TSO

World Vision

Utilising Last Mile Mobile Solutions (LMMS) and Power BI Dashboards for Monitoring and Evaluation of Ultra-Poor-Graduation Project Models

Lessons from World Vision Rwanda

Documented March 2022

ABOUT THIS REPORT

This report is drawn from the lessons learned from World Vision's Rwanda's use of Last Mile Mobile Solution (LMMS) and Power BI dashboards in the monitoring and evaluation (M&E) of Ultra-Poor Graduation Programmes. This learning initiative project is a joint effort between numerous entities within the World Vision Partnership, including World Vision Rwanda (WV Rwanda), the Last Mile Mobile Solution Team (LMMS), the Global Centre Livelihoods Sector Team (GC Livelihoods) and the Technical Services Organisation (TSO), to actively learn and document the findings for the potential scale-up of the use of LMMS in livelihoods programming. This report was written by Julie Byun, former Technical Advisor – Livelihoods (TSO), with the contribution from David Zvipore, Senior Technical Advisor – Livelihoods (TSO), and Aimable Nsengiyumva, Resilience and Livelihood Technical Programme Manager (WV Rwanda). The findings of the report are contributed by Billy Bagaza, LMMS specialist (WV Rwanda); John Menganyi, Business Analyst, Disaster Management and Digital Solutions Specialist (Global LMMS team); Sarkis Chidiac, Business Process and Data Visualisation Analyst (Global LMMS team); and the entire Resilience and Livelihoods team of World Vision Rwanda. Lastly, the report was reviewed and supported by Colin Dyer, Technical Director for Quality and Innovation (GC Livelihoods) and Cat-Dan Lai-Smith, Knowledge Management & Capability Advisor (GC Livelihoods).

This report focuses on documenting practical lessons with the purpose of informing other World Vision offices that plan to adopt LMMS (and KoBo Toolboxt and Power BI) in the M&E of development programmes. The trials and lessons from WV Rwanda are shared here for all readers within the World Vision Partnership to learn from and possibly build the roll-out of these digital tools based on Rwanda's experience.

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1 Digitisation of Ultra-Poor Programme (UPG) in Rwanda

World Vision Rwanda (WV Rwanda), as part of the new fiscal year 2021–2025 strategy cycle, is implementing the Ultra-Poor Graduation (UPG) programme nationwide to support households to graduate out of extreme poverty in all Area Programmes. The programme's goals and target group are directly aligned with the Government of Rwanda's National Strategy for Transformation 1, which aims to lift all households in Ubudehe Category 1[1] (the most economically vulnerable segment of the population) out of extreme poverty by 2024. The extreme poverty rate in Rwanda is 16 per cent nationally; however, 18.1 per cent of those in extreme poverty reside in rural areas, which is where the majority of WV Rwanda's operations are implemented. Therefore, in February 2019, a memorandum of understanding (MoU) was signed between WV Rwanda and the Local Administrative Entities Development Agency (LODA) that operates under the Ministry of Local Government to jointly target 50,000 households from Ubudehe Category 1 and 2 from 14 districts where WV Rwanda operates by 2023. This MoU provided a framework that enabled the LODA, WV Rwanda and other key actors to set up a mechanism of coordination to track graduation programme implementation and promote a more systemic and holistic approach to social protection and economic development to reach the most vulnerable groups.

1.1 The need for a digital solution for the UPG programme

In a UPG programme, households in extreme poverty are identified using a multi-stage targeting process and a package of multi-sectoral interventions is provided to the households for 24 months. Every month, a household coach conducts a visit to monitor the household's progress and mentor them according to their status. This helps the household stay on track to achieve the agreed end-goal of 'graduation' towards a sustainable pathway out of extreme poverty.

Due to the vast scale of the programme, it was evident that a digital solution was necessary to manage the monitoring and evaluation (M&E) data for the 50,000 UPG households. Specifically, UPG's need for a digital M&E solution involves:

[1] Government of Rwanda's wealth ranking category. Families living in extreme poverty and poverty are identified as those falling under Ubudehe Category 1 and 2, drawing an income of RWF 159,375 (corresponding to approximately US$185) and RWF 105,064 (approximately US$122) in January 2014 prices respectively.

1. Collecting, storing and managing a vast amount of household data in an online database
2. Ensuring data integrity by allowing ubiquitous access to the database from different geographic locations
3. Tracking households' longitudinal data and providing accurate, data-based coaching to UPG participants
4. Rapidly making sense of the vast data to see the overall progress of the project and household
5. Adaptively managing project implementation strategy based on analysis results
6. Removing hassle for household coaches to carry/use physical notebooks
7. Safely securing UPG households' personal data
8. Empowering household coaches with digital skills.

