops (13%), effect of rodents and vermin (21%), which eventually reduce and spoil the amount and quality of produce
- **Marketing:** farmers experience problems of few marketing outlets, poor road conditions and low prices for agricultural produce paid by middlemen.
- These problems are exacerbated by **limited access to agricultural support,** such as extension services, technology (skills and tools), improved crop types and seeds,

shortages of farm inputs and limited access to arable land and water.

Table 5-13 Percentage of Households Experiencing Problems Affecting Agricultural Production

	Hoima	Kikuube	Kakumiro	Kyankwanzi	Mubende	Gomba	Sembabule	Lwengo	Rakai	Kyotera	Total
Major problems affecting agricultural production (yes) (%):											
Low crop produce prices	81%	83%	95%	91%	80%	93%	89%	84%	82%	80%	85%
Pests and diseases	65%	86%	85%	91%	82%	80%	86%	85%	78%	75%	82%
Weather conditions	87%	86%	83%	79%	72%	77%	88%	76%	75%	81%	80%
Theft	31%	46%	34%	35%	20%	40%	24%	23%	46%	55%	34%
Poor yields	49%	44%	40%	62%	33%	7%	21%	20%	25%	33%	33%
Lack of market	32%	43%	30%	43%	27%	47%	25%	17%	36%	35%	31%
Poor roads	34%	37%	45%	71%	22%	63%	28%	20%	9%	12%	28%
Livestock diseases	26%	24%	28%	29%	22%	73%	32%	21%	14%	14%	23%
Lack of production knowledge/skills	22%	32%	41%	33%	19%	57%	11%	26%	10%	18%	23%
Few extension workers	16%	20%	37%	33%	12%	20%	19%	37%	24%	19%	23%
Limited supply of farm inputs	32%	30%	27%	32%	16%	23%	23%	23%	20%	20%	23%
Poor farming technology	22%	30%	44%	26%	15%	33%	16%	12%	11%	26%	22%
Vermin	32%	56%	29%	15%	13%	30%	11%	17%	7%	23%	21%
Infertile land	12%	18%	19%	8%	14%	17%	15%	30%	21%	38%	21%
Poor storage	11%	18%	30%	26%	6%	7%	9%	13%	10%	8%	13%
Scarcity of water for livestock	4%	6%	14%	9%	4%	20%	15%	5%	5%	7%	8%
Scarcity of land	5%	5%	5%	12%	9%	3%	5%	11%	7%	9%	8%
HH affected by disadvantage / disability (yes) (%)	4%	1%	1%	0%	1%	3%	0%	0%	2%	1%	1%

Forms of Vulnerability: Eight hundred and nineteen (819) survey respondents reported that they experienced vulnerability and disadvantage due to a range of factors, with many households noting multiple factors contributing to their vulnerability. As shown in Table 5-14, the most commonly cited forms of disadvantage are: illiteracy (7%), female headed households (6%), elderly (6%), widow (14%), chronic illness (12%). Factors with fewer responses included: orphan and vulnerable children (1%), physical disabilities (1%), mentally disturbed (1%), visual impairment (1%), deaf/difficulty in hearing (1%), extreme poverty (1%) and child headed households (0.4%).

Variation across the districts in terms of vulnerability factors experienced by households include the following:

- Illiteracy was more commonly mentioned in the districts of Mubende (21% of households mentioned it) and Kyankwanzi (20%);
- Female headed households was more commonly mentioned in the districts of Kyankwanzi (12%), Hoima (10%), Kakumiro (10%) and Rakai (10%).
- Households with elderly PAPs was more commonly mentioned in Kyankwanzi (10%), Kakumiro (8%) and Rakai (8%).

Table 5-14 Percentage of Households Experiencing Forms of Vulnerability

	Hoima	Kikuube	Kakumiro	Kyankwanzi	Mubende	Gomba	Sembabule	Lwengo	Rakai	Kyotera	Total
Forms of HH vulnerability (%):											
Female headed household	10%	4%	12%	12%	8%	0%	1%	2%	10%	5%	6%
Widow	4%	3%	6%	3%	6%	0%	2%	2%	8%	5%	4%
Child headed	0%	1%	0%	1%	0%	0%	0%	0%	0%	0%	<1%
Orphan and vulnerable children	1%	1%	2%	4%	0%	0%	0%	0%	2%	1%	1%
Elderly/aged	4%	6%	8%	10%	5%	0%	5%	5%	8%	7%	6%
Physically disabled	4%	1%	1%	0%	1%	3%	0%	0%	2%	1%	1%
Mentally disabled	0%	1%	0%	0%	1%	0%	0%	0%	0%	1%	1%
Visual impairment	0%	1%	1%	0%	2%	0%	1%	0%	0%	1%	1%
Deaf/difficult hearing	0%	1%	0%	0%	1%	0%	1%	1%	0%	1%	1%
People-chronic illnesses	12%	5%	5%	1%	6%	0%	2%	2%	2%	0%	3%
Illiterate	0%	0%	6%	20%	21%	0%	3%	1%	2%	1%	7%
Extremely poor	1%	1%	1%	1%	2%	0%	0%	1%	1%	2%	1%
Internally displaced people	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Other	0%	1%	0%	1%	0%	0%	1%	0%	0%	0%	<1%

5.2.13 Household Livelihood Needs and Preferences

Household intention to continue existing livelihood activity: As shown in Table 5-15, 91% of survey respondents said that they would like to continue with their current livelihood activities and only 9% wanted to switch to new sources of livelihood. For those who wanted to switch, 69% preferred enterprise-based livelihood. Few households wanted to switch to crop farming (2%), livestock (9%), employment-based (20%) or natural resource-based livelihoods (0.6%).

Reasons given by different households for wanting to maintain existing sources of livelihoods included:

- Favourable natural conditions (land size, fertile soil, rich pasture, good climate conditions, availability of water for irrigation);
- Availability of cheap labour;
- Production skills and experience (skills in crop farming or livestock farming);
- Access to markets for produce;
- High profit returns; and
- Source of daily livelihood.

Factors Constraining Current Livelihood Activities: PAHs reported factors that constrain current livelihood activities and these are broadly consistent with problems affecting agricultural production shown in Table 5-13 above. Whilst not all PAHs identified these factors, they include:

- Limited access to production inputs such as shortage of land, shortage of pasture, high cost farm implements, high cost of improved seeds and lack of livestock vaccines.

- Unfavourable physical-ecological conditions, which mainly affect land-based farming and land-based livestock activities and include crop and livestock disease, pests & vermin, infertile soil, climate condition (heavy rains & drought), scarcity of water for irrigation and livestock.
- Poor access to markets including poor roads/long distance to market, few local market outlets, price fluctuations and poor commodity prices.
- Labour and production skills issues such as expensive labour, limited crop and husbandry skills, shortages of labour (including the ageing effect) and limited access to crop extension services and veterinary services.
- Poor working conditions affecting mainly the enterprise-based and employment-based activities, such as occupational hazards and safety, poor working environment, shortage of working space and long distances to work.
- Financial issues such as delayed salary and wage payments, low revenue from agriculture, high taxes on salary/goods, limited working capital, limited access to loans, expensive rents and bad debts/dishonest customers.
- The problems reported by PAHs as affecting agricultural livelihoods are consistent with challenges identified in the District Development Plans.

Support to Restore and Improve Current Preferred Livelihoods: Those who would prefer to maintain current livelihood activities identified a range of support needs shown in Table 5-15. Responses were broadly consistent across the 10 districts and address the constraints on current livelihoods identified above, including the following support and assistance:

- **Financial Assistance** in the form of financial grants, improved access to micro-credit at reasonable terms, to help households expand production inputs (e.g. size of land, seeds, tools, pesticides, labour and technology).
- **Improved access to natural assets** in the form of arable land, seeds, seedlings, planting materials, farming materials and equipment; livestock breeds (beef and dairy cattle, poultry, improved local breeds, fish beehives, artificial insemination); and water for irrigation and livestock; as well as small scale agricultural processing, e.g. maize milling.
- **Skills development** through extension services, training centres, demonstration schools or demonstration farms, natural resource management skills to reduce environmental degradation, marketing skills and entrepreneurship skills. Skills development would focus on improved farming methods identified above, including: application of pest control, intercropping, mulching, use of composite or other organic material, crop rotation, use of chemical fertiliser, use of disease resistant seeds and seedlings and improved storage. Entrepreneurial skills development could include: business management, financial management, customer care, marketing, strategic approaches, time management.
- **Access to physical capital assets** through removal of transport bottlenecks on the feeder and access roads, establishing market outlets, storage facilities and work space.
- **Establishing cooperatives and farmer/business** networks. In Uganda these include Savings and Credit Cooperative Organizations (SACCO) and Village Saving and Loan Association (VSLA).

Table 5-15 Household Livelihoods Needs & Preferences

	Hoima	Kikuube	Kakumiro	Kyankwanzi	Mubende	Gomba	Sembabule	Lwengo	Rakai	Kyotera
HH member intends to continue EXISTING livelihood activity (yes) (%)	88%	81%	91%	96%	87%	93%	97%	95%	93%	91%
HH intends to adopt NEW livelihood activities (yes) (%)	13%	19%	9%	5%	13%	7%	3%	5%	8%	9%
What NEW livelihood activities do HH want to adopt? (%)										
Land-based farming	0.0%	0.0%	0.0%	0.0%	7.4%	0.0%	0.0%	2.2%	12.5%	3.9%
Land-based livestock	4.8%	11.8%	1.4%	16.7%	9.9%	0.0%	0.0%	6.5%	4.2%	10.7%
Enterprise-based	100%	80%	89%	63%	51%	100%	83%	37%	69%	62%
Employment-based	0%	10%	3%	0%	31%	30%	24%	28%	2%	20%
Natural resource based	0%	0%	1%	0%	1%	0%	0%	2%	2%	1%
What support would help HHs with EXISTING activities? (%)										
Grants	19%	27%	10%	7%	13%	8%	21%	31%	53%	52%
Land	12%	18%	10%	9%	12%	8%	17%	22%	27%	20%
Micro-credit	24%	29%	28%	18%	31%	27%	17%	23%	15%	11%
Water supply	14%	14%	12%	6%	11%	7%	21%	16%	5%	11%
Marketing skills	23%	23%	18%	13%	10%	22%	6%	8%	10%	7%
Extension service	22%	15%	10%	5%	11%	32%	6%	15%	11%	6%
Physical markets	29%	23%	17%	18%	17%	20%	12%	5%	4%	6%
Training centres	16%	20%	13%	9%	7%	5%	8%	11%	6%	6%
Access roads	19%	25%	20%	28%	13%	30%	13%	8%	4%	3%
Producer goods inputs	17%	19%	7%	11%	15%	2%	25%	20%	8%	5%
Resource management knowledge	12%	7%	4%	5%	3%	5%	2%	2%	2%	2%
What support would help HHs with the NEW activities? (%)										
Grants	24%	26%	14%	25%	13%	30%	31%	59%	54%	59%
Working space	29%	22%	11%	4%	27%	30%	14%	11%	25%	18%
Micro-credit	62%	50%	66%	38%	47%	70%	59%	26%	19%	17%
Entrepreneurship	43%	15%	15%	8%	12%	0%	21%	4%	2%	10%
Training centres	14%	19%	9%	21%	7%	0%	17%	22%	0%	10%
Marketing skills	24%	16%	22%	17%	16%	30%	21%	9%	10%	8%
Physical markets	24%	24%	22%	13%	8%	20%	10%	9%	13%	8%
Access roads	19%	23%	36%	21%	17%	0%	10%	9%	15%	7%
Job-placement	0%	3%	1%	0%	16%	30%	17%	13%	0%	6%
Resource management knowledge	14%	6%	3%	0%	2%	0%	3%	2%	2%	5%
Livestock stoking	5%	9%	4%	0%	5%	40%	0%	2%	2%	5%
Extension service	10%	6%	14%	21%	3%	0%	0%	0%	4%	4%
Storage	14%	9%	5%	0%	0%	0%	0%	2%	8%	0%

5.3 DISTRICT PROFILES

The following 10 district profiles provide information on how the socio-economic setting described above varies between villages within the districts. Much of the data is generally consistent across different villages within a particular district, therefore the commentary focuses on variation and outliers in terms of socio-economic status and vulnerability which warrants particular attention during implementation. Further district level socio-economic data is included in the Socio-economic Baseline Report (EACOP Uganda, September 2020).

5.3.1 Hoima District

Within Hoima District, the pipeline runs for 1.5 km within the Kabaale Industrial Park, and then runs for 4km through land in the village of Kijumba in the Sub-County of Buseruka near the border with Kikuube, as shown in Figure 5-3. As the route affects only one village, all the data for Hoima district in Section 5.2 above applies to Kijumba village, so no cross-village analysis of socio-economic data is provided.

