



PROJECT NUMBER: 3ie TW4/1010

**TITLE: IMPROVING FOOD SECURITY THROUGH THE
INTRODUCTION OF NEW SEED VARIETIES**

**SUB-TITLE: WHICH MODALITIES ARE MOST COST-EFFECTIVE
IN PROMOTING USE OF NEW SEED VARIETIES?**

PICTORIAL FIELD REPORT OF THE MIDLINE SURVEYS

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3ie Improved seed awareness study

Pictorial Field Report - Midline Survey

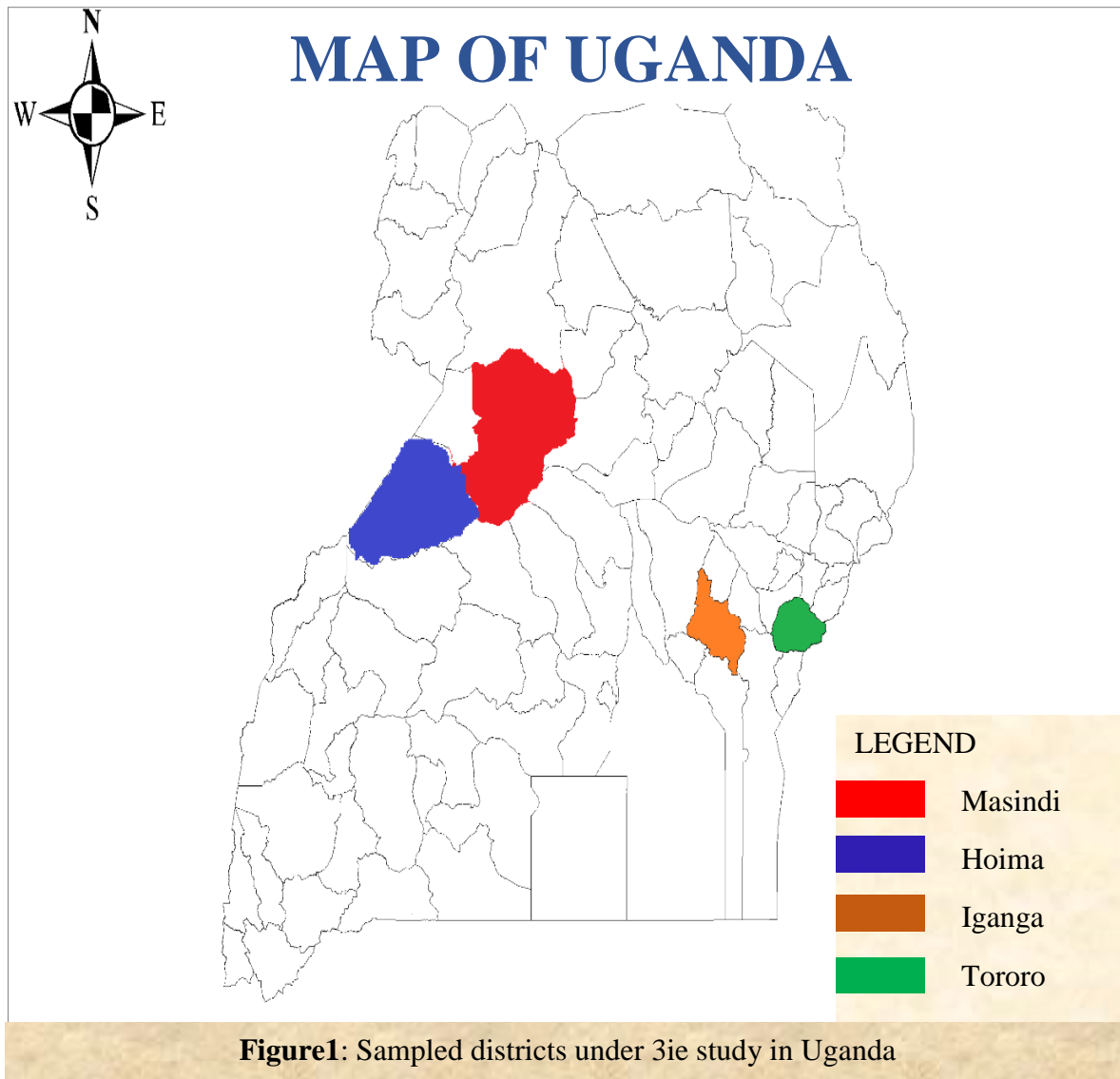
Introduction

The 3ie midline survey was a follow up from a baseline survey that was conducted between October 2014 and February 2015. The 3ie Midline survey was conducted between September 2015 and February 2016. The report presents activities during the survey with photos that were captured during Enumerator training, pretesting, household interviews, focus group discussions, demonstration plots, radio stations that aired promotions on improved seed by Pearl Seed Company and visit to Pearl Seed Company Ltd.