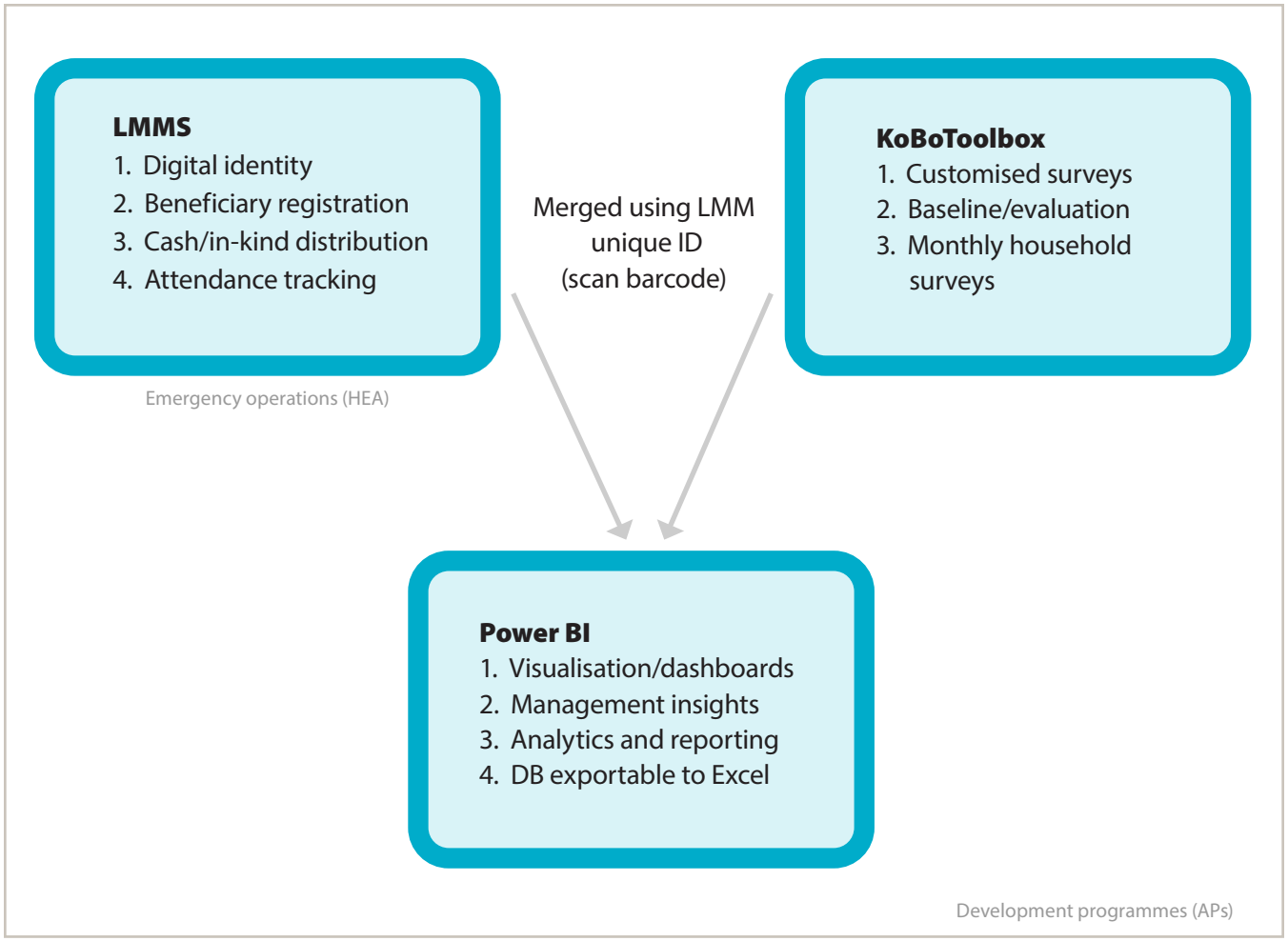
To address these needs, WV Rwanda decided to utilise the Last Mile Mobile Solution (LMMS), World Vision's in-house mobile information management platform system for humanitarian response. Their decision was based mainly on the familiarity of the software, the presence of in-house LMMS specialist within WV Rwanda and the ease to receive support as the LMMS team is part of the World Vision Partnership.

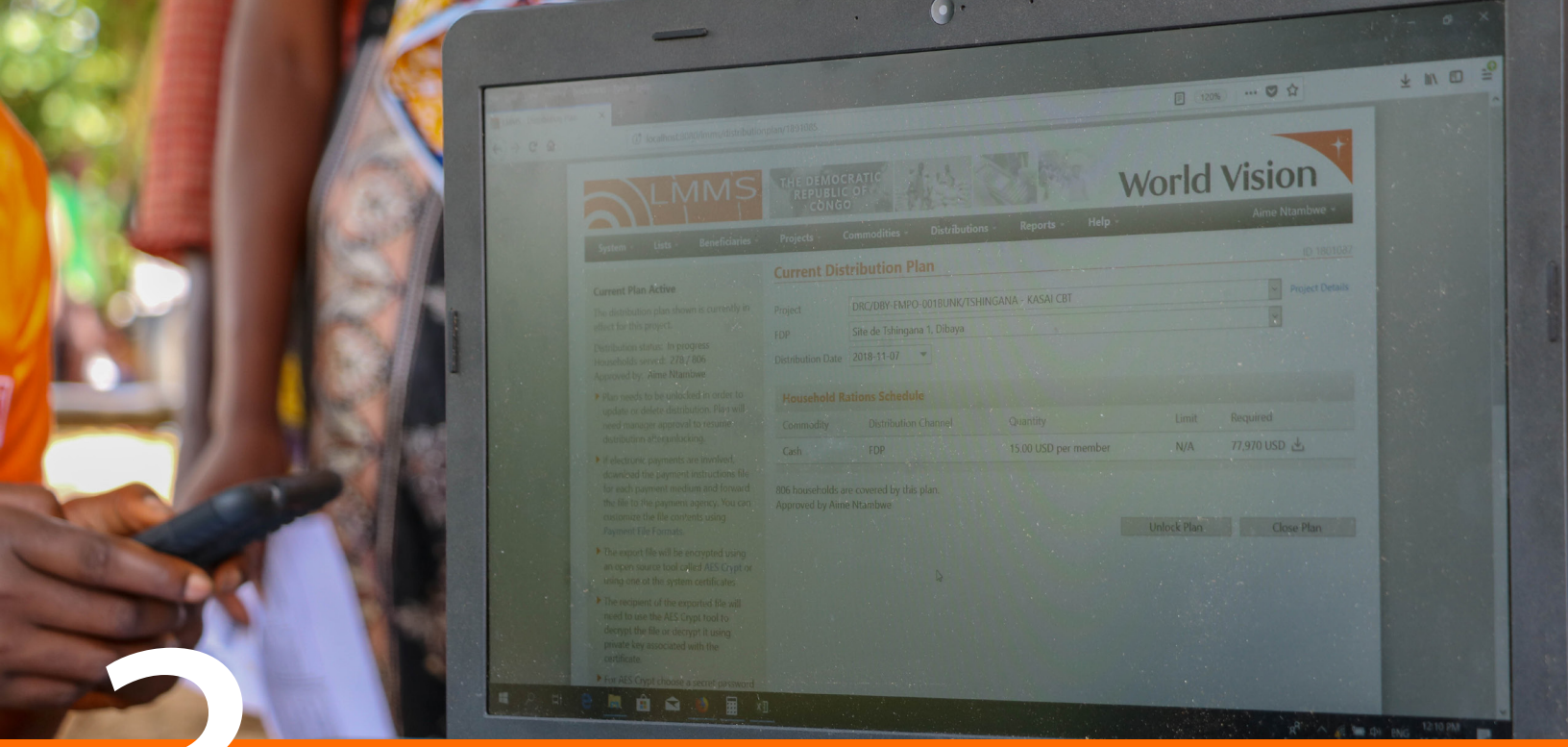
2 Integration of Last Mile Mobile Solution as a Monitoring tool

Last Mile Mobile Solution (LMMS) is World Vision's in-house mobile information management platform system for humanitarian response, which provides numerous solutions, including digital identity, beneficiary registration, distribution-in-kind, cash-based programming, activity and attendance tracking, flexible forms, and management insights and analytics. Within the World Vision Partnership, the LMMS services that are best known and widely used are the digital identity and cash-based programming solutions in emergency operations.

