DVM' mapping and monitoring

One of the strategies employed to improve access to clean planting OFSP vines is through establishment of multipliers closest to farmers. These multipliers, often referred to as Decentralized Vine Multipliers (DVMs) receive training on sweetpotato agronomy and other important aspects of OFSP production and dissemination. The DVMs are then expected to pass on this information to farmers obtaining OFSP vines from their farms. Many OFSP promotion projects setup their DVMs so that they have ready OFSP vines by the start of the planting season for dissemination to farmers.

Examples of two monitoring tools used in the management of DVMs are described below. These are the DVM registration and DVM monitoring forms. These tools are only available in Open Data Kit (ODK) compatible format. ODK is an open source suite of technologies that enables users to build data collection forms, collect data using Android mobile devices and send it to a server via the internet. The electronic forms are available on the Sweetpotato Knowledge portal (www.sweetpotatoknowledge.org)

DVM Registration

DVM registration is a onetime activity conducted at the beginning of the season. DVM registration is only necessary for new DVMs. The aim of the registration exercise is to ensure that a project's DVMs database is up to date.

COUNTRY. The name of the country where the DVM is based.

ADMIN1CD. The highest administrative unit for location within a given country; for example, province, region, state, county, etc.

ADMIN2CD. The second highest administrative unit for location within a given country; for example, district, sub-county, sub-region, etc.

ADMIN3CD. The third highest administrative unit for location within a given country.

ADMIN4CD. The fourth highest administrative unit for location within a given country.

ADMIN5CD. The fifth highest administrative unit for location within a given country.

MULTIPLIER NAMES.   The first and last names of the vine multiplier. If these are known beforehand, they should be built into the electronic form and made available as a dropdown menu during the actual registration.

CELLPHONE. The nearest cellphone number that can be used to reach the DVM. This could be the number of a cellphone owned by the DVM or a cellphone owned by a close friend, neighbor, or relative. A cellphone number is important because OFSP promotion projects will publicise this number to potential OFSP vine beneficiaries within a given DVM's areas of operation.

SEX. The sex of the vine multiplier.

AGE. The age of the vine multiplier in years.

DATE STARTED MULTIPLYING. The date when the DVM started multiplying OFSP vines. When collecting dates, it is recommended that separate columns be used for year, month and day to avoid any confusion arising after the data has been collected.

YEARS GROWN SP. The number of years the DVM has grown any type of sweetpotato.

TOTAL FARM SIZE. Total area of the DVM's farm, for all crops, in HA.

TOTAL FARM SIZE I LOWLANDS. Total area of the DVM's farm in lowlands, in HA.

FARMER CATEGORY. The category the DVM being registered most comfortably belongs to in terms of vine production capacity. the categories to choose from are: 1. Smallholder with limited selling 2. Smallholder with significant selling 3. Medium commercial and 4. Large commercial

MOST PROFITABLE CROP. The crop that brings the DVM the highest returns.

2ⁿᵈ MOST PROFITABLE CROP. The crop that brings the DVM the second highest returns.

3ʳᵈ MOST PROFITABLE CROP. The crop that brings the DVM the third highest returns.

DVM SELLS ANY OTHER SEED. This question is establishing whether the DVM is involved in the production and sale of any other type of seed besides OFSP vines.

DVM SELLS ROOTS. This question is establishing whether the DVM is involved in the production and sale of OFSP roots besides OFSP vines.

WATER ACCESS. A free text description of ear round access to water by the DVM

DVM OWNS IRRIGATION EQUIPMENT. This is a YES/NO question establishing whether the DVM owns any irrigation equipment.

IRRIGATION EQUIPMENT DESCRIPTION. A description of the irrigation equipment owned by the DVM. This question is only asked if the DVM responded positively to owning irrigation equipment.

AREA UNDER IRRIGATION. Area of the DVM's land under irrigation in HA.

SOIL TYPE. A description of the soil type of the DVM's farm. The options are: Very sandy, sandy, sandy-loam, light clay, and heavy clay. Any additional oil types can be described as free text if they exist.