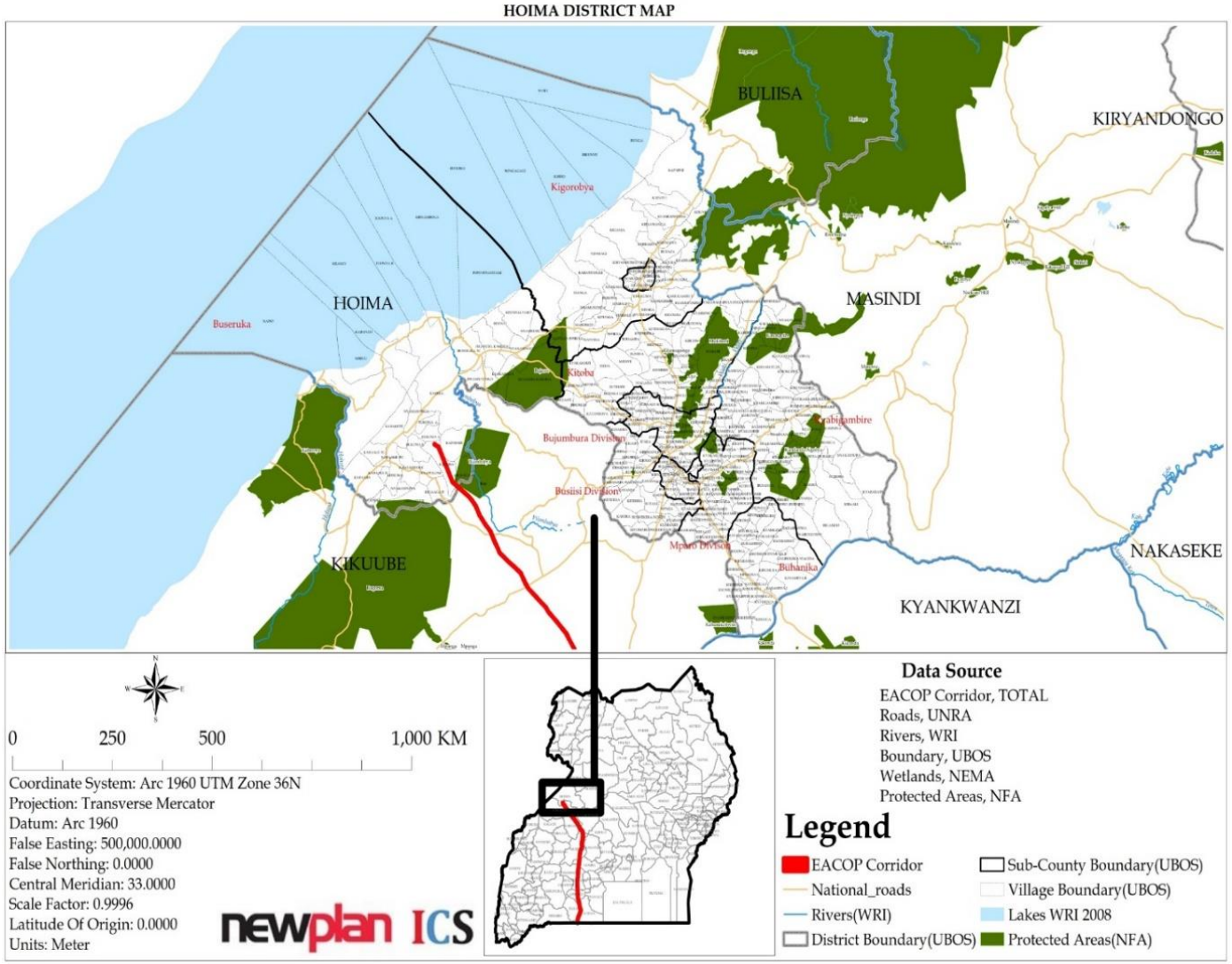

Figure 5-3 Pipeline Route through Hoima District

Hoima is well endowed with natural resources, good vegetation and climate that is conducive to agriculture and crop production. There are four main types of land use in the district: agriculture, settlements, forest conservation and wildlife conservation with protected areas occupying a significant proportion of the total land area (21%). Socio-economic characteristics of the 74 surveyed PAHs in Kijumba village in Hoima are detailed in data shown in Section 5.2 above and summarized in the table below, including differences compared with average figures across all 10 districts, include the following:

Table 5-16 Summary of Socio-Economic Characteristics of PAHs in Hoima District

Demographic and Household Characteristics:
• Household characteristics in Hoima, such as the percentage of household heads who are male (76%) and the average number of household members (6.3) are broadly similar to figures across all 10 districts (84% and 6.8 respectively). • Hoima has a much higher proportion of relatively young household heads, with 50% being between the ages of 18 to 35 years, compared with 25% in this age group across all 10 districts. • 74% of PAHs are of Mukiga ethnicity, whilst only 15% of households across the 10 districts are Mukiga. • 56% of households in Hoima are of Anglican religion, double the proportion who are Anglican across all 10 districts.
Education and Health:
• 86% of household heads in Hoima are literate. • 33% of Hoima household members have not attended school, compared with 27% across all 10 districts. Percentages of people who have attended primary and secondary schooling at 53% and 10% respectively. • 78% of households have children who attend school, compared with 85% across all 10 districts – this is the lowest figure of all districts and the difference appears to stem from a lower percentage for households with children attending secondary school, 16% in Hoima compared with 31% for all 10 districts. • 12% of household heads are affected by chronic illness or disability, the highest figure in any district, compared with only 3% across all 10 districts.
Livelihood Activities & Household Income:
• 93% of households are involved in crop farming, which is consistent with the rate of 91% across all 10 districts. • The most frequently grown crops amongst Hoima households are maize, beans, ground nuts and cassava. A higher percentage of households in Hoima grow rice (37%) and a lower percentage grow maize (54%) compared with the percentages across all 10 districts (11% and 77% respectively). As noted in Section 5.2.5 above, this reflects favourable climate and soils for rice growing in Hoima where rainfall is lower and less reliable than further south and less suitable for maize cultivation, as well as support to farmers for rice cultivation from the Ugandan government and Japan International Cooperation Agency (JICA). • 43% of households rear animals, which is higher than the 29% who do this across all 10 districts. • 30% of households have planted trees as a source of livelihood, which is much higher than the 10% across all 10 districts. • Monthly reported income levels of Hoima households are very similar to levels reported across all 10 districts. 36% of households reported monthly incomes of 450,000 UGX (US$ 122) or less, compared with 40% across all 10 districts.
Water:
• 40% of households stated they have poor water quality, lower than the 60% for all 10 districts and fewer people, 14%, reported that water sources dry up in the dry season compared with 32% across all 10 districts. But more people reported problems of long distances to water (63%) compared with 47% for all 10 districts.
Transport:
• Percentages of households owning bicycles are 51% and a car/van 5%, but more own motorbikes than in other districts, 37% in Hoima compared with 35% across all 10 districts.
Household Vulnerability:
• 87% of households suffer from food shortages in some months of the year compared with 85% of households across all 10 districts. Months with highest rates of food shortages in Hoima are March (41%), April (61%) and May (45%), compared with 21%, 22% and 14% respectively across all 10 districts. Conversely, only 3% of Hoima households experience food shortages in July compared with 32% across all 10 districts. • Key problems affecting agricultural production in Hoima include: Low crop produce prices (85% of households), Pests & Diseases (82%), Weather conditions (80%) and Poor Yield (49%). • The highest factors contributing to household vulnerability in Hoima are Chronic illness 12% and Female headed families 10%, compared with 3% and 6% respectively across all 10 districts.

Livelihood Needs & Preferences:
• 88% of households in Hoima stated that they intend to continue current livelihood activities, which is similar to the level across all 10 districts (91%). • Support preferences for existing economic activities in Hoima include: Physical markets (identified by 29% of households), Micro-credit (24%), Marketing skills (23%) and Extension services (22%), Support preferences for new livelihood activities in Hoima include: Micro-credit (62%), Entrepreneurship support (43%), Working space (29%) Marketing skills (24%) and grants (24%).

5.3.2 Kikuube District

Within Kikuube District, the pipeline runs for 30.4 km through land of 20 villages in the Sub-Counties of Kiziranfumbi and Buhimba – see Figure 5-4:

- 18 villages in Kiziranfumbi Sub-County: Kyakatemba, Rwamusaga, Butimba East, Butimba West, Kitambara, Kihiigwa, Kamusunsi, Kigozi, Butyamba, Kicuunda, Kikuuba B, Kikuuba A, Bulimya, Kabeerya, Kigabu, Mukabala, Kikyakamya, Kakende.
- 2 villages in Buhimba Sub-County: Ruhunga and Kihooko.

Kikuube has a climate that is conducive to agriculture and crop production. A large proportion of land is used for livestock grazing, as well as for crop farming.

Socio-economic characteristics of the 358 surveyed PAHs in Kikuube district are shown in the tables in Section 5.2 above. Characteristics, including differences compared with average figures across all 10 districts and variations between the 20 villages, are summarized in the table below:

Table 5-17 Summary of Socio-Economic Characteristics of PAHs in Kikuube District

Demographic and Household Characteristics:
• 88% of household heads are male, this varies between 63% to 100% in the 20 villages of Kikuube. The 63% relates to the village of Kitambara where 3 of 8 PAHs are female headed. • The average number of household members in Kikuube is 6.4This varies between 5 to 9 in the different villages. • The pattern of age ranges for household heads in Kikuube is consistent the pattern for all 10 districts. • 58% of PAHs are of Munyoro ethnicity, whilst only 10% of households across the 10 districts are Munyoro. • 39% of households in Kikuube are Catholic and 35% are Anglican religion.
Education and Health:
• Levels of literacy amongst household heads (92%) and proportions of household members who have attended schooling are broadly consistent with figures across all 10 districts. • Amongst Kikuube villages only one PAP reported a chronic illness.
Livelihood Activities & Household Income:
• 96% of households are involved in crop farming, slightly higher than the 91% for all 10 districts. • The most frequently grown crops amongst Kikuube households are maize, beans, ground nuts and cassava. A higher percentage of households in Kikuube grow rice (69%) and a lower percentage grow maize (60%) compared with the percentages across all 10 districts (11% and 77% respectively). As noted in Section 5.2.5 above, this reflects favourable climate and soils for rice growing in Hoima where rainfall is lower and less reliable than further south and less suitable for maize cultivation, as well as support to farmers for rice cultivation from the Ugandan government and Japan International Cooperation Agency (JICA). • 37% of households rear animals, which is higher than the 29% who do this across all 10 districts. • 24% of households have planted trees as a source of livelihood, which is much higher than the 10% across all 10 districts. • Monthly reported income levels of Kikuube households- 38% of households reported monthly incomes of 450,000 UGX (US$ 122) or less.
Water:

• 60% of households stated they have poor water quality fewer households than average reported problems of long distances to water (42%) and water sources drying up in dry season (20%) than figures across all 10 districts (47% and 32% respectively).
Transport:
• Slightly lower percentages of households own means of transport (bicycle 51%, motorbike 33%, car/van 5%) than across of 10 districts (bicycle 57%, motorbike 35%, car/van 9%).
Household Vulnerability:
• 85% of households suffer from food shortages in some months of the year, the same as 85% of households across all 10 districts. Months with highest rates of food shortages in Kikuube are March (40%), April (45%) and May (31%), compared with 21%, 22% and 14% respectively across all 10 districts. Conversely, only 11% of Kikuube households experience food shortages in July compared with 32% across all 10 districts. • Key problems affecting agricultural production in Kikuube are generally similar to problems reported across all 10 districts: Low crop produce prices (83% of households in Kikuube against 85% across all 10 districts), Pests and Diseases (86% against 82%), Weather conditions (86% against 80%) and Poor Yield (44% versus 33%). • The frequency of vulnerability factors identified by households in Kikuube are generally similar to figures across all 10 districts, though slightly higher for chronic illnesses at 5% in Kikuube compared with 3% across all 10 districts.
Livelihood Needs & Preferences:
• 81% of households in Kikuube stated that they intend to continue current livelihood activities, compared with 91% across all 10 districts. This slightly lower figure reflects the fact that in 2 of the 20 affected villages in Kikuube district, the villages of Kicakamya and Kikuube B villages, the percentage of households planning to continue current livelihood activities was relatively low (at 58% and 68% respectively), though the reasons for this are not known. • Livelihood restoration preferences and needs in Kikuube are generally consistent with those reported across all 10 districts. Support preferences for existing economic activities in Kikuube include: Micro-credit (identified by 29% of households), Grants (27%), Access roads (25%) Marketing skills (23%) and Physical markets (23%). Support preferences for new livelihood activities in Kikuube include: Micro-credit (50%), Grants (26%), Physical markets (24%), Access roads (23%) and Working space (22%).

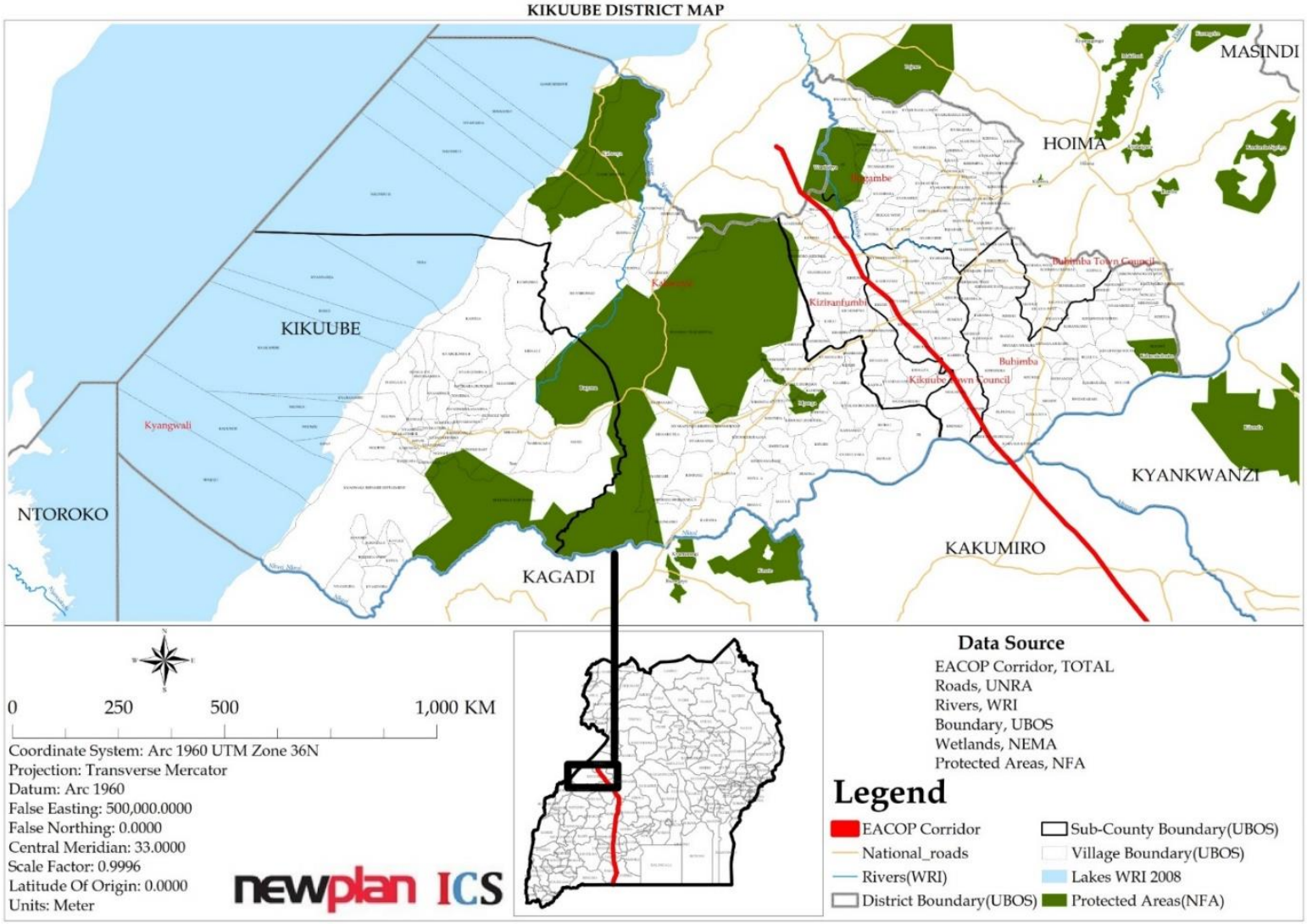

Figure 5-4 Pipeline Route through Kikuube District

5.3.3 Kakumiro District

Within Kakumiro District, the pipeline runs for 33.4 km through land of 25 villages in the Sub-Counties of Katikara, Kisiita Town Council, Mpasaana and Nkooko – see Figure 5-5:

- Katikara Sub-County – 8 villages: Kyerimira, Kasambya, Nyakabungo, Karokarungi, Rwemirama, Kyakajoro B, Kyakajoro A and Mukono A.
- Kisiita Town Council – 6 villages: Kyangota A, Kisiita West B, Kisiita A, Kyentale, Kyabanena and Kyamajara.
- Mpasaana Sub-County – 9 villages: Kyajawe C, Rwamata B, Kyajawe A, Kyajawe B, Mabengere, Mpasaana, Kijungu, Kalabata and Binikira East.
- Nkooko Sub-County – 2 villages: Wabitaama and Mweruka.