By early 2021, a number of World Vision's field offices, such as in Rwanda, have expanded the use of LMMS to development programmes to manage household monitoring data. Household monitoring data can be collected using the LMMS Flexible Forms Solution, which uses KoBoToolbox (an open source data collection software). The monitoring data is then matched with the registered household on LMMS through the LMMS unique identification number or through simply scanning the unique bar code on the LMMS ID card. Power BI can also be integrated to join information from other sources. For example, household registration data on LMMS can be merged with routine household survey data collected by KoBoToolbox, which can then be visualised using Power BI. The diagram in Figure 1 shows how the Last Mile Mobile Solutions Application (LMMS) used for beneficiary tracking of project commodities monitoring data, has been integrated with the KoBo Toolbox Application, which is used to collect demographic data among project participants, and how this is integrated into combined coherent presentation and visualisation using the Power BI application.

Figure 1. LMMS integrates with KoBoToolbox and Power BI and its functions





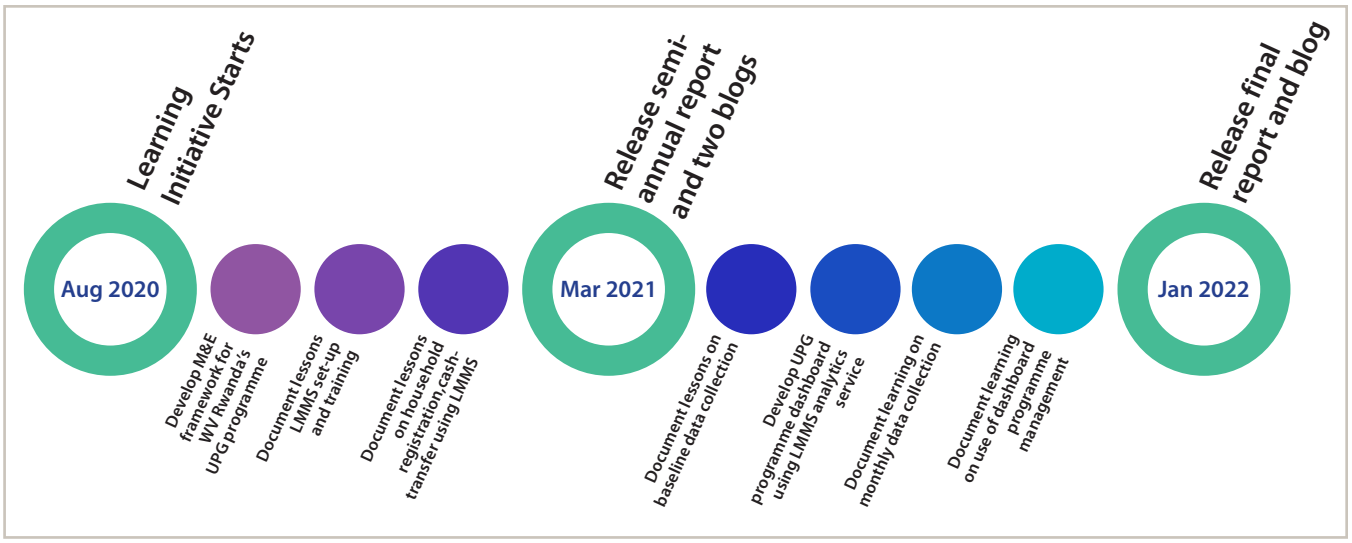
3 The learning initiative for the LMMS pilot in UPG M&E

WV Rwanda's decision to utilise LMMS to manage the M&E of a Livelihoods programme was a pilot attempt that would provide invaluable lessons in terms of the scalability to other offices within the World Vision Partnership. Therefore, a partnership was formed in July 2020 between WV Rwanda, Global Livelihoods Sector Team, Technical Services Organisation (TSO) and the Global LMMS Team to cooperate to document lessons learned during the first year of the pilot. The roles and responsibilities of this learning initiative were divided as follows in Table 1.

Table 1: Key partners in the learning process and their roles

WV Rwanda	Global LMMS Team	Technical Services Organisation	Global Livelihoods Sector Team
• Implement the pilot • Participate in fortnightly dialogue with TSO consultant to update on progress, achievements and lessons learned	• Waive service fee during the initiative • Provide technical support on LMMS • Develop digital dashboard	• Designate consultant for a year to lead the learning initiative • Follow WV Rwanda's progress for a year and document lessons	• Oversee the pilot programme • Disseminate lessons learned within the Partnership and beyond

Figure 2. Major activities during the learning initiative



3.1 Set up of LMMS platform

One of the advantages of LMMS is that many of World Vision's field offices are already using it for Humanitarian & Emergency Affairs (HEA) programmes. If the office is under the 'unlimited use' contract for LMMS, there is no additional charge of extending the use of LMMS to development programmes. Charges for LMMS services for World Vision offices can be found in the 'Internal Pricing' sheets, which are updated and released every financial year. Information on charges and services LMMS offers can be found through the LMMS staff at each regional office or through the list of contacts outlined in Annex 1. So far, there hasn't been any external partner using LMMS for this particular UPG project. However, LMMS is being used by one partner of WV Rwanda for another graduation project, and they bear the cost using different rates because they are external.

LESSONS LEARNED

L1: If the project includes an external partner, charges will incur for the set up and use of LMMS using a different rate than the internal pricing for World Vision offices.

L2: In addition to the solution fees, additional costs that will incur in order to digitise the M&E of a programme should be fully budgeted. This includes the cost of implementing this digitisation process involves procuring necessary devices, training and staff (LMMS specialist, enumerators).

3.2 M&E framework: the map that guides M&E throughout the programme cycle

In a UPG programme, the graduation criteria are at the heart of the M&E. Graduation criteria are simple measurements that are used to keep track of the UPG households' progress across the four UPG pillars: social protection, livelihoods promotion, financial inclusion and social empowerment. The graduation criteria can be set based on numerous factors including the selection criteria that were used to select the UPG participants and other vulnerability assessments that preceded the targeting process. In the case of WV Rwanda, the graduation criteria were directly aligned with Government of Rwanda's Umurenge Poverty Assessment Programme criteria for Category 1 and 2 wealth levels. At the end of the time-bound UPG programme, participants are considered to have 'graduated' out of the programme if they manage to meet the pre-set target for the majority of the graduation criteria.

WV Rwanda's UPG programme had seven graduation criteria that were distributed between the four UPG pillars. Each graduation criteria had both output and outcome level indicators. These output indicators were tracked by the household coaches on a monthly basis during the household visits. These output indicators were vertically aligned

to outcome indicators that were established to measure the overall change the UPG has made. Therefore, it was important to set the output indicators as simple as possible – a marker that can be used to measure progress at a monthly basis. For example, the output indicators tracked UPG participants' active and consistent participation in activities introduced in the UPG programme, such as saving or practicing new skills acquired through the programme. The achievement of these output indicators was meant to contribute towards the achievement of the outcome by logical alignment. WV Rwanda also measured outcome indicators at every six months to track overall progress.

All indicators were organised and clearly outlined in an M&E framework shown in Figure 3.