Study Area

Data was collected from four districts that had been selected for implementation of the promotion campaign for new bean and maize varieties, specifically Nabe15 and PH5052. The four districts were Hoima, Masindi, Iganga and Tororo, all of them are major producers of maize in the country. Hoima and Masindi are located in the mid-west region, and form what is known as the Lake Albert crescent. Iganga and Tororo are located in Eastern Uganda. The four districts were selected in consultation with Pearl Seeds Company and were considered suitable districts for promotion of new maize and beans varieties in the country.

In the next stage, two (2) sub-counties (out of the four) were randomly picked from each district to host the demonstration plots. The remaining two sub-counties (in each district) were to act as control sites. When the study team visited the selected study areas they purposively picked sub-counties which were to act as control sites through matching. In consultation with agricultural officers, sub-counties with relatively similar features to the treatment sites were identified. The matching features included: agro-ecological zone, agricultural production systems, infrastructural development and socio-economic factors. A total of 8 sub-counties in the mid-west (4 treatment and 4 control) and 8 in the eastern region (4 treatment & 4 control) were selected for the study. **Figure1 to Figure5** below shows the districts under 3ie study in Uganda and the sampled sub-counties in each district.



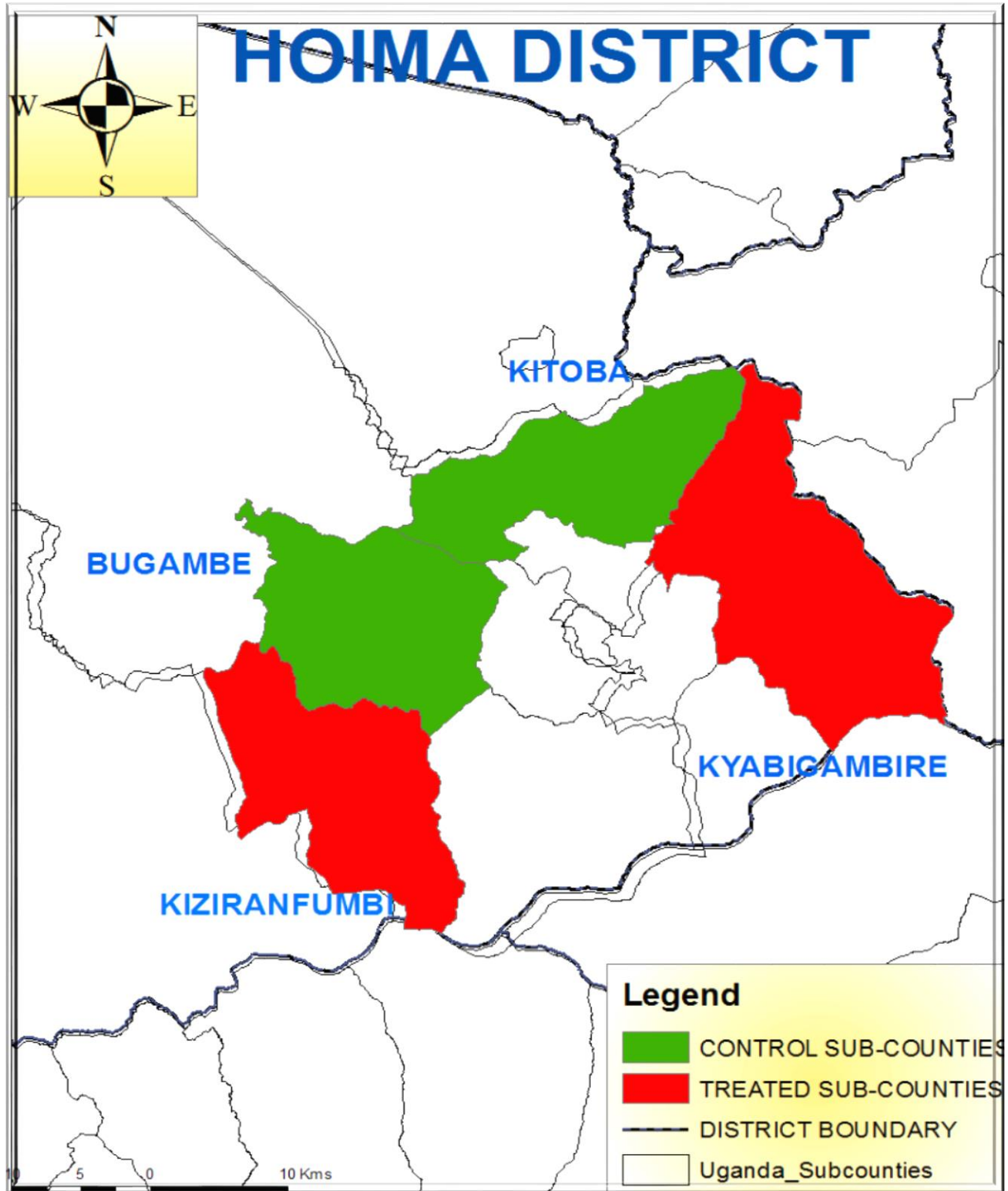


Figure2: Sampled sub-counties in Hoima district

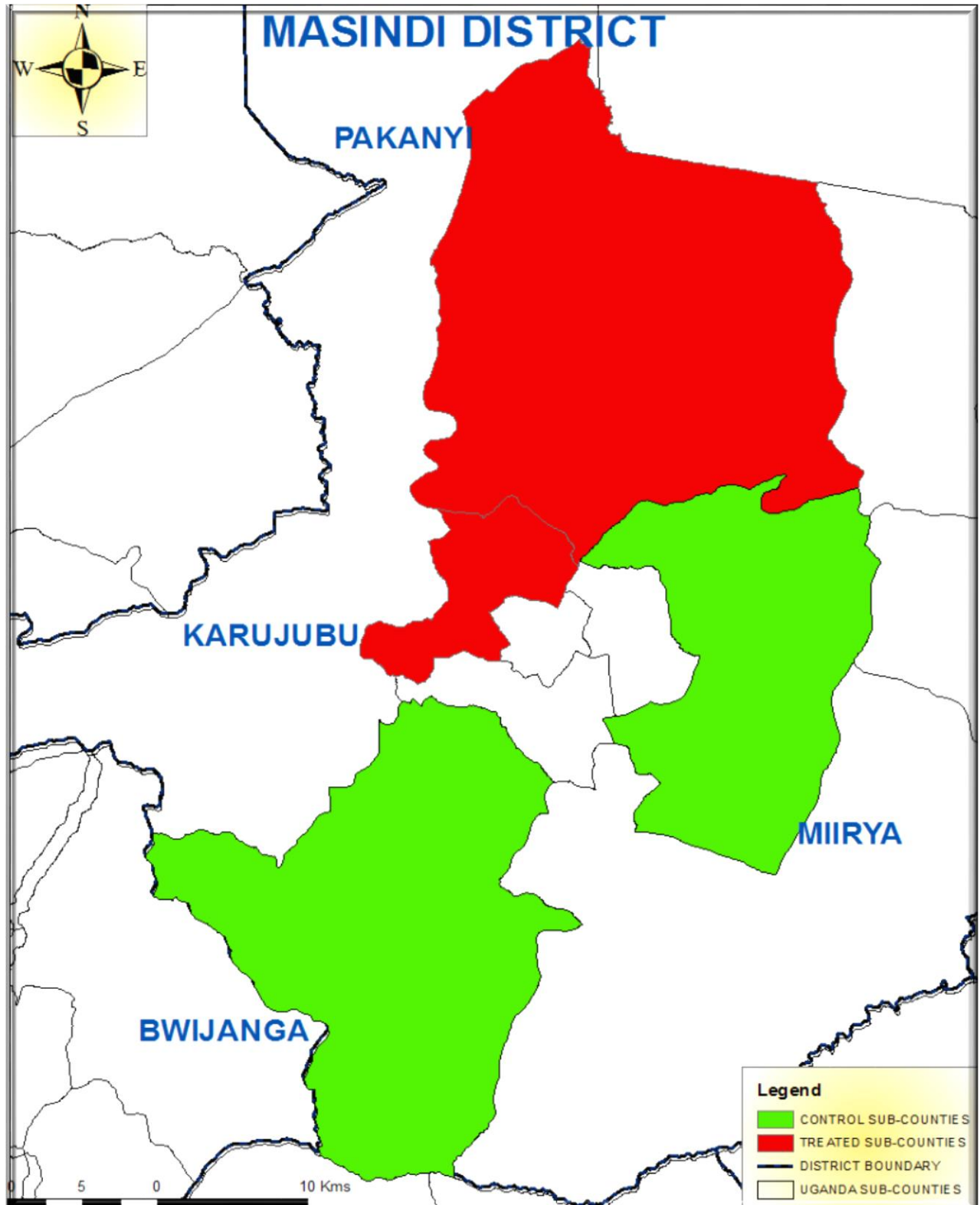


Figure3: Sampled sub-counties in Masindi district

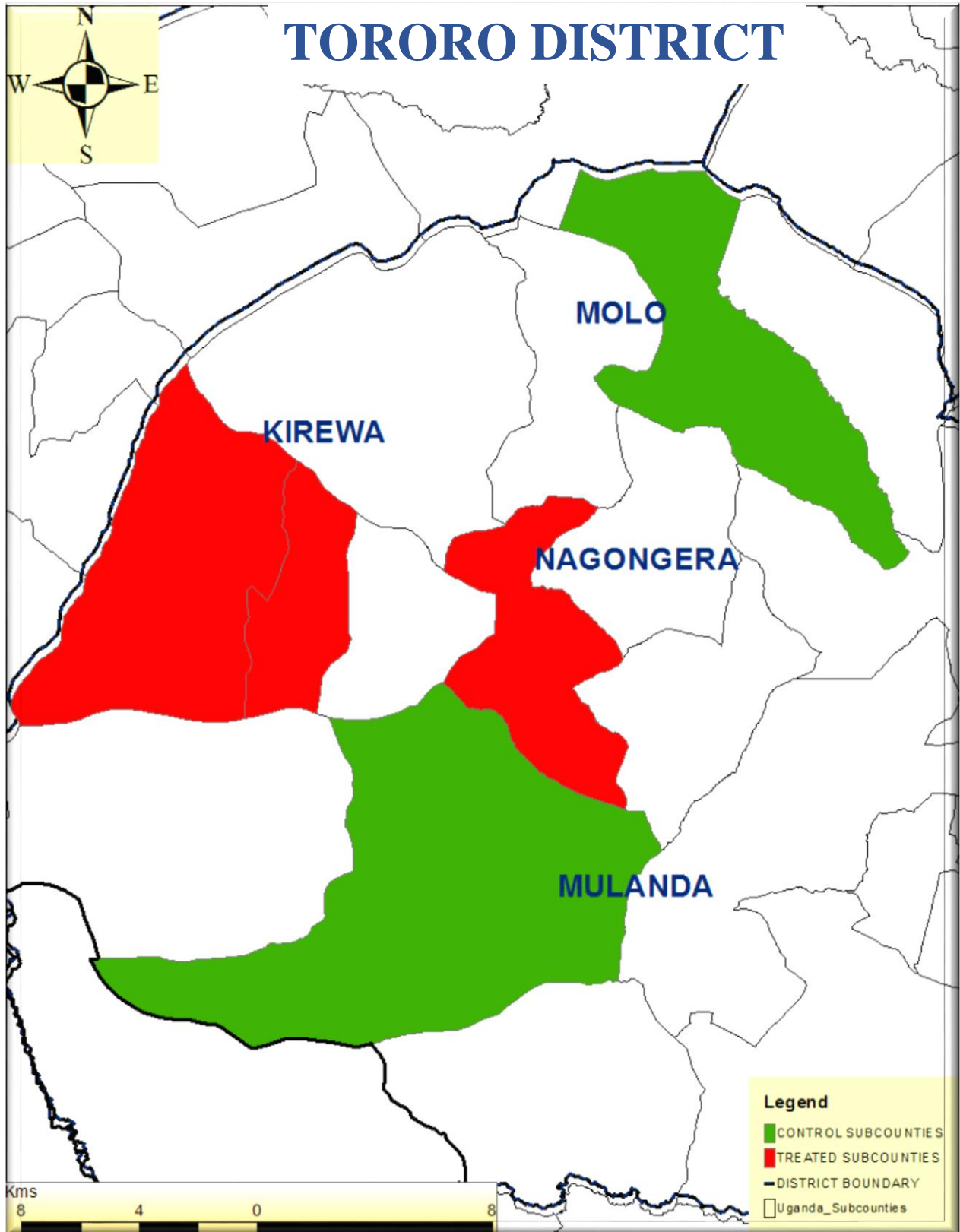


Figure4: Sampled sub-counties in Tororo district

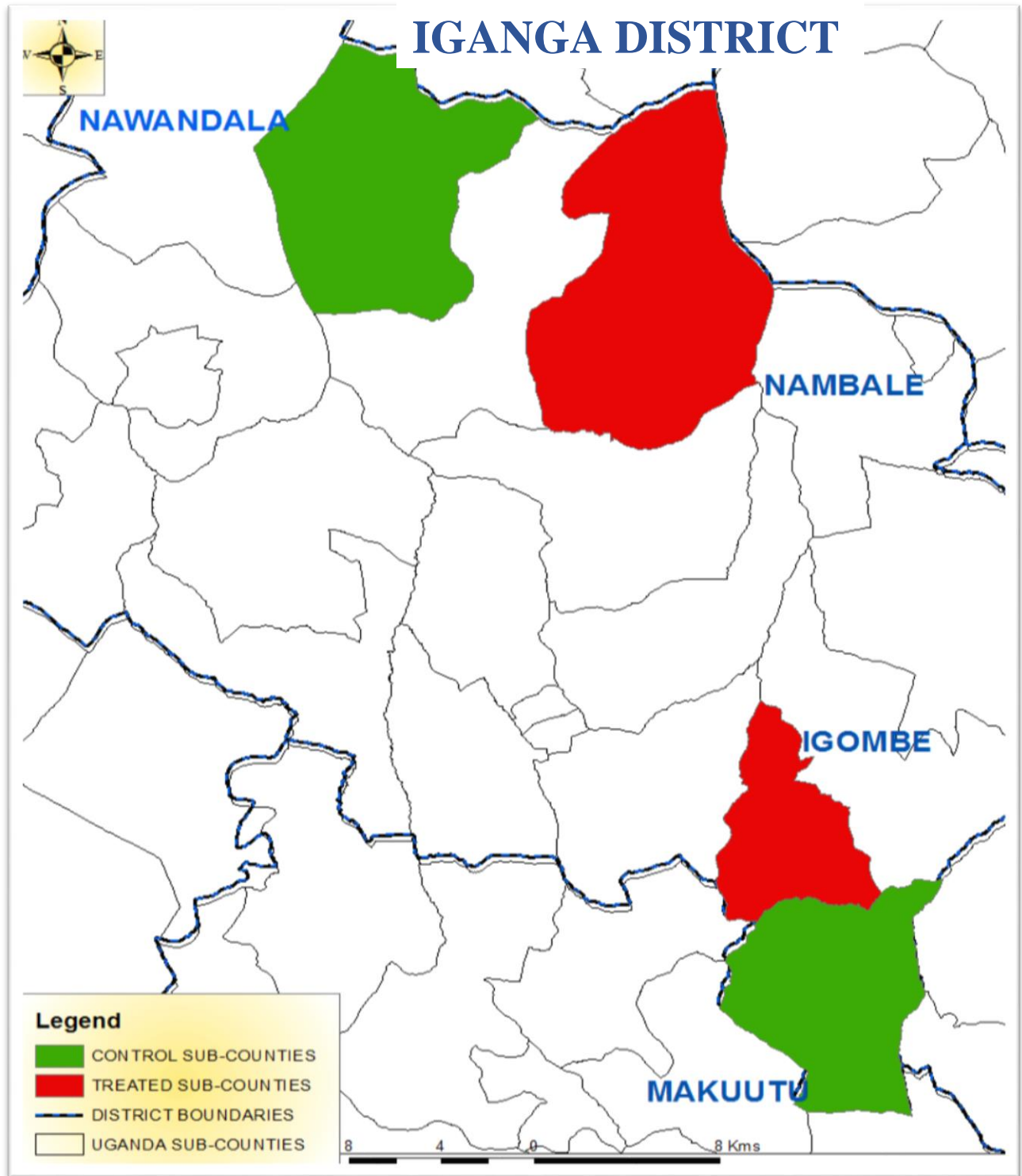


Figure5: Sampled sub-counties in Iganga district

Sample Size

The sample size calculations are based on a minimum differential in adoption rate of the treatment group over that of the control group of 10%, 80% power using standard statistical tests which are based on a two-sided significance of 5% probability of Type I error. Because the households are sampled from village clusters, we control for intra-cluster correlation and attrition (20% over the 4-year study period). The required sample size to detect a 10% change in the primary indicators is 2,162 to 2,770 households depending on the indicator.

We followed a stratified random sampling procedure to select households to be interviewed. First four sub-counties were selected from each of the four districts. The second stage involved randomly selecting 14 villages from a list of all villages in each of the selected sub-counties. This translated to 56 villages from each district and 224 