Kakumiro district is part of the central plateau, with areas of hills, forest and savannah grassland. Its climate is generally favourable for agriculture.

Socio-economic characteristics of the 297 surveyed PAHs along the pipeline route in Kakumiro district are shown in the tables in Section 5.2 above. Characteristics, including differences compared with average figures across all 10 districts and variations between the 25 villages, are summarized in the table below:

Table 5-18 Summary of Socio-Economic Characteristics of PAHs in Kakumiro District

Demographic and Household Characteristics:
• Household characteristics in Kakumiro are generally consistent with the average across all 10 districts, in terms of the percentage of household heads who are male (85%) and number of household members (average of 6.8). There are variations between villages, for example, in 8 of the 25 villages, 100% of households have male heads – which may just reflect relatively low numbers of PAHs in these villages rather than statistically significant differences. • 54% of PAHs are of Mukiga ethnicity, whilst only 15% of households across the 10 districts are Munyoro. • 33% of households in Kakumiro are Catholic and 39% are Anglican religion, which is generally consistent with the average for all 10 districts (46% and 28% respectively).
Education and Health:
• Figures for literacy of household heads in Kakumiro (83%) and percentages of household members who have attended school (53% primary school and 14% secondary school) are generally consistent with the average figures for all 10 districts. • Similarly, 3% of household heads are affected by chronic illness or disability, the same rate as across all 10 districts. Amongst Kakumiro villages this varies from 0% to 33% in Kyakajoro B village and Rwamata B village (6 and 3 households surveyed respectively).
Livelihood Activities:
• Almost all (98%) of households are involved in subsistence crop farming, slightly higher than the 91% for all 10 districts. The two villages of Binikira East and Kalabat-A have lower percentages for subsistence farming (74% and 80% respectively) but higher rates of commercial crop farming (26% and 20%) which may reflect factors such as favourable soil quality or proximity to irrigation water sources. • The most frequently grown crops amongst Kakumiro households are maize, beans, ground nuts, banana and cassava. 91% of households grow maize, which is higher than the 77% across all households. 20% of households grow rice, higher than the 11% across all 10 districts. • 33% of households rear animals, slightly higher than the 29% who do this across all 10 districts. • Only 5% of households have planted trees as a source of livelihood, which is lower higher than the 10% across all 10 districts. • Monthly income levels of Kakumiro households appear slightly higher than for surveyed households across all 10 districts, which is likely to reflect favourable conditions for crop growing. A lower percentage of households (6%) are in the lowest monthly income band of <150,000 UGX (US$ 41) compared with 13% across all districts. 34% of households reported monthly incomes of 450,000 UGX (US$ 122) or less, compared with 40% across all 10 districts. 29% of households

reported incomes in the highest income band of 1,700,000+ UGX (US$463), which is higher than the 24% across all 10 districts.
Water:
• Availability of water sources in Kakumiro appears relatively better than on average situation across all 10 districts. Forty four percent (44%) of households stated they have poor water quality, lower than the 60% for all 10 districts; and water sources drying up in the dry season (24% of households) was also lower than across the 10 districts (32%). However, 54% of households reported problems of long distances to water, compared with 47% across all 10 districts.
Transport:
• A higher proportion of households own a bicycle (70%) and lower proportions own motorbikes (29%) and cars/vans (6%) compared with figures across the 10 districts (bicycle 57%, motorbike 35%, car/van 9%).
Household Vulnerability:
• 86% of households suffer from food shortages in some months of the year, just higher than the 85% of households across all 10 districts. Months with highest rates of food shortages in Kakumiro are February (24%), March (49%) and April (41%), higher than the 21%, 22% and 14% respectively across all 10 districts for these months. Conversely, only 11% of Kakumiro households experience food shortages in July compared with 32% across all 10 districts. • Some key problems affecting agricultural production in Kakumiro are reported more frequently than across all 10 districts: Low crop produce prices (95% of households in Kakumiro against 85% across all 10 districts) and Pests and Diseases (85% against 82%), Weather conditions (83% against 80%) and Poor Yield (40% versus 33%). • The frequency of vulnerability factors identified by households in Kakumiro is generally similar to figures across all 10 districts, though higher for female headed household (12%) against 6% for all 10 districts.
Livelihood Needs & Preferences:
• 91% of households in Kakumiro stated that they intend to continue current livelihood activities, the same percentage as across all 10 districts. • Livelihood restoration preferences and needs in Kakumiro are also generally consistent with those reported across all 10 districts. Support preferences for existing economic activities in Kakumiro include: Micro-credit (identified by 28% of households) and Access roads (20%). Support preferences for new livelihood activities in Kakumiro include: Micro-credit (66%), Access roads (36%), Marketing skills (22%) and Physical markets (22%).

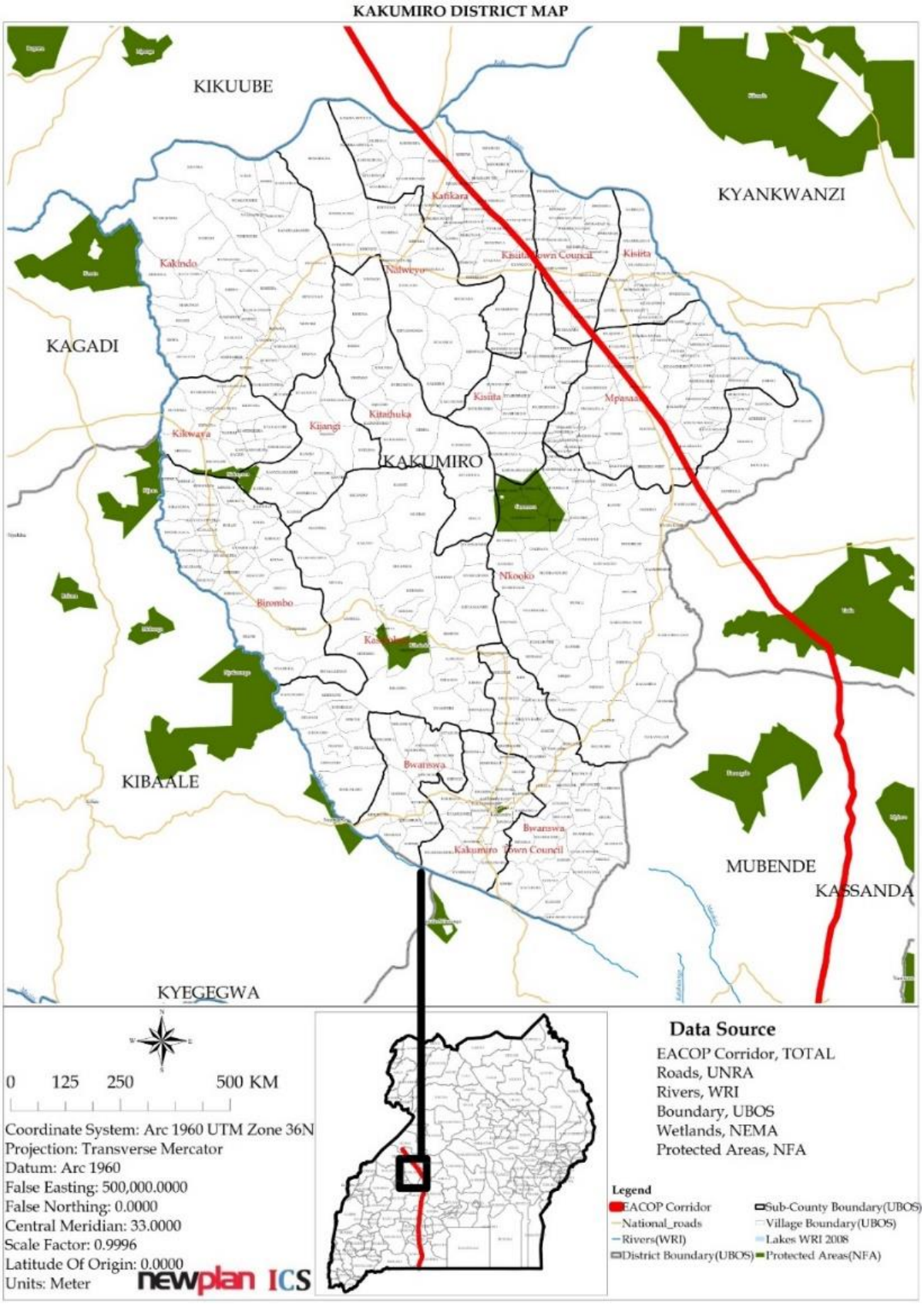

Figure 5-5 Pipeline Route through Kakumiro District

5.3.4 Kyankwanzi District

Within Kyankwanzi District, the pipeline runs for 14.7 km through land of 8 villages (Kikandwa, Kiyuni Central, Kyamulalama, Kiryajobyo West, Luwuuna, Kisala West, Nakivubo and Kisala East) in the Sub-County of Gayaza – see Figure 5-6:

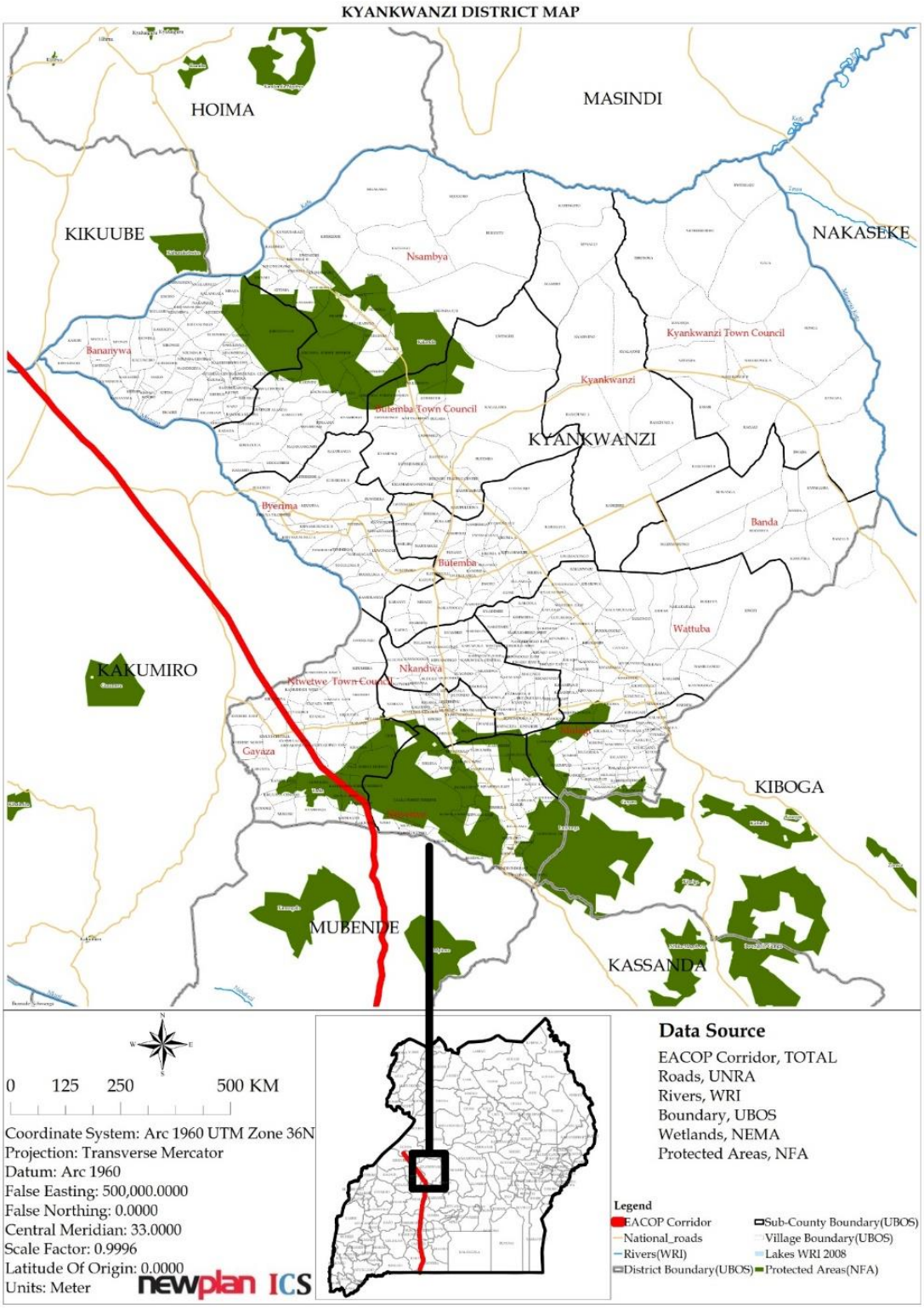

Figure 5-6 Pipeline Route through Kyankwanzi District

Kyankwanzi district has a tropical climate with moderate rainfall and temperature, conducive

to crop production and livestock.