LESSONS LEARNED

L3: It was extremely important to clearly identify which indicators were outcome, output and goal-level indicators as well as identify the frequency of data collection for each level indicators as the M&E framework was used by all programme staff as a map to guide data collection throughout the programme's life-cycle. The M&E framework also played a crucial role during the dashboard development stage, which will be described in detail in the upcoming sections.

L4: All indicators that measure the negative states, such as 'percentage of households in extreme poverty' or 'households experiencing severe/moderate food insecurity' must be converted to a positive statement, as graduation criteria are positive aspirations. For example, 'percentage of households living in extreme poverty' should be converted to 'households not living in extreme poverty'.

Figure 3. WV Rwanda's UPG M&E Framework

UPG Pillar	Graduation Criteria	Indicator	Indicator Frequency	Frequency	Collected by
Goal	Households achieved at least 80% of all graduation criteria	Number & proportion of households that meet graduation criteria	Goal	Baseline and Evaluation	HH Coaches
		Number of children (age 0-18) reached by WV's Ultra Poor Graduation programming	Goal	Baseline and Evaluation	HH Coaches
Social Protection	Graduation Criteria 1. Households have basic needs covered	Proportion households NOT in multidimensional poverty	Outcome	Every 6-month	HH coaches
		Number of households with access to at least 3 basic services (Health Facility, Government Grant	Output	Monthly	HH coaches
	Graduation Criteria 2. Households are food secure and well nourished	Proportion of households with suffiecient diet diversity as measured by the Household Dietary Diversity Index (HDDI)	Outcome	Every 6-month	HH coaches
		Number of households NOT facing moderate or severe food insecurity according to the Food Insecurity Experience Scale Global Standard Scale (FIES-SSS).	Output	Monthly	HH coaches
Livelihoods Promotion	Graduation Criteria 3. Households have at least two sources of income	Proportion of households living before the extreme poverty/$1.9 a day line according to Poverty Probability Index	Outcome	Every 6-month	HH coaches
		Proportion of parents and caregivers provide well for their children	Outcome	Every 6-month	HH coaches
		Number of households with alternative and risk diversified source of livelihoods	Output	Monthly	HH coaches
		Number of UPG participants that complete a business-related training course	Output	Monthly	HH coaches
		Number of households participated in technical trainings (disaggregated by type)	Output	Monthly	HH coaches
Financial Inclusion	Graduation Criteria 4. Households access and regularly participate in local savings mechanisms	Proportion of UPG households with forml means of savings	Outcome	Every 6-month	HH coaches
		Number of UPG participants who are part of a S4T group or similar savings mechanism	Output	Monthly	HH coaches
		Average amount of savings per month	Output	Monthly	HH coaches
	Graduation Criteria 5. Households have access to credit when needed	Proportion of parents and caregivers who report having access to sufficient credit	Outcome	Every 6-month	HH coaches
		Number of households that completed financial literacy training	Output	Monthly	HH coaches
Social Empowerment	Graduation Criteria 6. Households can employ an effective disaster coping strategy	Proportion of housholds that are NOT dependent on food cinsumption coping strategies	Outcome	Every 6-month	HH coaches
		Number of households that suffered and shock and described their living situation is better or same as before	Output	Monthly	HH coaches
	Graduation Criteria 7. Women have decision making rights	Proportion of households with woment actively engaged in decision making	Outcome	Every 6 month	HH coaches
		Number of households completed Celebrating Families	Output	Monthly	HH coaches

3.3 Training of household coaches on enumeration

Many field offices may have prior experience using LMMS and even have enumerators in the communities that the office regularly works with that are well versed with digital data collection. However, in UPG programmes, it is the UPG household coaches that are responsible for collecting and tracking the data of the households they are in charge of. The selection criteria for UPG coaches include a list of specific skills, such as strong inter-personal and communication skills and traits like empathy, patience, among others – thus, digital literacy is not always a given. In the case of WV Rwanda, coaches were hired as community volunteers, and the geographic proximity to the UPG participants was the utmost priority due to the restrictions that followed the COVID-19 pandemic. Some coaches that were hired had never used smartphones or other digital devices prior to the programme. Therefore, particular attention needed to be taken during enumeration training, which, in addition to the usual training of the questionnaire, needed to include the basics of using a smartphone and its applications, such as KoBoToolbox.

LESSONS LEARNED

L5: If household data will be collected digitally, either ensure the recruitment of coaches with the necessary digital skills or include an intensive training package for coaches in the programme design.

L6: During training of new technology, learning by doing is essential. Include practical sessions, mock trials and pilot runs in the training schedule.

3.4 Household registration

Household registration is the very first point of entry of digital data collection. Household registration is conducted using the LMMS application, where each UPG household is provided a unique LMMS ID number card and a barcode which provides digital identity to programme participants. This card carries an individual's identification details, and unique identification digits are generated to help track each individual project participant. For example, personal information of the UPG participant as well as information on household members, such as age, education level of children and spouse are collected and stored in the LMMS household database. This step is important as the unique IDs generated during this stage will be used to merge routine household monitoring data collected using KoBoToolbox and to track the UPG participants' attendance in the numerous activities of UPG programmes.

LESSONS LEARNED

L7: It is important to make programme participants aware of the information needed during household registration so that they can prepare the information before registration. During community orientation on the household registration process, include a session about what data will be needed, why and what will happen to the data they provide. Emphasise the importance of providing correct information in order not to repeat or delay the process. Highlight the types of information that are more difficult to remember for participants, such as telephone number, telecom carrier, bank account number, government ID number, etc. so that participants can prepare these beforehand.

L8: Be ready to engage with programme participants with no digital literacy nor devices. In the case of WV Rwanda, the programme staff were caught by surprise during the registration process as they realised many programme participants did not have a phone number, which was necessary to receive digital cash. The programme staff had to quickly come up with a contingency plan to support participants purchasing a SIM card and then train them how to use it. The process was not streamlined and caused major delays in the household registration process. Going digital means digital literacy has to be equipped at every level – the participants, coaches, staff and managers.

L9: One limiting factor of the LMMS application is that it only supports English, French and Spanish as the language options; thus, instructions and questions cannot be translated to the local language. Household coaches need to be trained to fully understand the questionnaire and collect the correct information, and the supervisors should be prepared to identify errors made due to language barriers.

L10: Household registration is the first point of entry of digital data collection for both staff and coaches; therefore, anticipate a period of trial and error. Robust supervision of the household registration process is advisable so as to verify records and ensure correct inclusion or exclusion of participants is validated before scaling-up the digitisation of participant's records.

3.5 Data collection

Regular collection of monitoring data is conducted using the LMMS flexible form function, which utilises the KoBoToolbox platform. Multiple questionnaires from the programme can be uploaded on KoBoToolbox, and the relevant one can be selected by household coaches according to their needs. In the case of Rwanda, two versions of the questionnaire were uploaded on KoBo. The main questionnaire had both the outcome and output level indicators and was used during baseline and every six months while the monthly questionnaire only had questions for the output indicators.