villages in total. Data on number of households in each of the selected villages was then obtained from the Uganda Bureau of Statistics (UB OS) census data. Based on the number of households in each of the villages, fifteen random numbers were generated and used to select 15 households from each village from a list of households provided/generated by the local/village council chairmen. The survey was then conducted on 10 out of the 15 households that had been selected from each village to allow for drop outs (e.g. households not present at home at the time of interview). The final sample comprised of 2240 households.

Data collection

The study was to be done in three phases so as to monitor the changes due to treatment; baseline midline and endline. The baseline study was conducted in 2014/15, midline in 2015/16, the endline survey is yet to be conducted in 2016.

Information sought includes household and farm characteristics, farmer awareness and knowledge as well as farmers attitudes, perceptions and decision making with regard to use of new varieties. We also collect information on farmer use of improved variety and acreage planted with new variety, the yields obtained and other benefits. Information to inform respondent tendencies in opinion leadership are also collected. Data are collected at household as well as individual levels which allows engendering of some of the information such as attitudes, perceptions and opinion leadership. Data on crop production practices are collected at the plot level.

The survey data are collected from a random sample of households drawn from both the treatment (areas assigned demonstration sites) and control groups (areas not assigned demonstration sites) using structured questionnaires. This baseline report is based on data which was collected between November 2014 and February 2015. Data was collected using paper questionnaires and analyzed using the Statistical Package for Social Sciences (SPSS) while the midline report is based on data which was collected between October 2015 and January 2016. The midline survey tool was coded using Open Data Kit (ODK) and then data was collected using tablets.

Training, Pretesting and recap.

Enumerators were competitively selected after going through listing, shortlisting and interviews. The requirements were candidates with at least Bsc. Agriculture or related courses, some experience in rural household data collection and knowledge of local language from western and Eastern Uganda. The selected team of enumerators was trained before collecting household data. Training on the midline survey instrument and pretesting exercises were conducted from 12th October to 23rd Oct 2015. Training was held at Makerere University in Kampala, Uganda by the Tegemeo Institute team with support from the Makerere University team.

A total of 30 enumerators were trained. During the training the trainees were introduced to the 3ie survey using the paper questionnaire (PAPI; Paper Aided Personal Interview). They were taught on what the objective of the study was all about and how to approach each question in order to get relevant information. The enumerators were then introduced to the use of tablets that had the 3ie midline survey questionnaire. The use of tablets as a form of Computer Aided Personal Interviewing (CAPI) was a new concept to about 80% of the enumerators since they had no prior experience on CAPI (Computer Aided Personal Interviews) and about 30% had not seen a tablet before. During the CAPI training the enumerators learnt how to set up the tablet, download the form from the server, fill in all the questions, edit the questions and upload the questionnaire to the server after completion. Training on Paper took two days while Computer Aided Personal Interview (CAPI) took four days (more days were allocated to CAPI training because it was the target mode of data collection). There were two trainers from Tegemeo Institute, Kenya. Besides training for data collection, the training focused on capacity building of the enumerators and the supervisors.



The 3ie Team taking the successful enumerators through data collection training at Makerere University Kampala, Uganda.