Socio-economic characteristics of the 190 surveyed PAHs in Kyankwanzi district are shown in the tables in Section 5.2 above. Characteristics, including differences compared with average figures across all 10 districts and variations between the 8 villages, are summarized in the table below:

Table 5-19 Summary of Socio-Economic Characteristics of PAHs in Kyankwanzi District

Demographic and Household Characteristics:
• 87% of household heads are male, compared with an average of 84% across all 10 districts. This varies between 82% and 100% in the 8 villages of Kyankwanzi, with variations likely to reflect the small numbers of households in certain villages, rather than being statistically significant differences. • The average number of household members in Kyankwanzi is 6.1, lower than the average of 6.8 across all 10 districts. This varies between 5 and 9 in the different villages. • The pattern of age ranges of household heads in Kyankwanzi is broadly consistent with the pattern for all 10 districts, though a higher proportion (11%) are in the 18-25 year range compared with 6% across all 10 districts. • 45% of PAHs are of Muganda ethnicity, similar to the 46% of households across the 10 districts. • 49% of households in Kyankwanzi are Catholic, 20% are Anglican and 14% are Adventist, compared with 46%, 28% and 3% respectively for all 10 districts.
Education and Health:
• Literacy rates amongst household heads (83%) and proportions of Kyankwanzi household members who have attended school, Primary and Secondary are broadly consistent with figures for all 10 districts. • 3% of household heads are affected by chronic illness or disability, the same rate as across all 10 districts.
Livelihood Activities:
• 98% of households are involved in crop farming, higher than the 91% for all 10 districts. • The most frequently grown crops amongst Kyankwanzi households are maize, beans, ground nuts, banana and cassava. • 86% of households grow maize, which is higher than the 77% across all households. Only 2% of households grow rice, much lower than the 11% across all 10 districts, reflecting the conditions which are well suited to maize growing. • 24% of households rear animals, slightly lower than the 29% who do this across all 10 districts. • Only 5% of households have planted trees as a source of livelihood, which is lower higher than the 10% across all 10 districts. • Monthly income levels of Kyankwanzi households are broadly similar to levels amongst surveyed households across all 10 districts. 44% of households reported monthly incomes of 450,000 UGX (US$ 122) or less, compared with 40% across all 10 districts.
Water:
• Households in Kyankwanzi have relatively less water source problems than across the 10 districts. 50% of households stated they have poor water quality, lower than the 60% for all 10 districts. 65% of households reported problems of long distances to water compared with 47% across all 10 districts. Water sources drying up in dry season (21%) was also lower than across the 10 districts (32%).
Transport:
• A higher proportion of households own a motorbike (38%) and lower proportions own bicycles (45%) and cars/vans (7%) compared with figures across the 10 districts (motorbike 35%, bicycle 57%, car/van 9%).
Household Vulnerability:
• Reflecting the favourable growing conditions, 77% of households suffer from food shortages in some months of the year, lower than the 85% of households across all 10 districts. Months with highest rates of food shortages in Kyankwanzi are January (28%), March (37%) and April (46%), all of which are higher than for these months across the 10 districts (21%, 21% and 22% respectively). Conversely, only 19% of Kyankwanzi households experience food shortages in July compared with 32% in July across all 10 districts. • Some key problems affecting agricultural production in Kyankwanzi are reported more frequently than across all 10 districts: Low crop produce prices (91% of households in Kyankwanzi against 85% across all 10 districts) and Pests and Diseases (91% against 82%) and Poor Yield (62% versus 33%). • The frequency of vulnerability factors identified by households in Kyankwanzi is generally similar to figures across all 10

districts, though higher for female headed household (12%) against 6% for all 10 districts and being Elderly (10%) and illiteracy (20%) compared with 6% and 7% respectively across the 10 districts.
Livelihood Needs & Preferences:
• 96% of households in Kyankwanzi stated that they intend to continue current livelihood activities, compared with 91% across all 10 districts. • The highest rated livelihood restoration preference for existing livelihood activities in Kyankwanzi is improved road access (28% of households). For future livelihood activities, the highest rated support preferences are: Micro-credit (38%), Grants (25%), Training centres (21%), Access roads (21%) and Extension services (21%).

5.3.5 Mubende District

Within Mubende District, the pipeline runs for 63.7 km through land of 26 villages in the Sub-Counties of Butoloogo, Kiruma, Madadu, Kitenga – see Figure 5-7:

- Butoloogo Sub-County – 9 villages: Kigooba, Nsinamu, Nyondo, Kigondo, Buganyi, Katula, Kisagazi, Kitanda, Kiryannongo.
- Kiruuma Sub County – 1 village: Kijaagi.
- Madudu Sub County – 3 villages: Kijjaguzo, Kisamula, Lulongo.
- Kitenga Sub County – 13 villages: Kyambogo, Kamusenene, Sunga, Kirangwa, Luggala, Kagoma, Nalyankanja, Ssaka, Nsengwe, Rwamashengyero, Busooba, Butayunja, Buswabwera.

Mubende district generally comprises plateau landscape with some hilly ridges and a tropical climate with moderate rainfall and temperature.

Socio-economic characteristics of the 609 surveyed PAHs in Mubende district are shown in the tables in Section 5.2 above. Characteristics, including differences compared with average figures across all 10 districts and variations between the 26 villages, are summarized in the table below:

Table 5-20 Summary of Socio-Economic Characteristics of PAHs in Mubende District

Demographic and Household Characteristics:
• The percentage of household heads who are male (85%) and the average number of household members in Mubende (6.7) are close to the average figures for all 10 districts (84% and 6.8 respectively). • The pattern of age ranges of household heads in Mubende is also consistent with the 10 districts. • 35% of PAHs are of Muganda ethnicity, similar to the 46% of households across the 10 districts. • 43% of households in Mubende are Catholic and 32% are Anglican, compared with 46% and 28% respectively for all 10 districts.
Education and Health:
• 83% of household heads in Mubende are literate, just below the 85% across all 10 districts. The proportions of Mubende household members who have attended school, Primary and Secondary, are consistent with figures for all 10 districts. • 5% of household heads are affected by chronic illness or disability, slightly higher than the 3% across all 10 districts.
Livelihood Activities:
• 90% of households are involved in crop farming, close to the 91% for all 10 districts. The most frequently grown crops amongst Mubende households are maize, beans, ground nuts, banana, Irish potato and cassava. • 87% of households grow maize, which is higher than the 77% across all 10 districts. No households grow rice, compared with 11% across all 10 districts. • 32% of households rear animals, slightly higher than the 29% who do this across all 10 districts. • 9% of households have planted trees as a source of livelihood, close to the 10% across all 10 districts. • The pattern of monthly income levels of Mubende households are broadly similar to levels amongst surveyed households

across all 10 districts. 44% of households reported monthly incomes of 450,000 UGX (US$ 122) or less, compared with 40% across all 10 districts.
Water:
• 72% of households stated they have poor water quality, higher than the 60% for all 10 districts. 45% of households reported problems of long distances to water compared with 47% across all 10 districts. Water sources drying up in dry season (25%) was lower than across the 10 districts (32%).
Transport:
• Ownership of means of transport, motorbike (33%), bicycles (34%) and cars/vans (12%) compared with figures across the 10 districts (motorbike 35%, bicycle 57%, car/van 9%) – i.e.. higher ownership of cars/vans, but slightly lower ownership of bicycles and motorbikes.
Household Vulnerability:
• 74% of households suffer from food shortages in some months of the year, lower than the 85% of households across all 10 districts. Months with highest rates of food shortages in Mubende are January (28%), February (26%) and July (34%), compared with 21%, 18% and 32% respectively across all 10 districts. • Some key problems affecting agricultural production in Mubende are reported more frequently than across all 10 districts: Low crop produce prices (80% of households in Mubende against 85% across all 10 districts) and Pests and Diseases (82% against 82%), Weather conditions (72% versus 80%) and Poor Yield (33% same as 33% for all districts). • The frequency of vulnerability factors identified by households in Mubende is generally similar to figures across all 10 districts, though higher for illiteracy (21%) compared with 7% across the 10 districts.
Livelihood Needs & Preferences:
• 87% of households in Mubende stated that they intend to continue current livelihood activities, compared with 91% across all 10 districts. • The highest rated livelihood restoration support preferences for existing economic activities in Mubende are: Micro-credit (identified by 31% of households); and support preferences for new livelihood activities include: Micro-credit (47%), Working space (27%) and Access roads (17%).

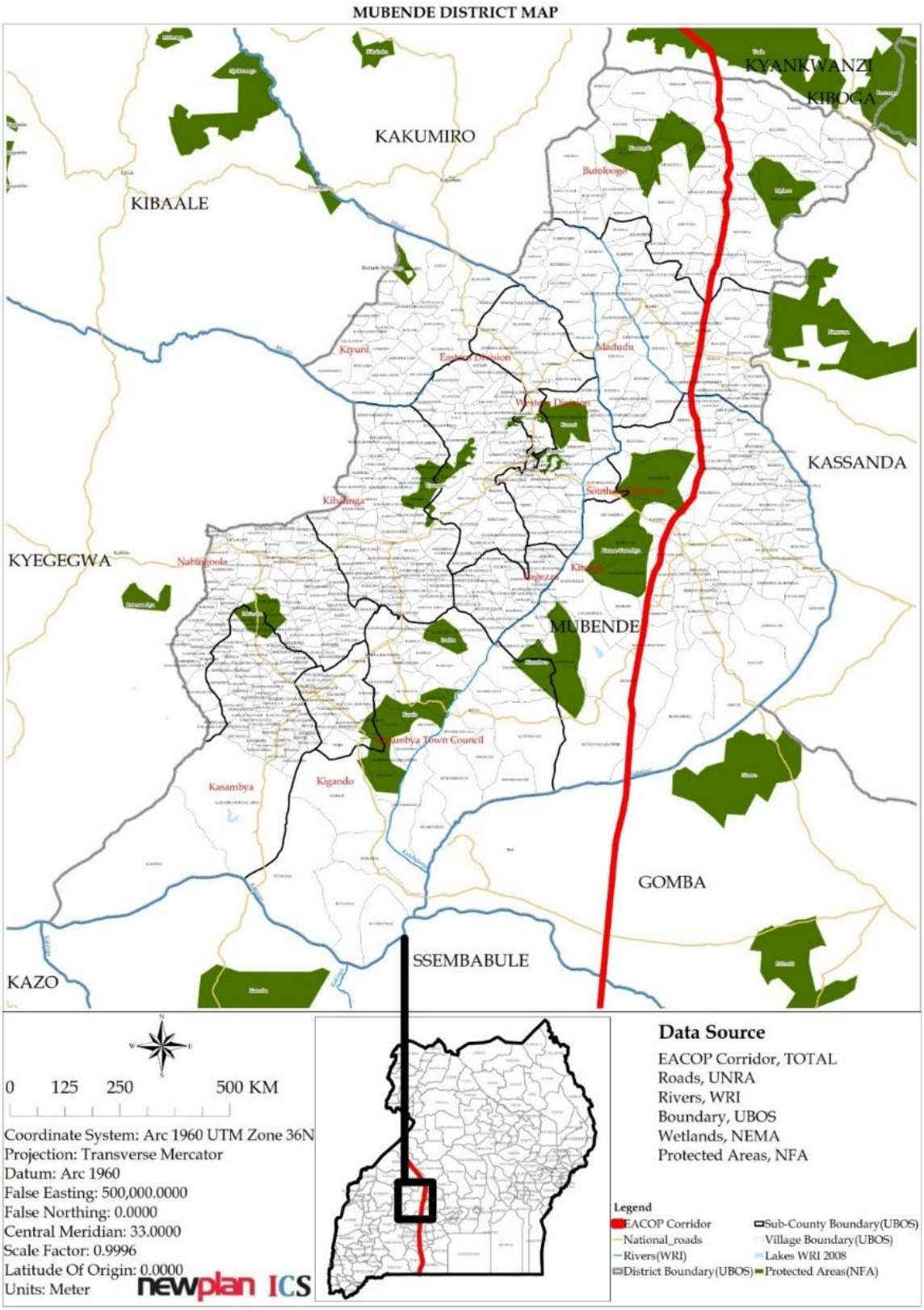

Figure 5-7 Pipeline Route through Mubende District

5.3.6 Gomba District

Within Gomba District, the pipeline runs for 16.7 km through land of 3 villages (Kalyamawolu, Kyengera and Kyetume) in the Sub-County of Maddu – see Figure 5-8.

Socio-economic characteristics of the 30 surveyed PAHs in Gomba district are shown in the tables in Section 5.2 above. Characteristics, including differences compared with average figures across all 10 districts and variations between the 3 villages, are summarized in the table below:

Table 5-21 Summary of Socio-Economic Characteristics of PAHs in Gomba District

Demographic and Household Characteristics:
• 97% of household heads are male, compared with an average of 84% across all 10 districts. This varies between 95% and 100% in the 3 villages of Gomba. • The average number of household members in Gomba is 7.4, slightly higher than the average of 6.8 across all 10 districts. • A higher proportion (29%) of household heads are over 66 years of age compared with only 12% across all 10 districts. • 77% of PAHs are of Munyankole ethnicity, compared with only 14% of households across the 10 districts. • 71% of households are Anglican and 15% are Catholic, compared with 28% and 46% respectively for all 10 districts.
Education and Health:
• 72% of household heads in Gomba are literate, below the 85% across all 10 districts, with only 33% amongst the 3 PAHs in Kalyamawolu village. • The proportions of Gomba household members who have attended school, Primary and Secondary, are also lower than across all 10 districts: 38% have not attended school compared with 27% across all districts. • Despite the older age profile of household heads, no household heads are affected by chronic illness or disability, compared with the 3% across all 10 districts.
Livelihood Activities:
• 67% of households rear animals, the highest percentage of any district, and much higher than the 29% average across all 10 districts. Households in all 3 of the affected Gomba villages are involved in livestock rearing, including at the commercial scale (above 20 head of cattle). The higher rates of livestock keeping reflect drier weather conditions in Gomba which makes it less well suited to crop cultivation. • As well as having the highest percentage of households keeping cattle, Gomba also has the highest rates of indigenous cattle (30%), cross-breeds (50%) and exotic breeds (23%) of all districts. The higher rates of cross-breeds and exotic breeds in Gomba compared with other districts indicates more developed livestock management practices in parts of the Gomba. • Gomba also has the highest percentages of households keeping goats (60%) and sheep (23%) compared with averages of 34% and 8% respectively across all 10 districts. Only 47% of households are involved in crop farming, much lower than to the 91% for all 10 districts. • The most frequently grown crops amongst Gomba households are maize, beans, banana and cassava. • No households have planted trees as a source of livelihood, compared with 10% across all 10 districts. • Monthly income levels of Gomba households are higher than for households in all 10 districts. 67% have monthly of over 1,700,000 UGX (US$ 461) compared with only 24% across all 10 districts; only 3% of households in Gomba reported monthly income of less than 450,000 UGX (US$ 122) compared with 40% across all 10 districts.
Water:
• Reflecting the drier climate of Gomba district, 83% of households stated they have poor water quality, higher than the 60% for all 10 districts. 49% of households reported problems of long distances to water compared with 47% across all 10 districts. Water sources drying up in dry season (66%) is the highest of all 10 districts (which average 32%).
Transport:
• Gomba households have the highest rate of ownership of motorbikes and cars/vans of any of the 10 districts. Ownership of motorbikes (50%), bicycles (40%) and cars/vans (27%) compared with 35%, 57% and 9% across all 10 districts.
Household Vulnerability:
• 97% of households suffer from food shortages in some months of the year, the highest of all 10 districts (85% average). Months with highest rates of food shortages in Gomba are June (38%), July (83%) and August (55%), compared with

15%, 32% and 16% respectively for these months across all 10 districts - i.e.. the seasonality of food shortages in Gomba differs from districts to the north. The high rates of food shortages reflects the district's drier climate.