LESSONS LEARNED

L11: Attention is needed when scanning the LMMS ID card. WV Rwanda experienced a high number of cases with incorrect household numbers due to errors caused during ID scanning, which occurred due to the ID card being folded, crunched, scanned with no light, etc. Each beneficiary should receive a laminated (plastic) card that cannot be easily damaged. Beneficiaries were instructed to keep their cards safe, as they will be used until the end of the project.

L12: Both LMMS and KoBo are not flexible when it comes to revising an entry or deleting an account. Ensure supervisors (usually programme staff) are at the field to check that data is being collected correctly and to provide support to coaches who are facing challenges. Anticipate that not all coaches will have the same level of digital dexterity after the training and provide more on-site support. Ensuring that this stage is done well will resolve a bigger challenge in the future of having to re-collect errors/missing data, as well as alleviate pressure on data cleaning.

L13: Robust data cleaning is extremely important. Ensure a staff member is in charge of screening the data for errors on a daily basis. Depending on the office and the scale of the programme, this could be done by the M&E or the programme staff and conducted at the zonal and national level. The important point is to ensure that the person in charge of data cleaning has the enabling environment to devote their attention to the data cleaning workload. In the case of WV Rwanda, this was done by the LMMS specialist at the national level in support of this pilot. However, the LMMS specialist was also in charge of trouble-shooting any technical issues and answering queries from the field, which absorbed most of his time.

L14: It is important to ensure that there is a data back-up every day in order to avoid data losses.

L15: Overall, WV Rwanda found the digital data collection to be an empowering process, where the digital knowledge, skills and means were transferred to the community. The participants also found the data collection process to be more transparent, as they could see the answers that were being inserted in the digital devices together with the coach.

3.6 Dashboard development

When all data is collected, cleaned and uploaded, the data can be analysed and visualised through a Power BI dashboard using the LMMS analytics service. The indicator definitions and the dashboard structure represent the information that needs to be provided and communicated to the LMMS Business Process and Data Visualisation Analyst.

The indicator definition should include a detailed description of how the indicators need to be calculated and the corresponding questionnaire ID number from KoBoToolbox. A sample can be seen in Figure 4, and the full Indicator Analysis Sheet used by WV Rwanda can be found in Annex 2.

Figure 4. Sample of Indicator Analysis Sheet

UPG Pillar	Graduation Criteria	KOBO Questionnaire	Indicator	Indicator Definition
Livelihoods Promotion	Graduation Criteria 4. Households have at least ywo sources of income	QBIS1	Proportion of households with alternative and risk diversified sources of	Answered yes to question: Does the household have diverse and alternative sources of income to rely on? Should the main source of income be lost?
Financial Inclusion	Graduation Criteria 5. Households access and regularly particpate in local savings	Is_any_member_of_this_household	Proportion of participants who are part of a S4T group or similar savings mechanism	Answered yes to "Are you (the UPG particpant) a member of a community based Savings Group?"

The other information that needs to be clearly communicated to the LMMS analyst is how you want the dashboard to look and be organised. An understanding on the objective of the dashboard and how the office aims to use the dashboard for programme management needs to be established at this stage. WV Rwanda drafted a mock design using Microsoft Excel to initiate discussion with the analyst as shown in Figure 5.

Figure 5. Sample of mock design of dashboard

UPG-Monitoring-Dashboard (Project-Level)

1. Objective of the project-level dashboard: To Measure the progress overall on the Graduation Criteria vis-a-vis the targets
2. Organised by Pillars (4 sections or quadrants) and graduation criteria (as below)
3. Show indicator in cumulative percentages and charts (to calculate % of each indicator, need to use the 'Analysis sheet) : cumulative % is important
4. Necessary filters: Months, Projects, Cluster, APs Sector/Cell

Pillar 1. Social Protection

Graduation Criteria 1. Households have basic needs covered

How to measure: % of households that meet all indicators under this pillar
i.e. households who are not in multidimensional poverty AND households who has access to at least 3 services

Proportion of households not in multidimensional poverty	%	Target
Proportion of households with access to at least 3 services	%	Target

The purpose of the dashboard for WV Rwanda was to monitor the level of achievement of each graduation criteria. Therefore, a project-level dashboard was created to track the proportion of households who achieved each indicator out of the total number of project households (in Rwanda's case this was 50,000 households). This dashboard was designed to be automatically updated on a daily-basis with the consistent flow of monthly and quarterly household data collected by the household coaches. Several filters, such as time of data collection and location (e.g., cluster, Area Program cell[2]), were added to be able to analyse the data and conduct adaptive management. For example, the dashboard will be reviewed to identify indicators with weak performance, which can then be scrutinised using the location filter to identify which AP and cells are struggling. The issue can then be discussed with relevant staff and coaches to identify the challenges and come up with solutions.

Furthermore, WV Rwanda created a second dashboard at the household level, where each household's raw data of the questionnaires can be exported to a report for coaches' reference. For example, when a specific cell (village) is identified to have weak performance, the data of houses that belong in that cell can be exported to be reviewed together with the relevant staff and coaches.