One of the trainers guiding enumerators on how to record GPS coordinates using tablet



Enumerators learning how to record GPS coordinates using tablet during training

Pretesting of the instrument was done in Luwero District in Uganda; the pretest area presented the likely situation in the study area. During pretesting two enumerators were allocated one household at a time, one enumerator was to interview the farmer as the other listens carefully how the interviewer approaches each question and notes down any inconsistencies in the approach to the questions with respect to the training. After a whole day with the farmers, the team always met in the evening to share experiences as the trainers reacted to matters arising and clarified any issues from the field. The team was able to identify the areas that needed clarification and redesigning to ensure that the instrument was ready for the actual data collection exercise. During pretesting the trainers ensured the appointed enumerator teams supervisors were capable of leading the enumeration teams and also ensured that the enumerators were able to handle the tablets in interviews and collect the relevant information.

After the pretest the trainers made improvement to the tool using notes from the pretest and conducted a two day recap session to have the enumerators and the field supervisors fully ready and the tool finalized for data collection.



Enumerators conducting pretest in Luwero District with Supervisor (second right) closely monitoring the exercise



Enumerators sharing their experience after pretest during recap



The Team ready to embark on data collection

Household Data collection

The data collection exercise ran from 25th October 2015 to 4th January, 2016 in total data collection took 65 days. The teams visited all the households in the sample list and made call backs for the households that were missed during the first visit. A total of 2133 households were interviewed in the midline survey and 114 households were not interviewed notably due to migration to urban areas, dissolution of households (due to death of household member/s) and refusal by a few respondents. Household verification was crucial during data collection, this was done by visiting and observing the farm with guidance of the village guide and confirming with the respondent, the village and the household name before starting the interview, in most cases at least one of the key decision makers male or female could be found at home since we had made prior arrangement with the village guides,

the other member could be interviewed at the place where he/she works or does business; in the shopping center or the market place.



The data collection team in Iganga District, Eastern Uganda confirming the household before starting the interview



The data collection team in Masindi District, Western Uganda confirming the household before starting the interview

Farmers' convenience during interviewing was always paramount. As such the enumerators conducted the interviews at locations that were convenient to the respondents



Enumerators interviewing farmers under different scenarios at the convenience of the respondents

Focus Group Discussions and key informant interviews

There were two teams, one working in Eastern Ugandan (Iganga and Tororo) and the other working in Western Uganda (Hoima and Masindi). The FGDs (Focus Group Discussions) were conducted in treatment and control areas in the four districts (Iganga, Tororo, Hoima and Masindi); in each district 8 FGDs were conducted. The teams conducted a total of 32 FGDs with farmers; out of the 32 FGDs 16 were conducted in villages in treatment where demonstration plots had been set up by Pearl Seed Company a seed company tasked with the responsibility of creating improved seed awareness through demonstration plots. The other 16 FGD villages were randomly selected from the list of control villages in the sample. Participants in the FGDs were randomly selected from the farmers around demo plots. In each FGD, the local leader (village elder) was instructed to organize farmers; 12 maize farmers, 6 from each gender and of different age categories from every part the village to ensure that the sample was well distributed. During the FGDs, attendance by age and gender did not deviate from the instructions that the village elders were given.



The 3ie team conducting a focus group discussion in Tororo and Iganga, Eastern Uganda



The 3ie team conducting focus group discussions in a market place in Masindi, Western Uganda



The 3ie team conducting focus group discussions under a 'Village Conference Centre' in Hoima, Western Uganda

Demonstration plots and demonstration plot hosts

The teams also visited and conducted interviews with all the Pearl Seed Company Demonstration Plot hosts in the two regions. The teams also had a chance to visit the plots where the demonstration plots were set up.



The team conducting interviews with the demonstration plot hosts in Western Uganda



Focus Group Discussion Members at a PH5052 Maize variety demonstration plot in Hoima District, Western Uganda.



A PH5052 Maize variety demonstration plot at Iganga, Eastern Uganda

Radio stations and Agro-dealers.

Radio stations that were tasked with the responsibility of airing the promotions which included spot adverts and radio talk shows for purpose of creating awareness on improved seed varieties especially maize and beans from Pearl Seed Company were also visited and interviewed. The leading agro-dealers; those who were mainly mentioned by the focus group members during the discussions in each district were also visited and interviewed.



Eastern Team at Rock Mambo FM in Tororo



The Western team at Bunyoro Broadcasting, Masindi



Some of the Agro-dealers that were visited during the study



Research team from Tegemeo Institute and Makerere University getting a brief from Pearl seed Company on Improved seed Promotion activities