- Key problems affecting agricultural production in Gomba show differences and similarities to the other districts: low crop produce prices (93% of households in Gomba against 85% across all 10 districts), livestock diseases (73% against 23% - reflecting the higher percentage of households keeping livestock), pests and diseases (80% against 82%), weather conditions (77% versus 80%), poor yield (7% same as 33% for all districts).
- The frequency of vulnerability factors identified by households in Gomba is much lower than figures across all 10 districts. The only vulnerability factor mentioned by any of the 30 surveyed Gomba households was 'Physical disability', mentioned by 1 household in Kyengera village.

Livelihood Needs & Preferences:

- 93% of households in Gomba stated that they intend to continue current livelihood activities, compared with 91% across all 10 districts.
- The highest rated livelihood restoration support preferences for existing livelihood activities in Gomba are: extension services (32%), road access (30%), micro credit (27%); and support preferences for new activities include: micro credit (70%), livestock stocking (40%), grants (30%), working space (30%), marketing skills (30%) and job placement (30%).

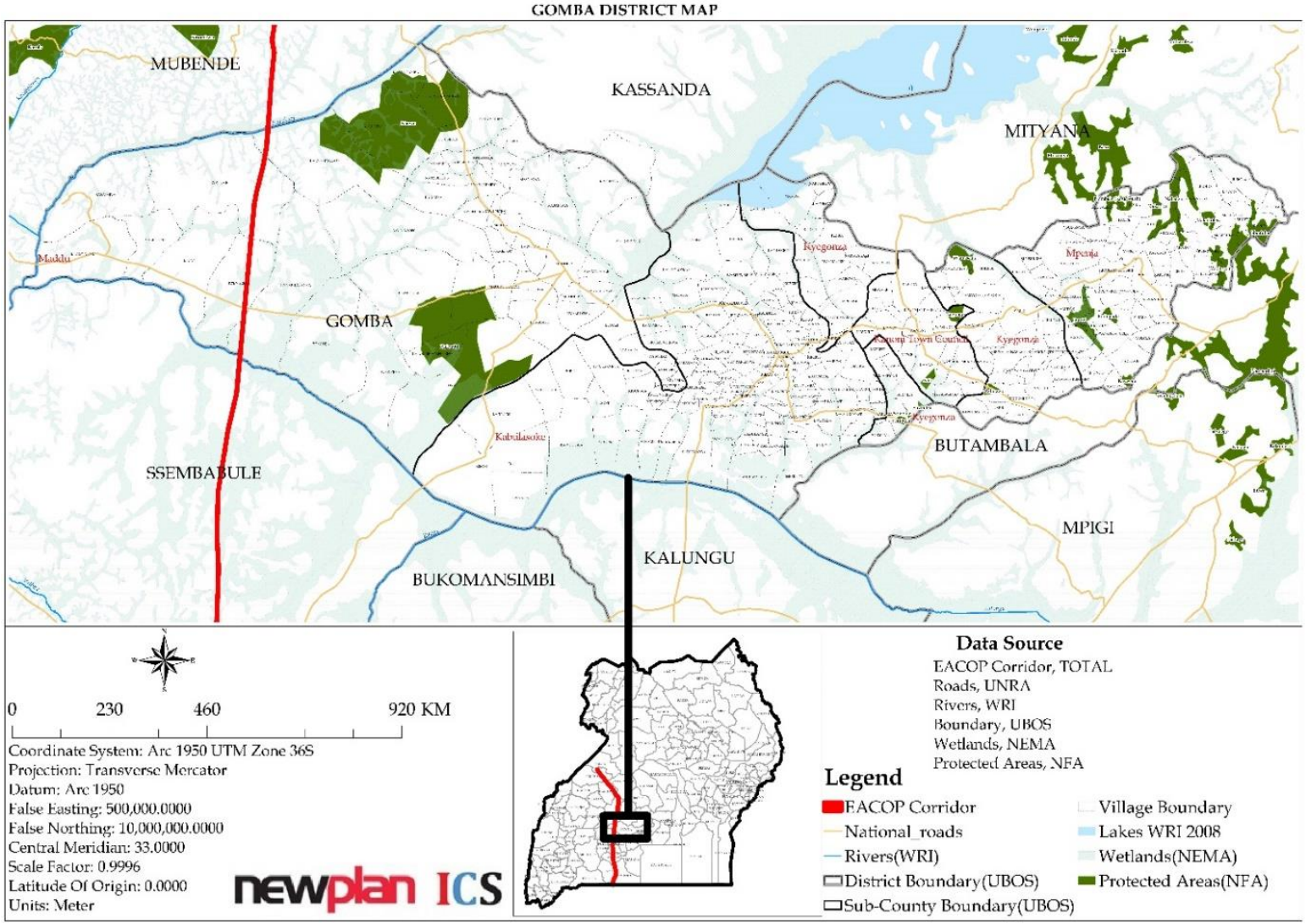

Figure 5-8 Pipeline Route through Gomba District

5.3.7 Sembabule District

Within Sembabule District, the pipeline runs for 52.6 km through land of 32 villages in the Sub-Counties of Lugusulu, Mitima, Kawanda, Mijwala, Lwebitakuli, Katwe and Nakasenyi and Sembabule Town Council – see Figure 5-9:

- Lugusulu Sub-County – 4 villages: Bisheshe, Katikamu, Kizaano, Mabaale
- Mitima Sub-County – 2 villages: Njaza, Serinya A
- Mitima Sub-County – 1 village: Kagango
- Kawanda Sub-County – 1 village: Nakasagazi;
- Lugusulu Sub-County – 2 villages: Nsambya, Kabosa;
- Mijwala Sub-County – 1 village:- Muyenje;
- Sembabule Town Council – 1 village: Kabayoola;
- Mijwala Sub-County – 7 villages: Kyemandwa A, Miti, Kasekera, Kyatuulo, Nseese, Kyakatebe, Kisindi;
- Lwebitakuli Sub-County – 1 village: Lwebusisi;
- Katwe Sub-County – 5 villages: Kirungi, Binikiriro, Kitembo B, Kitembo A, Kangusulu;
- Nakasenyi Sub-County – 1 village: Kimbejja;
- Lwebitakuli Sub-County – 1 village: Lutilwanjuki;
- Lwebitakuli Sub-County – 5 villages: Kibubbu, Muchwa, Lutanwa, Buziranduulu, Mirembe (Kiteredde).

Sembabule District is located in Central Region of Uganda, with landscape including open grassland, forest, woodland and wetland. Rain seasons are from March to May and September to December, with the rest of the year being dry and bringing semi-arid conditions. Land in the district is used for livestock grazing and crop farming.

Socio-economic characteristics of the 386 surveyed PAHs along the pipeline route in Sembabule district are shown in the tables in Section 5.2 above. Characteristics, including differences compared with average figures across all 10 districts and variations between the 32 villages, are summarized below:

Table 5-22 Summary of Socio-Economic Characteristics of PAHs in Sembabule District

Demographic and Household Characteristics:
• 87% of household heads are male, compared with an average of 84% across all 10 districts.
• The average number of household members in Sembabule is 7.5, the highest of all 10 districts which average 6.8.
• The pattern of age ranges of household heads in Sembabule is consistent with the pattern for all 10 districts.
• 42% of PAHs are of Munyankole ethnicity and 41% are Muganda, compared with 14% and 47% for these ethnicities across the 10 districts.
• 33% of households in Sembabule are Catholic and 36% are Anglican, compared with 46% and 28% respectively for all 10 districts.
Education and Health:
• 76% of household heads in Sembabule are literate, below the 85% across all 10 districts.
• The proportions of Sembabule household members who have attended school, Primary (55%) and Secondary (10%) are consistent with figures for all 10 districts.
• 2% of household heads are affected by chronic illness or disability, close to the 3% across all 10 districts.
Livelihood Activities:

- 93% of households are involved in crop farming, close to the 91% for all 10 districts.
- The most frequently grown crops amongst Sembabule households are maize, beans, coffee, banana and cassava.
- 87% of households grow maize, which is higher than the 77% across all 10 districts. No households grow rice, compared with 11% across all 10 districts.
- 40% of households rear animals, higher than the 29% who do this across all 10 districts. As in Gomba district above, the higher rates of livestock keeping amongst households reflects a drier climate in the district.
- 4% of households have planted trees as a source of livelihood, lower than the 10% across all 10 districts.
- Monthly income levels of Sembabule households are broadly similar to levels amongst surveyed households across all 10 districts. 43% of households reported monthly incomes of 450,000 UGX (US$ 122) or less, compared with 40% across all 10 districts.

Water:

- 82% of households stated they have poor water quality, higher than the 60% for all 10 districts. 47% of households reported problems of long distances to water, the same as the 47% across all 10 districts. Water sources drying up in dry season (54%) was the second highest (to Gomba) compared with the average across the 10 districts of 32%, reflecting the district's drier climatic conditions.

Transport:

- Ownership of means of transport, bicycles (71%), motorbike (49%) and cars/vans (12%) compared with figures across the 10 districts (bicycle 57%, motorbike 35%, car/van 9%) – i.e.. higher ownership of bicycles, motorbikes and cars/vans than the average across all 10 districts.

Household Vulnerability:

- Ninety one percent (91%) of households suffer from food shortages in some months of the year, higher than the 85% of households across all 10 districts. The month with the highest rate of food shortages in Sembabule is July (57%), compared with 32% for July across all 10 districts – this is the highest rate of food shortages in July of all 10 districts.
- Key problems affecting agricultural production in Sembabule are: Low crop produce prices (89%), Pests and Diseases (86%), Weather conditions (88%), compared with 85%, 82% and 80% respectively for these problems across all 10 districts.
- The frequency of Sembabule households mentioning factors causing vulnerability is generally lower than across all 10 districts. 'Elderly/aged' was mentioned most frequently, by 5% of Sembabule households.

Livelihood Needs & Preferences:

- 97% of households in Sembabule stated that they intend to continue current livelihood activities, compared with 91% across all 10 districts.
- The highest rated livelihood restoration support preferences for existing livelihood activities in Sembabule include: production inputs for agriculture (25%), grants (21%) and water supply (21%); and support preferences for new livelihood activities include: micro-credit (59%), grants (31%), entrepreneurship skills (21%) and marketing skills (21%).

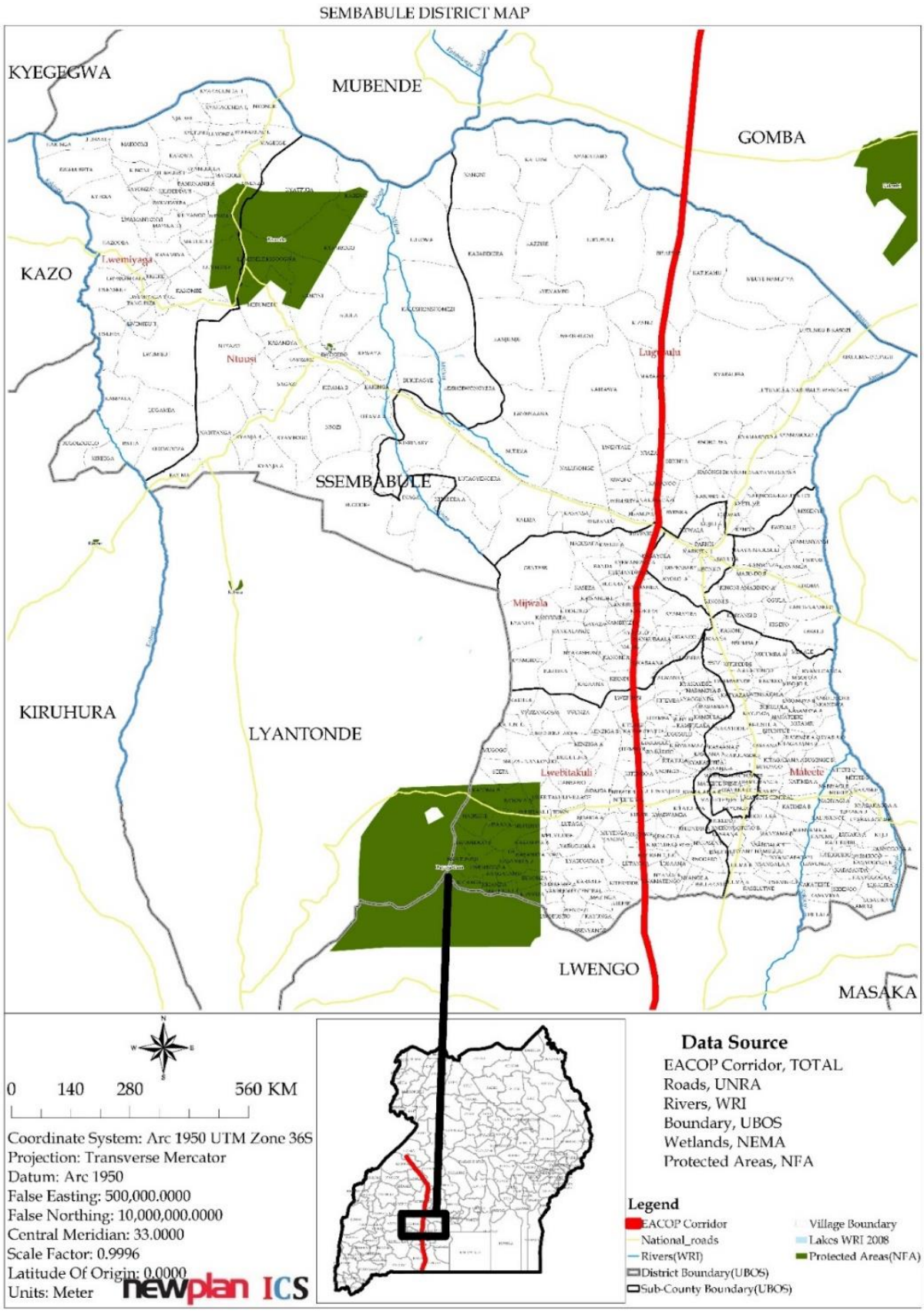

Figure 5-9 Pipeline Route through Sembabule District

5.3.8 Lwengo District

Within Lwengo District, the pipeline runs for 26.2 km through land of 19 villages in the Sub-Counties of Lwengo, Ndagwe and Lwengo Town Council – see Figure 5-10:

- Lwengo Sub-County – 12 villages: Lwebicuncu, Lutoma, Nkoma B, Kinvunikidde, Kyawagonya, Kibundaza, Kamusoga, Bijugo, Byangiri, Luti, Kabusirabo, Buswaga.
- Lwengo Town Council – 1 village: Kitakomaga.
- Ndagwe Sub-County – 6 villages: Nansiiti, Kabuunga, Nanywa A, Bukulula, Kisalira B, Kibanyi.