LESSONS LEARNED

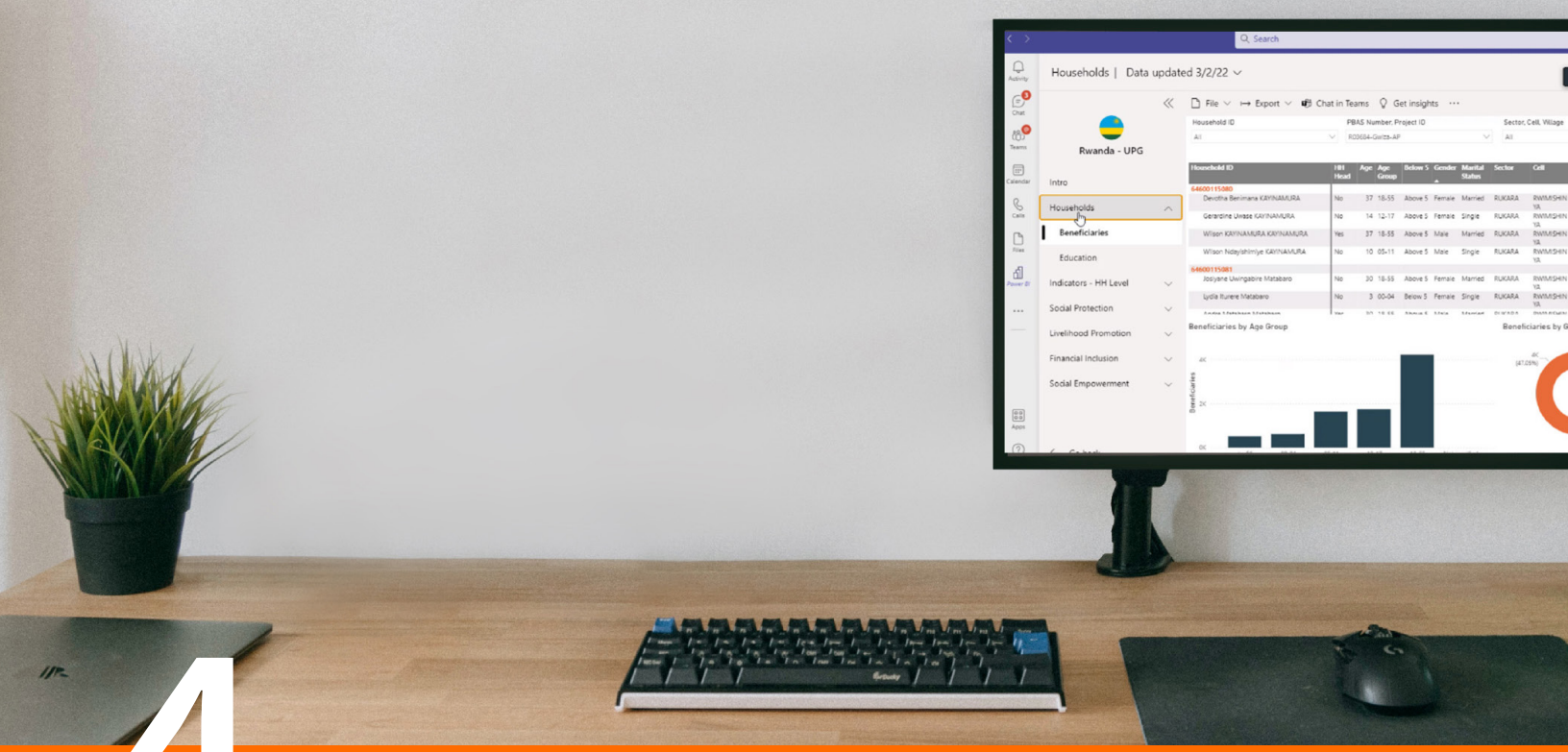
L16: If data is not thoroughly cleaned, it delays the dashboard creation process. During the analysis process, the analyst will identify mismatched/missing data or errors and will not be able to move forward with updating the dashboard as it will present incorrect results.

L17: It is important to provide the Indicator Analysis Sheet (indicator definition) with the correct, matching questionnaire ID from the relevant KoBo questionnaire. If there is an error in the Indicator Analysis Sheet, it will lead to several back-and-forth processes with the analyst, which causes delays.

L18: A clear understanding of how the dashboard will be used for programme management will inform the structure, visual and filters of the dashboard. A thorough discussion with the programme staff is necessary in order not to miss out on important factors that need to be tracked. For example, after the dashboard was launched, programme staff realised that the dashboard was missing important filters, such as gender, most vulnerable children households or registered children households, which can be used to review gender equity and social inclusion-responsive data

L19: Be aware that personal information is being collected and offices must abide by the national laws around personal data security and privacy. Best practice is to allow access to the data to minimal people, such as only programme

[2] These are descriptors that are used to further identify the precise location of the household.



4 Adaptive management using dashboards

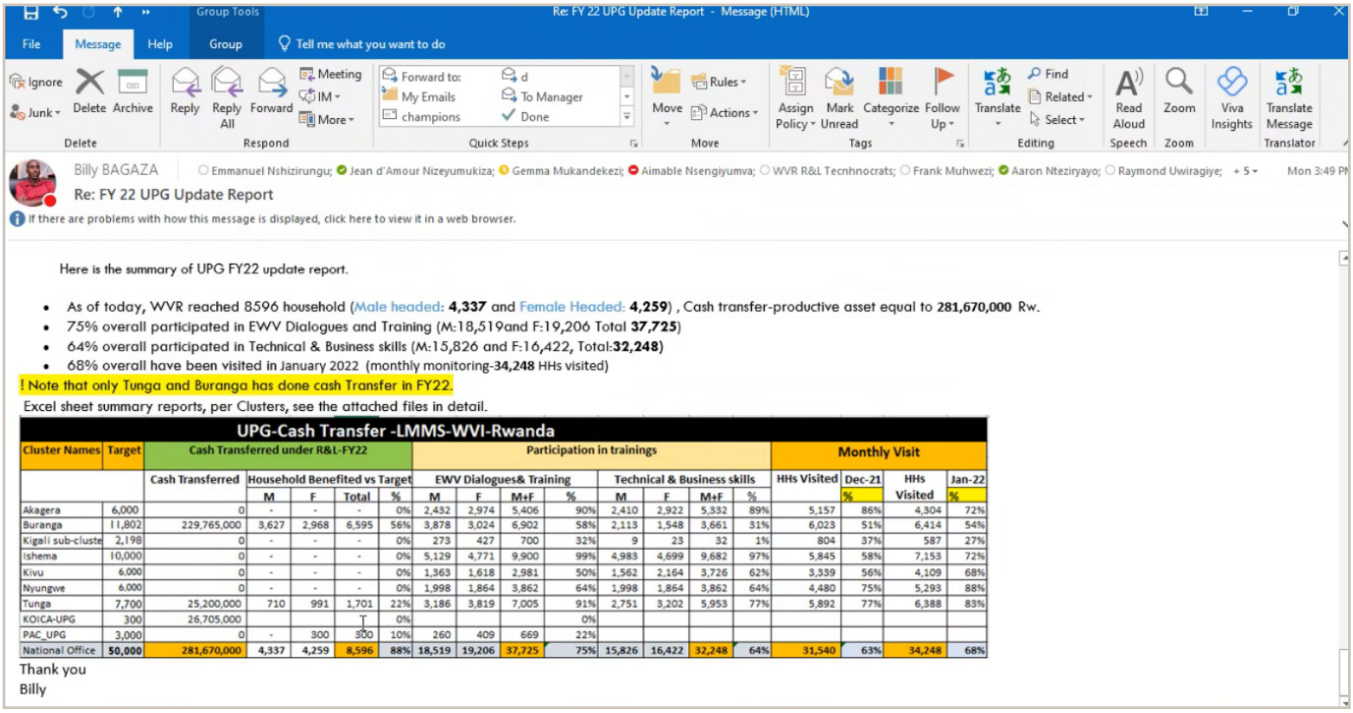
By the time the learning report was documented in March 2022, the dashboard had been in place for four months effectively (since November 2021Volunteers collect data each month as they undertake household monitoring together with partners – using a KoBoCollect mobile application which feeds into the LMMS platform – and that data is eventually visualised through the Power BI dashboard. Each of the 816 volunteers collects both project and demographic data from an average of about 61 households, scanning LMMS cards and synchronising the data each evening. The dashboard feedback is currently extracted by the System Administrator and sent to the Technical Advisor and then to the project managers. The field managers then send the dashboard findings to field coaches as essential feedback that they use to ascertain and adjust training progress, informing volunteer focus and prioritisation of geographical areas for training and monitoring logistical planning.