SOIL QUALITY ASSESSMENT: Assessment of the quality of the soil for sweetpotato production purposes. This assessment should be done by an agronomist or extension agent and categorized as: Very poor, poor, average, good or excellent.

FERTILIZER. A YES/NO question establishing whether the DVM used applied fertilizer on his land the previous season.
MANURE. A YES/NO question establishing whether the DVM used applied manure on his land the previous season.

FARMERS GROUP MEMBERSHIP. A YES/NO question establishing whether the DVM is a member of any farmers group.

GROUP NAME. If the DVM is an active member of any group, the name of the group is collected in this field as free text.

RELIGIOUS GROUP MEMBERSHIP. A YES/NO question establishing whether the DVM is an active member of any religious group.

COMMUNITY LEADERSHIP. A YES/NO question establishing whether the DVM is considered as a leader in the community e.g. through leadership of church groups, leadership of community based organizations, etc.

SPOUSE ASSISTANCE. A YES/NO question on whether the DVM's spouse assists with OFSP vines production.

DISTANCE TO MAJOR ROAD. The distance in minutes by walking to the nearest major road to the DVM's field.

TRAINING CURRENT YEAR. The number of days the DVM has received training as a multiplier in the current year.

TRAINING PREVIOUS YEAR. The number of days the DVM has received training as a multiplier in the previous year.

MONITOR. The first and the last name of the extension agent or agronomist performing the registration.

DVM NEEDS. A free text opinion of the extension agent or agronomist performing the DVM registration on the most beneficial form support a given OFSP promotion project can offer the DVM.

DVM PICTURE. A close-up picture of the DVM. For group multipliers, a group photo of the members if possible. The DVM picture taken using the camera of the android device used during the DVM registration and is automatically associated all the other registration details.

FIELD GPS CORDINATES. The GPS coordinates of the DVM's main farm or household. These coordinates are uploaded on the sweetpotato knowledge portal alongside with locations of all active sweetpotato DVMs in sub-Sahara Africa. The reading of these coordinates is automatically done by the android device when using the electronic DVM registration form.

DVM Monitoring

The DVM monitoring form on the other hand is used to record technical backstopping visits by extension agents to various DVMs. These visits are designed to support vine multiplication throughout a given season.

COUNTRY. The name of the country where the DVM is based.

ADMIN1CD. The highest administrative unit for location within a given country; for example, province, region, state, county, etc.

ADMIN2CD. The second highest administrative unit for location within a given country; for example, district, sub-county, sub-region, etc.

ADMIN3CD. The third highest administrative unit for location within a given country.

ADMIN4CD. The fourth highest administrative unit for location within a given country.

ADMIN5CD. The fifth highest administrative unit for location within a given country.

MULTIPLIER NAMES.   The first and last names of the vine multiplier. If these are known beforehand, they should be built into the electronic form and made available as a dropdown menu during the actual registration.

MONITOR NAMES. The first and last names of the monitoring agent. If these are known beforehand, they should be built into the electronic form and made available as a dropdown menu when recording the monitoring visit details.

CATEGORY OF MULTIPLIER. The category of the DVM as either foundation, Individual or group DVM.

NUMBER OF SP PLOTS. These are the number of sweetpotato plots belonging to the multiplier.

DAYS SINCE LAST VISIT. The number of days that has passed since the last monitoring visit to this DVM.

PRIMARY PURPOSE OF VISIT. The main reason of visiting with the DVM. The options to choose from are: Setup trial, setup multiplication plots, assess quantity and quality of planting material, conduct training or demonstration day. Any other reason not captured in the above is captured using a free text field.

AGRO-ECOLOGICAL CONDITIONS. The condition of agro-ecological conditions in the last 30 days. These conditions can be one of: Very bad, poor, average, good or excellent.

CROP WELL WEEDED. Assessment by the monitoring agent on whether the sweetpotato crop has been well weeded. This is recorded as: Not at all, partially or yes completely.