Lwengo district lies close to the equator and most parts of the district lie in the dry- cattle corridor. Rain seasons are from March to April, and September to December, with periods of drought during the dry seasons. Land in the district is used for livestock and arable farming.

Socio-economic characteristics of the 411 surveyed PAHs in Lwengo district are shown in the tables in Section 5.2 above. Characteristics, including differences compared with average figures across all 10 districts and variations between the 19 villages, are summarized in the table below:

Table 5-23 Summary of Socio-Economic Characteristics of PAHs in Lwengo District

Demographic and Household Characteristics:
• 79% of household heads are male, compared with an average of 84% across all 10 districts. • The average number of household members in Lwengo is 6.7, close to the average of 6.8 across all 10 districts. • The pattern of age ranges of household heads in Lwengo is consistent with the pattern for all 10 districts. • 71% of PAHs are of Muganda ethnicity, compared with 47% of Muganda ethnicity across the 10 districts. • 63% of households in Lwengo are Catholic, 14% are Anglican and 12% are Muslim, compared with 46%, 28% and 10% respectively for all 10 districts.
Education and Health:
• 81% of household heads in Lwengo are literate, just below the 85% across all 10 districts. • The proportions of Lwengo household members who have attended school, Primary (61%) and Secondary (8%) compare with 56% and 12% respectively across all 10 districts. • 2% of household heads are affected by chronic illness or disability, close to the 3% across all 10 districts.
Livelihood Activities:
• 87% of households are involved in crop farming, close to the 91% for all 10 districts. • The most frequently grown crops amongst Lwengo households are maize, beans, coffee, banana and cassava. • 77% of households grow maize, the same as the 77% average across all 10 districts. No households grow rice, compared with 11% across all 10 districts. • 21% of households rear animals, lower than the 29% who do this across all 10 districts. • 7% of households have planted trees as a source of livelihood, lower than the 10% across all 10 districts. • Monthly income levels of Lwengo households are broadly similar to levels amongst surveyed households across all 10 districts. 41% of households reported monthly incomes of 450,000 UGX (US$ 122) or less, compared with 40% across all 10 districts.
Water:
• 73% of households stated they have poor water quality, higher than the 60% for all 10 districts. 47% of households reported problems of long distances to water, the same as the 47% across all 10 districts. Water sources drying up in dry season (41%) was higher than across the 10 districts (32%).
Transport:
• Ownership of means of transport, bicycles (67%), motorbike (31%) and cars/vans (7%) compared with figures across the 10 districts (bicycle 57%, motorbike 35%, car/van 9%) – i.e.. higher ownership of bicycles and slightly lower ownership of motorbikes and cars/vans than the average across all 10 districts.

Household Vulnerability:
• 88% of households suffer from food shortages in some months of the year, slightly higher than the 85% of households across all 10 districts. The months with the highest rates of food shortages run from July to October: July (41%), August (25%), September (36%), October (32%), compared with 32%, 16%, 19% and 21% respectively for these months across all 10 districts. • Key problems affecting agricultural production in Lwengo are: Low crop produce prices (84%), Pests and Diseases (85%) and Weather conditions (76%), compared with 85%, 82% and 80% respectively for these problems across all 10 districts. • The frequency of Lwengo households mentioning factors causing household vulnerability is generally lower than across all 10 districts. 'Elderly/aged' was mentioned most frequently, by 5% of Lwengo households.
Livelihood Needs & Preferences
• 95% of households in Lwengo stated that they intend to continue current livelihood activities, compared with 91% across all 10 districts. • The highest rated livelihood restoration support preferences for existing livelihood activities in Lwengo include: grants (31%), micro-credit (23%) and land (22%); and support preferences for new activities include: grants (59%), micro-credit (26%) and training centres (22%).

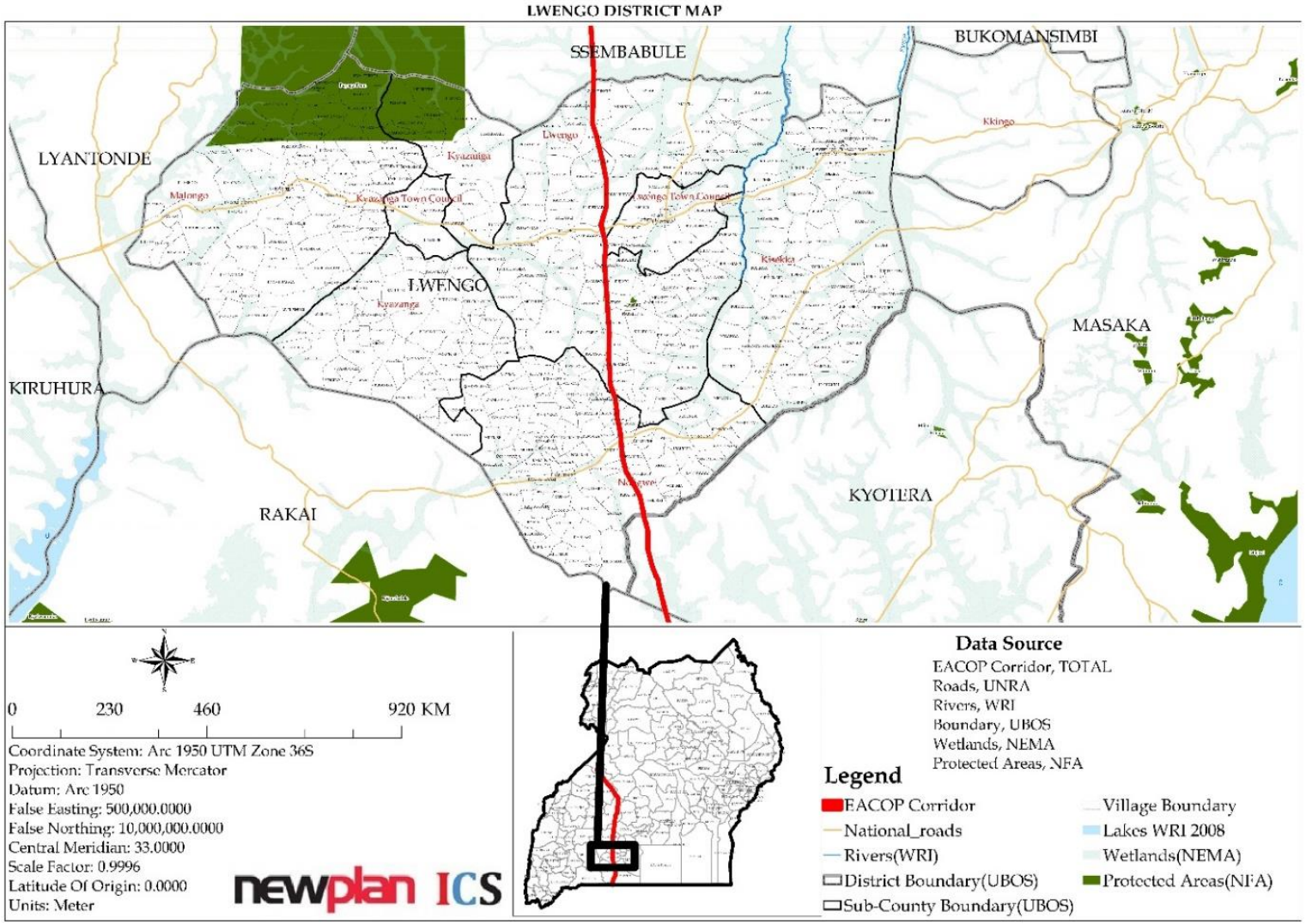

Figure 5-10 Pipeline Route through Lwengo District

5.3.9 Rakai District

Within Rakia District, the pipeline runs for 19.9 km through land of 17 villages in the Sub-Counties of Lwanda and Kifamba – see Figure 5-11:

- Lwanda Sub-County - 15 villages: Kijjumba, Bulyakamu, Luteebe, Mpaama, Kanoni, Kamuli, Mukunyu, Kammengo, Kituntu, Mbuye-Serinya B, Lusolo, Kigimbi, Kiganda, Lukyamo, Gosoola.
- Kifamba Sub-County - 2 villages: Kiruuli, Nyanga Kentale.

The topography of Rakai district comprises mainly flat undulating plains, with the main rains from March to May and shorter rains from October to November.

Socio-economic characteristics of the 271 surveyed PAHs in Rakai district are shown in the tables in Section 5.2 above. Characteristics, including differences compared with average figures across all 10 districts and variations between the 17 villages, are summarised in the table below:

Table 5-24 Summary of Socio-Economic Characteristics of PAHs in Rakai District

Demographic and Household Characteristics:
• 79% of household heads are male, compared with an average of 84% across all 10 districts. • The average number of household members in Rakai is 7.1, higher than the average of 6.8 across all 10 districts. • There are higher proportions of household heads in younger age ranges than average across all 10 districts, 18-25 years 14% and 26-35 years 35% compared with 6% and 19% respectively across all districts. 49% are therefore 35 years or younger compared with 25% across all districts. • 86% of PAHs are of Muganda ethnicity, compared with 47% of Muganda ethnicity across the 10 districts. • 49% of households in Rakai are Catholic, 28% are Anglican and 12% are Muslim, compared with 46%, 28% and 10% respectively across all 10 districts.
Education and Health:
• 91% of household heads in Rakai are literate, above the 85% across all 10 districts. • The proportions of Rakai household members who have attended school, Primary (60%), Secondary (13%) and Tertiary (6%), compare with 56%, 12% and 5% respectively across all 10 districts – i.e.. consistent with figures across all 10 districts. • No household heads are affected by chronic illness or disability, compared with 3% across all 10 districts.
Livelihood Activities:
• 87% of households are involved in crop farming, close to the 91% for all 10 districts. • The most frequently grown crops amongst Rakai households are maize, beans, coffee, banana and cassava. • 66% of households grow maize, lower than the 77% average across all 10 districts. No households grow rice, compared with 11% across all 10 districts. • 13% of households rear animals, the lowest figure of the 10 districts for which the average is 29%. • 17% of households have planted trees as a source of livelihood, above the 10% across all 10 districts. • Monthly income levels of Rakai households are broadly similar to levels amongst surveyed households across all 10 districts. More households (33%) reported monthly incomes over 1,700,000+ UGX (US$ 461) compared with the 24% across all 10 districts.
Water:
• Only 27% of households stated they have poor water quality, lowest figures across the 10 districts and lower than the 60% average for all 10 districts. 35% of households reported problems of long distances to water, compared with 47% across all 10 districts. Water sources drying up in dry season (25%) compared with 32% across the 10 districts (32%).
Transport:
• Ownership of means of transport, bicycles (66%), motorbike (38%) and cars/vans (14%) compared with figures across the 10 districts (bicycle 57%, motorbike 35%, car/van 9%) – i.e.. higher ownership of bicycles, slightly lower ownership

of motorbikes and higher car/van ownership compared with averages for the 10 districts.
Household Vulnerability:
• 86% of households suffer from food shortages in some months of the year, close to the 85% of households across all 10 districts. The months with the highest rates of food shortages in Rakai are July (30%) and November (42%) compared with 32% and 21% respectively for these months across all 10 districts. • Key reported problems affecting agricultural production in Rakai are: Low crop produce prices (82%), Pests and Diseases (78%) and Weather conditions (75%), compared with 85%, 82% and 80% respectively for these problems across all 10 districts. • The frequency of Rakai households mentioning factors causing household vulnerability is generally similar to that across all 10 districts, with 'Female headed household' (10%), 'Elderly/aged' (8%) and 'Widow' (8%).
Livelihood Needs & Preferences
• 93% of households in Rakai stated that they intend to continue current livelihood activities. • The highest rated livelihood restoration support preferences for existing livelihood activities in Rakai include: grants (53%), land (27%), micro-credit (15%) and extension services (11%); and support preferences for new livelihood activities include: grants (54%) and working space (25%).