4.1 Management of mobile data collection gadgets and credentials

The programme uses the basic Samsung A10 or the Nokia C10 Android smartphones costing between US$59 to US$83. To effectively manage the use and maintenance of these phones, WV Rwanda contracted a partner that manages all mobile devices across the programme area. To ensure phone safety, the partner signs a contract with users, where for two years the field monitor uses the device with an incentive to own it after those two years. This has been found to be a successful way of maintaining these devices over time.

Challenges in the deployment of mobile smartphones have mostly been the need for projects to adequately budget for mobile gadgets as well and investment of adequate time for capacity building of older-aged field monitors and looking for young-aged field monitors who are likely more literate and tech-savvy. Field leadership has also recommended that they have found it helpful to learn from World Visions' Sponsorship Monitoring teams considering their digitisation experience over the past five years.

Figure 6: Screenshot of report generated from the dashboard shared with field managers



Re: FY 22 UPG Update Report - Message (HTML)

Billy BAGAZA

Re: FY 22 UPG Update Report

If there are problems with how this message is displayed, click here to view it in a web browser.

Here is the summary of UPG FY22 update report.

- As of today, WVR reached 8596 household (Male headed: **4,337** and Female Headed: **4,259**) , Cash transfer-productive asset equal to **281,670,000** Rw.
- 75% overall participated in EWV Dialogues and Training (M:18,519and F:19,206 Total **37,725**)
- 64% overall participated in Technical & Business skills (M:15,826 and F:16,422, Total:**32,248**)
- 68% overall have been visited in January 2022 (monthly monitoring-**34,248** HHs visited)

! Note that only Tunga and Buranga has done cash Transfer in FY22.

Excel sheet summary reports, per Clusters, see the attached files in detail.

UPG-Cash Transfer -LMMS-WVI-Rwanda

Cluster Names	Target	Cash Transferred under R&L-FY22					Participation in trainings								Monthly Visit			
		Cash Transferred	Household Benefited vs Target				EWV Dialogues& Training				Technical & Business skills				HHs Visited	Dec-21	HHs Visited	Jan-22
			M	F	Total	%	M	F	M+F	%	M	F	M+F	%		%		%
Akagera	6,000	0	-	-	-	0%	2,432	2,974	5,406	90%	2,410	2,922	5,332	89%	5,157	86%	4,304	72%
Buranga	11,802	229,765,000	3,627	2,968	6,595	56%	3,878	3,024	6,902	58%	2,113	1,548	3,661	31%	6,023	51%	6,414	54%
Kigali sub-cluste	2,198	0	-	-	-	0%	273	427	700	32%	9	23	32	1%	804	37%	587	27%
Ishema	10,000	0	-	-	-	0%	5,129	4,771	9,900	99%	4,983	4,699	9,682	97%	5,845	58%	7,153	72%
Kivu	6,000	0	-	-	-	0%	1,363	1,618	2,981	50%	1,562	2,164	3,726	62%	3,339	56%	4,109	68%
Nyungwe	6,000	0	-	-	-	0%	1,998	1,864	3,862	64%	1,998	1,864	3,862	64%	4,480	75%	5,293	88%
Tunga	7,700	25,200,000	710	991	1,701	22%	3,186	3,819	7,005	91%	2,751	3,202	5,953	77%	5,892	77%	6,388	83%
KOICA-UPG	300	26,705,000				0%				0%								
PAC_UPG	3,000	0	-	300	300	10%	260	409	669	22%								
National Office	50,000	281,670,000	4,337	4,259	8,596	88%	18,519	19,206	37,725	75%	15,826	16,422	32,248	64%	31,540	63%	34,248	68%

Thank you

Billy

LESSONS LEARNED

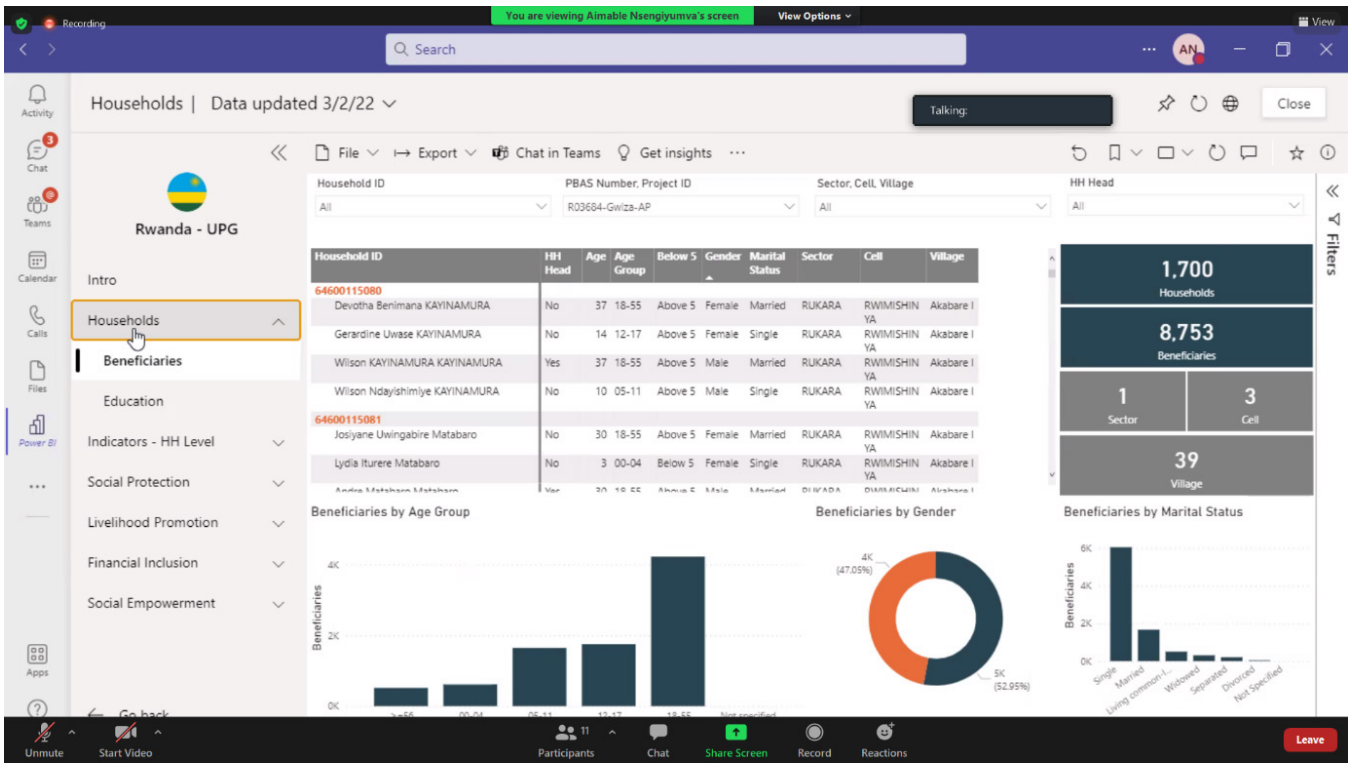
L20: Dashboards enhance simplicity and efficiency of the reporting system. The project field staff reported how they used to simply estimate training coverage without actual records on the exact number of people who have been trained or monitored. 'Before we had the dashboard we used to record data on paper during household monitoring, which was also a bit lengthy and tiring (used to take more than an hour on average). Now the mobile system has reduced the time we take per household (now averaging 30 minutes) and we are now reaching more households per day' says a Field Monitor with WV Rwanda. With LMMS it is possible to link the data for a household with every benefit received through either training or any other activities. The challenge is that an ID card is, so far, given only to the head of a household. This means that other members who are participating in the other project interventions cannot be tracked since they do not have their own cards.