VIRUS EVIDENCE. Assessment by the monitoring agent on whether there is evidence of sweetpotato virus disease in the growing fields. This is recorded as: Not at all, partially or yes completely.

VIRUS SEVERITY. The severity of the sweetpotato virus disease if present. This is recorded as: none, just a few plants, moderate level of infections or severe level of infection.

WEEVIL EVIDENCE. Assessment by the monitoring agent on whether there is evidence of sweetpotato weevil. This is recorded as: Not at all, partially or yes completely.

DATE CUTTING PLANTING MATERIAL. This is the date when the next cutting of material will take place.

QUALITY SUBPLOT DETAILS. A YES/NO question on whether the monitoring agent would like to take details of a quality subplot. A quality subplot is a representative sub section of one of the plots that is doing well.

QUALITY SUBPLOT ID. An identification number for the quality subplot chosen by the monitoring agent.

NUMBER OF BEDS/RIDGES. The total number of beds/ridges in the whole plot without any problems.

QUALITY SUBPLOT GSP. GPS coordinates of the quality subplot.

QUALITY SUBPLOT PICTURE. A photograph of the quality subplot. This should be well framed to capture the sweetpotato crop and any visible labels in the subplot if the DVM's field is labeled.

PICTURE DESCRIPTION. A description of what has been captured in the quality sub plot picture above.

VARIETIES IN PICTURE. Names of the sweetpotato varieties captured in the quality subplot picture above. The varieties are available in the electronic form as a drop down menu, with an optional free text field for any variety names not on the list.

PHOTO CREDITS. The first and last names of the person who took the quality subplot picture. This is provided for as a free text field.

PROBLEM SUBPLOT DETAILS. A YES/NO question on whether the monitoring agent would like to take details of a problem subplot. A problem subplot is a representative sub section of one of the plots that is causing a problem to the multiplier for example a section with sweetpotato virus disease, etc.

PROBLEM SUBPLOT ID. An identification number for the problem subplot chosen by the monitoring agent.

NUMBER OF BEDS/RIDGES. The total number of beds/ridges in the whole plot with problems.

PROBLEM SUBPLOT GSP. GPS coordinates of the problem subplot.

PROBLEM SUBPLOT PICTURE. A photograph of the problem subplot. This should be well framed to capture the sweetpotato crop and any visible labels in the subplot if the DVM's field is labeled.

PICTURE DESCRIPTION. A description of what has been captured in the problem sub plot picture above.

VARIETIES IN PICTURE. Names of the sweetpotato varieties captured in the problem subplot picture above. The varieties are available in the electronic form as a drop down menu, with an optional free text field for any variety names not on the list.

PHOTO CREDITS. The first and last names of the person who took the problem subplot picture. This is provided for as a free text field.

SOLUTION. A description of the strategy for resolving the problematic situation being reported.

ESTIMATE AMOUNT OF PLANTING MATERIAL AVAILABLE. An estimate amount of the planting material available per variety. Details recorded are: Name of the variety, number of beds with this variety, number of times the variety has been distributed from this plot prior to the monitoring visit, number of estimated cuttings currently ready, overall assessment of the quality of the planting material, an estimate of whether the material will be ready in good time and general comments about the variety.

TRAINING PROVIDED. A YES/NO question on whether training has been provided during the monitoring visit.

TRAINING DESCRIPTION. Description of the training provided if any.

VINES CUT DURING VISIT. A YES/NO question on whether been any vines have been cut for distribution during the monitoring visit.

OTHER ISSUES. A free text description of any other issues observed by the monitoring agent during the visit.

DETAILS OF SUBPLOT TO BE DESTORYED. This captures details of any subplot that us ready to eb destroyed. These details are only captured if there is a subplot to be ready to be destroyed and the monitoring agent has selected to enter these details in the electronic form. Details captured are: Identification number of the plot being destroyed, number of times vines have been cut from the plot before, final assessment of the performance of the plot and the date when the plot will be destroyed.

DATE OF NEXT VISIT. Proposed date for the next visit.