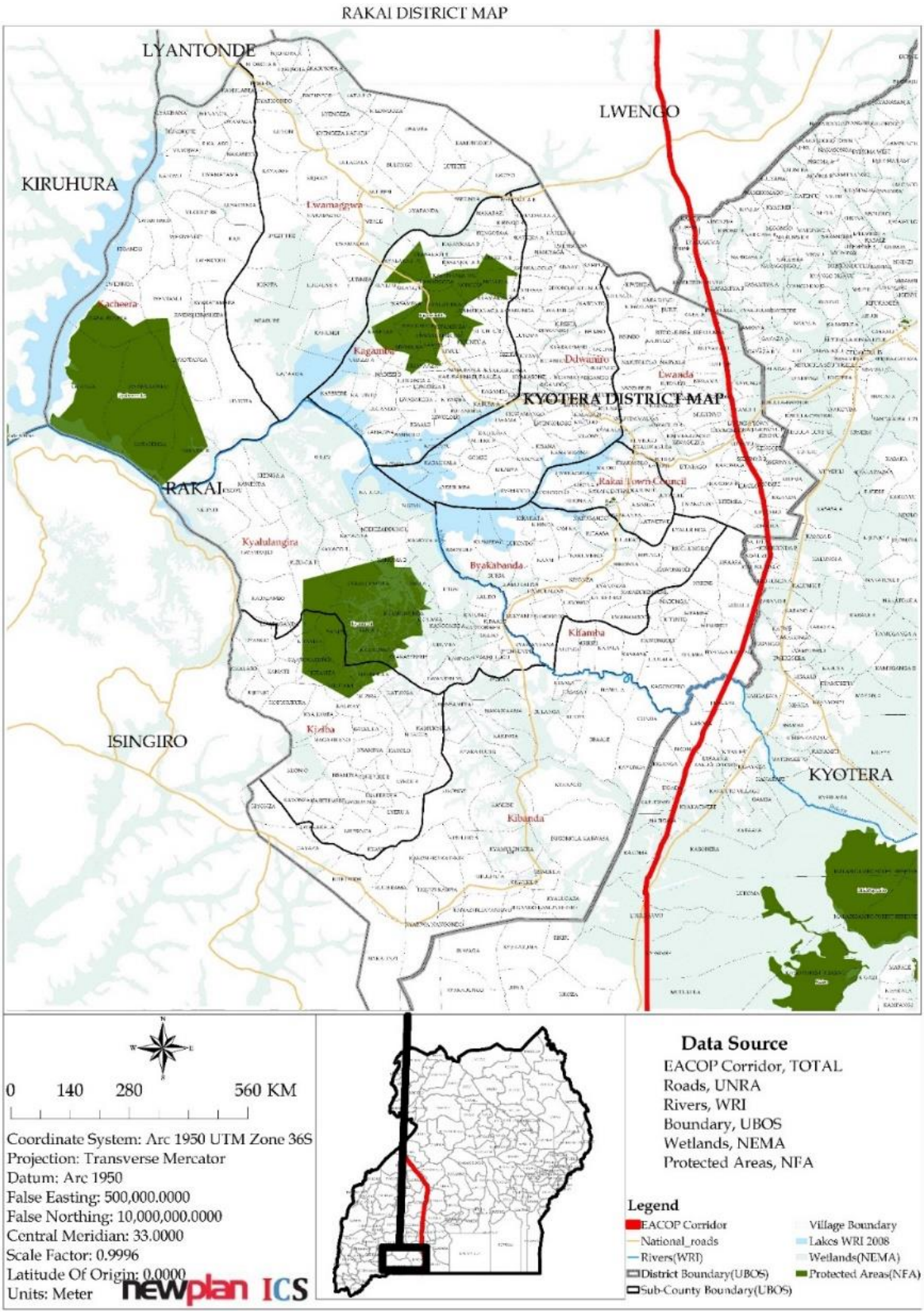

Figure 5-11 Pipeline Route through Rakai District

5.3.10 Kyotera District

Within Kyotera District, the pipeline runs in 3 stretches totalling 32.3 km and through the land of 20 villages, see Figure 5-12:

- Nabigasa Sub-County – 4 villages: Kanga, Luseese, Lyabuguma, Kituntu
- Kasaali Sub-County – 1 village: Bukalasa
- Kasasa Sub-County – 3 villages: Kisaalizi A, Kisaalizi B, Kimukunda C
- Kakuuto Sub-County – 12 villages: Jjengere, Kasoga, Lusaana, Nkoni, Kiganga, Bigada, Kyakachwere, Nabigasa, Kabonera, Lukoma, Kasanvu, Kabawo.

The topography of Kyotera district is mainly grassland plains and wetlands, with some hills and forested areas. The main rains fall from March to May and shorter rains from October to November. The majority of land is used for subsistence farming.

Socio-economic characteristics of the 419 surveyed PAHs along the pipeline route in Kyotera district are shown in the tables in Section 5.2 above. Characteristics, including differences compared with average figures across all 10 districts and variations between the 20 villages, are summarized in the table below:

Table 5-25 Summary of Socio-Economic Characteristics of PAHs in Kyotera District

Demographic and Household Characteristics:
• 78% of household heads are male, compared with an average of 84% across all 10 districts. • The average number of household members in Kyotera is 6.7, close to the average of 6.8 across all 10 districts. • The pattern of age ranges of household heads in Kyotera is consistent with the pattern for all 10 districts. • 93% of PAHs are of Muganda ethnicity, compared with 47% of Muganda ethnicity across the 10 districts. • 60% of households in Kyotera are Catholic, 10% are Anglican and 21% are Muslim, compared with 46%, 28% and 10% respectively for all 10 districts.
Education and Health:
• 93% of household heads in Kyotera are literate, above the 85% across all 10 districts. • The proportions of Kyotera household members who have attended school, Primary (52%), Secondary (18%) and Tertiary (9%), compare with 56%, 12% and 5% respectively across all 10 districts – i.e. Kyotera has higher rates of Secondary school and Tertiary education. • 1% of household heads are affected by chronic illness or disability, lower than the 3% across all 10 districts.
Livelihood Activities:
• 88% of households are involved in crop farming, close to the 91% for all 10 districts. • The most frequently grown crops amongst Kyotera households are maize, beans, coffee, banana and cassava. • 68% of households grow maize, lower than the 77% average across all 10 districts. No households grow rice, compared with 11% across all 10 districts. • 22% of households rear animals, close to the 29% who do this across all 10 districts. • 6% of households have planted trees as a source of livelihood, lower than the 10% across all 10 districts. • Monthly income levels of Kyotera households are broadly similar to levels amongst surveyed households across all 10 districts. 38% of households reported monthly incomes of 450,000 UGX (US$ 122) or less, compared with 40% across all 10 districts.
Water:
• 55% of households stated they have poor water quality, lower than the 60% for all 10 districts. 50% of households reported problems of long distances to water, compared with 47% across all 10 districts. Water sources drying up in dry season (41%) was higher than across the 10 districts (32%).
Transport:
• Ownership of means of transport, bicycles (67%), motorbike (32%) and cars/vans (9%) compared with figures across the 10 districts (bicycle 57%, motorbike 35%, car/van 9%) – i.e.. higher ownership of bicycles, slightly lower ownership

of motorbikes and the same level of car/van ownership compared with across all 10 districts.
Household Vulnerability:
• 91% of households suffer from food shortages in some months of the year, higher than the 85% of households across all 10 districts. The months with the highest rates of food shortages are July (36%), September (30%), October (36%) and November (62%) compared with 32%, 19%, 19% and 21% respectively for these months across all 10 districts. • Key reported problems affecting agricultural production in Kyotera are: Low crop produce prices (80%), Pests and Diseases (75%) and Weather conditions (81%), compared with 85%, 82% and 80% respectively for these problems across all 10 districts. • The frequency of Kyotera households mentioning factors causing household vulnerability is similar to that across all 10 districts. 'Elderly/aged' was mentioned most frequently (7%), followed by 'Female headed household' (5%) and 'Widow' (5%).
Livelihood Needs & Preferences:
• 91% of households in Kyotera stated that they intend to continue current livelihood activities, similar to the 91% across all 10 districts. • The highest rated livelihood restoration support preferences for existing livelihood activities in Kyotera include: grants (52%), land (20%), micro-credit (11%) and water supply (11%); and support preferences for new livelihood activities include: grants (59%) and working space (18%).

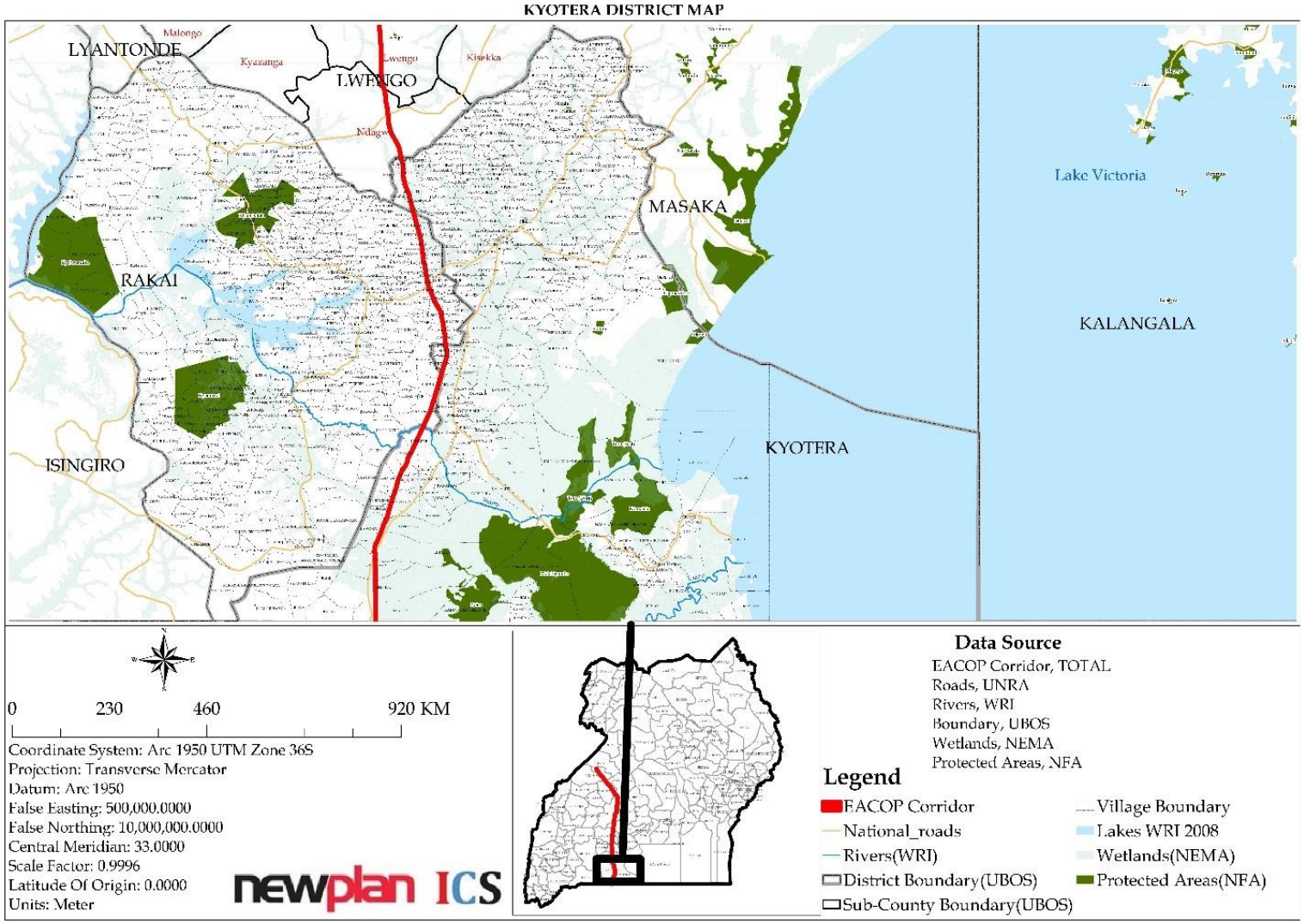

Figure 5-12 Pipeline Route through Kyotera District

5.4 PRIORITY AREAS

The following provides socio-economic data on the Priority Areas (PAs) of the four Main Camp and Pipe Yards (MCPYs) and access roads to them:

- MCPY-01: Kakumiro District;
- MCPY-02: Mubende District;
- MCPY-03: Sembabule District, plus access road;
- MCPY-04: Kyotera District, plus access road.

A footprint of approximately 350 × 500 m (i.e. 17.5 ha) will be required for each MCPY with some variation. Construction access roads are also required along with upgrades to existing roads for MCPY-03 and MCPY-04.

As stated in Section 5.1 above, a separate socio-economic survey was undertaken of affected households at the four (4) MCPY sites and access roads. A total of 85 households participated in the survey for Priority Areas, covering PAHs in the following villages:

- MCPY 1 in Kakumiro District – 1 village: Kasambya.
- MCPY 2 in Mubende District – 1 village: Mujunwa.
- MCPY 3 in Sembabule District – 1 village: Kabayoola.
- MCPY 4 in Kyotera District – 3 villages: Kabugimbi, Kyakacwere and Nabigasa.

It should be noted that the socio-economic questionnaire used for the Priority Areas was slightly different to that used on the pipeline because the PA survey was used as a pilot for the pipeline survey which was subsequently refined. The data fields shown below therefore differ slightly to the data fields presented in Section 5.2 above.

5.4.1 Demographic & Household Characteristics at Priority Areas

Demographic characteristics of households affected at the Priority Areas are generally similar to characteristics of the same districts affected by the pipeline corridor as described in sections 5.2 and 5.3. Characteristics include the following:

- The percentage of household heads who are male ranges between 71% and 90% at the four MCPYs, this compares with an average of 84% across the 10 districts affected by the pipeline.
- The average number of household members at the MCPYs ranges between 5.3 at MCPY-1 and 8.3 at MCPY-4, compared with an average of 6.8 across the 10 pipeline districts.
- There are high proportions of young members of households, with 51% to 66% being under 18 years.

Table 5-26 Household Demographic Characteristics (Priority Areas)

	MCPY 1 - Kakumiro	MCPY 2 - Mubende	MCPY 3 - Sembabule	MCPY 4 - Kyotera
No. of PAPs at Priority Areas[1]	41	11	50	38
No. of surveyed households	35	15[2]	23	12
Total no. of Household members (in surveyed HHs):	187	108	299	315
Average no. of Household members:	5.3	7.2	7.0	8.3
Gender of Household Head (%):				
- Male	71%	80%	72%	90%
- Female	29%	20%	28%	11%
Gender of Household members (%):				
- Male	50%	44%	49%	51%
- Female	50%	56%	51%	49%
Age of Household members (%):				
- Children (under 18 yrs)	51%	61%	61%	66%
- Adults (19-64 yrs)	46%	37%	35%	31%
- Elderly (65 yrs +)	4%	2%	4%	3%

Note 1: The total number of Priority Area PAPs includes 7 institutions who were not covered in the socio-economic survey.

Note 2: For Priority Area (MCPY-02) in Mubende district, 6 of the 15 survey respondees are licensees who should not have been included in the survey data. The 9 surveyed PAPs represent 100% of PAPs at MCPY-02 (not including 2 institutional PAPs at MCPY-02).

5.4.2 Education and Health at Priority Areas

Educational and health characteristics of PA PAHs include the following:

- The proportions of household members who have attended school range from 49% to 57% for Primary, 16% to 20% for Secondary and 3% to 16% for Tertiary, compared with 56%, 12% and 5% respectively across the 10 pipeline districts – i.e. broadly consistent with figures across all 10 districts, though slightly higher for Secondary education.
- The proportion of households with no members who have a chronic illness or disability ranges between 60% (MCPY-1) to 89% (MCPY-3).