The dashboard system was also reported to be helping to compare the monitoring of partners and therefore helping World Vision management to better coordinate shared workload with partners.

Generating indicator-based reports for monthly and quarterly monitoring was reported to have been very difficult, with programme managers having to go to the field each time they needed data for reporting. However, now they don't need to waste the resources and time looking for reporting data as they can simply get it from the dashboard system.

L21: Mobile data collection enhances overall data accuracy and quality of reporting. The mobile platform and the dashboard functionality were reported by programme staff to also have assisted greatly in improving data accuracy and its real time availability, hence improving direct technical feedback for implementation. For example, if through household monitoring it is found that children have not attended school during that week, the project staff could easily identify, follow-up and coach the specific households with children missing school, in-order to address specific issues with tailored solutions.

Figure 7: Screenshot of Power BI dashboard in operation connected via MS Teams platform



4.2 Challenges experienced with the mobile system and dashboard application

1. **Remote areas with low internet connectivity:** In areas where there is very poor internet connectivity, there have been challenges with synchronising and downloading data. Though field monitors are advised to synchronise daily, some would do so less often, limiting completeness of data upon overall reporting. To avoid the loss of data (due to loosing phones, of phones crashing, etc.), the field monitors had been advised to synchronise daily. But, due to limited internet connectivity in programme areas, most field staff (who happen to be volunteers) lack the motivation to go to where there can get internet connectivity (usually at local World Vision offices or partners' offices which is usually distant), thereby taking up to five days to synchronise on average.

2. **Downtime challenges:** At some point during onboarding, the system had downtime,[3] within the LMMS connection and resulted in some field monitors losing some data which, impeded the confidence of system users. However, over time these downtime challenges were reported to have been rectified.

[3] During 2021, there was a system error (black-out of the LMMS system as possibly it was undergoing maintenance) which resulted in some loss of data, as this cut the connection to the main server and all the data that had not been uploaded could not be matched with the system upon its restoration.

5 Conclusion and recommendations

WV Rwanda initiated the utilisation of KoBoCollect, Last Mile Mobile Solutions and Power BI on an Ultra-Poor Graduation (UPG) project from 2021 as a field office-driven digitisation initiative for efficient programming. By the time the learning report was documented in March 2022, the dashboard had been in place for four months effectively, with 816 volunteers (with an average of about 61 households each) collecting both project and demographic data to enhance the UPG project monitoring system. This was a wonderful opportunity for learning across not only the field office and with partners, but also within the World Vision Partnership at large.

A team of technical experts from a variety of WV entities were invited to support the implementation process and also document learnings during the end-to-end implementation of the process – including the systems design, the participants registration, the baseline and output monitoring, and the setup and use of the dashboard. The first major observation during system design was the emphasis on the value of working together with partners in the delivery of child well-being, as they bring varied depths of technical expertise and deliver diverse, unique opportunities for co-creation and co-learning within the field context. This was found to be a critical success factor in meeting demand for the required capacity and bandwidth for was found to be a critical success factor in meeting demand for the required capacity and bandwidth for learning on projects similar to this UPG project.This included the fact that different partners – including WV Rwanda (including multiple local partners), Global Livelihoods Sector Team, TSO and the Global LMMS team – collaborated with success in specific units.

During project participant registration and system onboarding, it was also found that the capacity of field staff is an essential component. Since household data had to be collected digitally, it was found to be essential to recruit coaches with the necessary skills and include an intensive training package for coaches in the programme design. During the training of the utilisation of the new technology, learning by doing was essential. This training included practical sessions, mock trials and pilot runs in the training schedule, as this was found to be effective in addressing literacy issues across a wider demographic of volunteers.

Overall, WV Rwanda found the digital data collection to be an empowering process, where the digital knowledge, skills, and means were transferred to the community. The participants also found the data collection process to be more transparent, as they could see the answers that were being inserted in the digital devices together with the coach. WV Rwanda's implementation of mobile data collection and dashboards as monitoring solutions show added value in enhancing simplicity and efficiency of the reporting system. The system is very useful to track the progress of the graduation project. Relevant managers are using the system, but the accuracy of the data is still limited because monthly submissions are not yet at 100 per cent completion. At the time of writing, the system is only four months old, and some of the volunteers in some communities are still struggling to visit all households in their respective communities each month. The project field staff reported how they simply used to estimate training coverage without actual records on the exact number of people who have been trained or monitored. Now the mobile system has reduced the time it takes per household, enabling them to reach more households per day. The dashboard system was also reported to be helping to compare the monitoring of partners and therefore helping World Vision management to better coordinate shared workloads with partners.

Generating indicator-based reports for monthly and quarterly monitoring was reported to have been very difficult, with programme managers having to go to the field each time they needed data for reporting. Now, they don't need to waste the resources and time looking for reporting data as they can simply get it from the dashboard system. Lastly, mobile data collection during the implementation of UPG projects was found to enhance both data accuracy and the quality of reporting. By all merits, it is therefore advisable to have mobile applications in the monitoring and evaluation of UPG programmes for quality programme delivery and a greater impact in programme outcomes overall.

6 Annexes

Annex 1. Contact details for more informationion

For more information on LMMS services and costs

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Annex 2. UPG M&E framework sample

World Vision Rwanda's M&E Framework for UPG Programme

Data Analysis Sheet sample

Data Analysis Sheet from WV Rwanda

Annex 3. Dashboard development plan sample

Dashboard development plan

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