Table 5-27 Education and health Characteristics (Priority Areas)

	MCPY1 - Kakumiro	MCPY 2 - Mubende	MCPY 3 - Sembabule	MCPY 4 - Kyotera
Education levels for HH members (%):				
- None	16%	22%	27%	23%
- Primary	49%	50%	55%	57%
- Secondary	20%	20%	16%	16%
- Tertiary	16%	8%	3%	4%
Households with no members with disability or chronic illness (%)	60%	79%	89%	84%

5.4.3 Livelihood Activities at Priority Areas

Livelihood characteristics of PAHs at the Priority Areas include the following:

- 100% of households at the Priority Areas have members who generate income.

- Crop farming is the most commonly livelihood activity, undertaken by around 25% of all household members at the PAs.
- Monthly reported income levels of PA households varies by location, with MCPY-4 having 38% of households getting less than 250,000 UGX (US$68) per month, compared to 14% for MCPY-1. This MCPY-4 also appears relatively low compared with monthly reported income levels for pipeline PAHs in the rest of Kyotera district.

Table 5-28 Livelihood Activities (Priority Areas)

	MCPY1 - Kakumiro	MCPY 2 - Mubende	MCPY 3 - Sembabule	MCPY 4 - Kyotera
Household has income sources (%)	100%	100%	100%	100%
Livelihood & income sources of HH members (%):				
Crop Farmer	25%	22%	24%	23%
Livestock Farmer	1%	6%	1%	5%
Government Employee	4%	1%	1%	1%
Private employee	3%	3%	0%	0%
Own Business	4%	1%	3%	4%
Housewife/carer	3%	0%	1%	1%
Retired (without Pension)	1%	1%	0%	0%
Daily Wage Earner.	1%	0%	2%	0%
Household (reported) income levels per month (%):				
<250,001 UGX (US$68)	14%	31%	15%	38%
250,001-500,000 (US$136)	25%	39%	44%	33%
500,001-750,000	11%	8%	9%	0%
750,001-1,000,0000	29%	8%	21%	13%
More than 1,000,000	21%	15%	12%	17%
Household has a business (%)	4%	1%	3%	4%
Average % of HH income spent on food & schooling:	59	107	59	161
Reported changes in economic status of HHs in last 3 years (%):				
Improved a lot	12%	0%	9%	10%
Improved a little	61%	73%	59%	59%
Stayed the same	12%	13%	15%	12%
Become a little worse	12%	7%	15%	15%
Become a lot worse	3%	7%	2%	5%

5.4.4 Land & Agriculture at Priority Areas

Land and agriculture characteristics of PAHs at the Priority Areas include the following:

- Between 69% (MCPY-4) and 88% (MCPY-3) of households are involved in crop farming, compared with 91% for pipeline areas in all 10 districts.
- Between 4% (MCPY-3) and 13% (MCPY-4) of households rear animals, all lower than the average of 29% for PAHs affected by the pipeline across the 10 districts.
- The most frequently grown crops at the PAs include amongst Rakai households are maize, beans, coffee, potatoes and cassava.

Table 5-29 Land & Agriculture (Priority Areas)

	MCPY1 - Kakumiro	MCPY 2 - Mubende	MCPY 3 - Sembabule	MCPY 4 - Kyotera
Uses of the land (%):				
Crop Farming	84%	71%	88%	69%
Animal rearing	5%	10%	4%	13%
Forestry	2%		3%	4%
Business		10%		2%
Rented out		10%	3%	6%
Crops and economic trees grown by HHs (%):				
Maize	87%	100%	93%	100%
Cassava	65%	67%	89%	84%
Beans	81%	100%	86%	95%
Coffee	36%	33%	80%	62%
Matooke	37%	53%	77%	59%
Potato	55%	60%	66%	65%
Peanuts/groundnuts	25%	27%	61%	65%
Jackfruit	35%	47%	53%	62%
Mango	44%	53%	50%	69%
Banana	30%	33%	50%	49%
Pawpaw	30%	40%	40%	37%
Livestock kept by Households (%)				
Chickens	29%	47%	56%	74%
Goats	17%	27%	44%	58%
Pigs	29%	53%	37%	40%
Cattle	9%	33%	35%	55%
Sheep	3%	7%	14%	13%
Guinea fowl	3%	7%	5%	8%
Rabbits	0	0%	0%	5%
Does the HH collect any natural resources = yes (%)	34%	47%	88%	94%
Natural resources used by households (%)				
Firewood	34%	47%	81%	95%
Medicinal plants	20%	33%	35%	21%
Construction wood	9%	33%	12%	13%
Fish	9%	33%	5%	11%
Bamboo	9%	33%	5%	5%
Honey	6%	33%	12%	5%
Forest food products	6%	33%	5%	5%
Bush meat/Bird	6%	33%	7%	5%
Thatch/straw	6%	33%	7%	5%
Soil/earth	6%	33%	2%	5%
Wetland products	6%	33%	2%	3%
Rock bed/stone quarry	6%	33%	0%	3%
Ceramic material	6%	33%	2%	3%
HH received any agricultural extension services - yes (%)	42%	13%	26%	24%

	MCPY1 - Kakumiro	MCPY 2 - Mubende	MCPY 3 - Sembabule	MCPY 4 - Kyotera
Household use of modern farming inputs (%)				
Fertiliser	66%	67%	12%	21%
Improved seeds	57%	60%	19%	18%
Improved breeds of livestock	9%	7%	5%	5%
Tractor	14%	0%	0%	3%
Ox-ploughs	0%	0%	0%	0%
Irrigation	3%	7%	9%	8%
Agricultural credit	3%	0%	2%	3%

5.4.5 Domestic Energy & Water Sources at Priority Areas

Sources of water in wet and dry seasons vary between the PAs in a similar way to how they vary for the pipeline PAHs across the relevant districts, see Section 5.2.7 above.

Table 5-30 Domestic Energy & Water (Priority Areas)

	MCPY1 - Kakumiro	MCPY 2 - Mubende	MCPY 3 - Sembabule	MCPY 4 - Kyotera
Energy sources for lighting (%):				
Solar Panel	43%	67%	63%	32%
Electricity	29%	7%	7%	16%
Kerosene	23%	20%	26%	47%
Biogas	0%	0%	2%	0%
Energy sources for cooking (%):				
Firewood/charcoal	91%	100%	93%	97%
Electricity	3%	0%	0%	0%
Processed Gas	3%	0%	0%	0%
Solar Panel	0%	0%	5%	3%
Kerosene	0%	0%	2%	0%
Main water sources - DRY season:				
a) Domestic				
Unprotected spring/well		27%	49%	71%
Public hand pump/boreholes	66%	13%		18%
Privately owned boreholes, yard taps	20%	20%		5%
Public hand dug well		27%	30%	
b) Drinking				
Unprotected spring/well			42%	68%
Public hand pump/boreholes	66%	13%		13%
Protected Spring				5%
Privately owned boreholes, yard taps	17%	40%	9%	5%
Public hand dug well		13%	26%	
C) Livestock				
Unprotected spring/well	12%		46%	55%

	MCPY1 - Kakumiro	MCPY 2 - Mubende	MCPY 3 - Sembabule	MCPY 4 - Kyotera
Public hand pump/boreholes	71%			16%
Protected Spring				7%
Public hand dug well		67%	31%	
d) Production/commercial				
Unprotected spring/well			19%	23%
Public hand pump/boreholes				18%
Privately owned boreholes, yard taps			12%	5%
Public hand dug well		13%		
e) Irrigation				
Unprotected spring/well	14%	7%	37%	48%
Protected Spring			7%	13%
Public hand pump/boreholes	29%		0%	9%
Public hand dug well		13%	12%	0%
Main water sources - WET season:				
a) Domestic				
Public hand pump/boreholes	37%	14%		8%
Rain water harvesting	34%	21%	61%	25%
Privately owned boreholes, yard taps	17%	14%	2%	3%
Unprotected spring/well	3%	29%	7%	58%
b) Drinking				
Rain water harvesting	34%	21%	61%	25%
Public hand dug well		14%	25%	
Unprotected spring/well	3%	29%	7%	58%
Privately owned boreholes, yard taps	17%	14%	2%	3%
Public hand pump/boreholes	37%	14%		8%
c) Livestock				
Rain water harvesting	29%	25%	28%	14%
Unprotected spring/well	6%		25%	48%
Public hand dug well		38%	25%	
Public hand pump/boreholes	47%			17%
d) Production/commercial				
Protected Spring			4%	5%
Rain water harvesting		7%	25%	19%
Public hand pump/boreholes				14%
e) Irrigation				
Unprotected spring/well	0%	20%	10%	38%
Rain water harvesting	29%	40%	48%	29%

5.4.6 Means of Transport at Priority Areas

Means of transport varies between the Priority Areas as shown in the table below, with highest rates of car use amongst the PAHs of MCPY-2 and MCPY-4, and more reliance of walking at MCPY-1 and MCPY-3.

Table 5-31 Means of Transport (Priority Areas)

	MCPY1 - Kakumiro	MCPY 2 - Mubende	MCPY 3 - Sembabule	MCPY 4 - Kyotera
Household principal modes of transport (%):				
Boda	29%	50%	66%	53%
On foot	15%	0%	14%	8%
Own Motorbike	6%	14%	14%	8%
Bicycle	12%	7%	5%	16%
Car	9%	21%	2%	13%
Bus	3%	0%	0%	0%
Other public transport	26%	7%	0%	3%

5.4.7 Community Services at Priority Areas

Highest rates of households with children attending school are at MCPY-2 and MPCY-4 and lower at MCPY-1 and MCPY-3 and there are similar patterns in levels of satisfaction with education services.

Table 5-32 Access to Community Services (Priority Areas)

	MCPY1 - Kakumiro	MCPY 2 - Mubende	MCPY 3 - Sembabule	MCPY 4 - Kyotera
Household has children attending Primary school (%)	69%	100%	84%	95%
Household has children attending Secondary school (%)	49%	79%	66%	61%
Household access to health facilities (%):				
- Clinic / drug shop in affected location	17%	29%	27%	11%
- Health centre in affected location	69%	57%	48%	74%
- Hospital in affected location	11%	14%	25%	16%
Satisfaction with quality of education services (%):				
- very satisfied	3%	8%	5%	8%
- satisfied	31%	46%	82%	73%
- neither	22%	8%	0%	3%
- dissatisfied	25%	38%	13%	16%
- very dissatisfied	19%	0%	0%	0%
Satisfaction with quality of health services (%):				
- very satisfied	6%	0%	0%	3%
- satisfied	25%	23%	72%	73%
- neither	19%	23%	0%	0%
- dissatisfied	31%	46%	23%	16%
- very dissatisfied	19%	15%	18%	11%

5.4.8 Household Vulnerabilities at the Priority Areas

The proportion of household affected by food shortages at the PAs which ranges from 27% at MCPY-3 to 68% at MCPY-4, is considerably lower than the average of 85% of households across all 10 districts. This difference may be down to the nature of the survey question asked.

Table 5-33 Percentage of Households Experiencing Food Shortages (Priority Areas)

	MCPY1 - Kakumiro	MCPY 2 - Mubende	MCPY 3 - Sembabule	MCPY 4 - Kyotera
Household suffers from food shortages (%)	43%	50%	27%	68%
Which months are there food shortages (%)				
- January	33%	29%	17%	31%
- February	33%	14%		12%
- March	47%	29%	8%	4%
- April	40%	43%	25%	12%
- May	20%		17%	4%
- June	20%		8%	15%
- July	7%	14%	25%	35%
- August	7%	29%	25%	35%
- September		29%	50%	50%
- October		29%	50%	35%
- November		43%	25%	35%
- December	13%	29%	25%	12%

Table 5-34 Percentage of Households Facing Problems (Priority Areas)

	MCPY1 - Kakumiro	MCPY 2 - Mubende	MCPY 3 - Sembabule	MCPY 4 - Kyotera
Problems facing households (%):				
High transport costs:	89%	87%	72%	73%
Unfair prices:	89%	100%	63%	61%
Human Diseases/ health conditions:	83%	60%	41%	27%
Pests and diseases:	80%	100%	80%	56%
Employment problems:	74%	60%	57%	46%
Lack of electricity:	71%	87%	80%	68%
Poor road conditions:	71%	73%	76%	76%
Few health facilities:	71%	87%	78%	63%
Lack of health care facilities:	71%	73%	70%	51%
Cost of living:	71%	80%	41%	27%
Transport problems:	66%	60%	63%	63%
Poor education/ schools:	66%	80%	48%	49%
Bad roads/ bridges:	63%	60%	74%	76%
Drug supplies:	60%	93%	57%	44%
Lack of transport services:	60%	53%	61%	42%
Quality of healthcare services:	57%	87%	61%	39%
Lack of skills:	54%	73%	35%	29%
Lack of credit facilities:	51%	47%	46%	22%
Access to markets for goods:	43%	67%	48%	54%
Production tools:	43%	73%	28%	27%
Lack of police post/ insecurity:	40%	47%	24%	15%
Land shortage:	37%	93%	41%	42%
Access to extension services:	37%	47%	33%	22%
Illiteracy and ignorance:	34%	53%	11%	27%
Environmental Problems:	34%	33%	24%	17%
Distance to school:	31%	73%	70%	63%
Access to agricultural inputs:	31%	93%	39%	37%
Hunger/ nutrition:	31%	33%	13%	27%

The livelihood needs of Priority Area households are shown in the table below. Highest rated needs include health clinics, schools, and water.

Table 5-35 Livelihood Needs (Priority Areas)

	MCPY1 - Kakumiro	MCPY 2 - Mubende	MCPY 3 - Sembabule	MCPY 4 - Kyotera
Households' most urgent needs: (%)				
Clinic	97%	100%	98%	90%
Maternity Clinic	94%	92%	96%	75%
Employment	94%	80%	78%	78%
Schools	91%	100%	100%	95%
Improved seeds & livestock breeds	91%	93%	94%	98%
Schools	91%	100%	96%	97%
Water	88%	100%	100%	95%
Improved roads	88%	93%	96%	98%
Agricultural Equipment	85%	100%	87%	78%
Agricultural Clinic	85%	73%	89%	73%
Skills training	85%	79%	74%	50%
Foodstuffs	77%	87%	78%	93%
Police Station	71%	80%	70%	68%
Community gardens	52%	46%	41%	43%
Livestock watering hole	42%	54%	74%	70%