LEARNING REVIEW: REDROSE CASH DATA MANAGEMENT 2018 PILOTS

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ACRONYMS

CTP	Cash Transfer Programming
CPWG	Cash Peer Working Group
CVA	Cash and Voucher Assistance
DREF	Disaster Relief Emergency Fund
FSP	Financial Service Provider
GDPR	General Data Protection Regulation
HH	Household
IFRC	International Federation of Red Cross and Red Crescent Societies
IM	Information Management
IT	Information Technology
KRCS	Kenya Red Cross Society
LLIN	Long-Lasting Insecticidal Nets
NFI	Non-Food Items
NS	National Society
ODK	Open Data Kit
PDM	Post Distribution Monitoring
PMER	Planning, Monitoring, Evaluation, and Reporting
PoA	Plan of Action
PRC	Philippines Red Cross
PRCS	Pakistan Red Cross Society
RCRCM	Red Cross and Red Crescent Movement
SOP	Standard Operating Procedures
VNRC	Vietnam Red Cross

EXECUTIVE SUMMARY

Background:

The International Federation of Red Cross and Red Crescent Societies (IFRC) has identified information gaps due to lack of proper data management as a key detractor to the success of cash responses by National Societies. Evaluations and operational reviews have emphasized the need to invest in technological tools to enhance the speed, scale, and quality of programming when cash and vouchers are used. A systematic evaluation of data management solutions was conducted in 2017 by the Red Cross Red Crescent Movement's Cash Peer Working Group (CPWG) and found that the RedRose system met the requirements of the Movement for cash.

In 2018, the IFRC procured the RedRose data management system and piloted it in four contexts. RedRose was used to distribute cash in three emergencies: floods in Vietnam, volcano eruption in the Philippines, and drought in Kenya. The fourth pilot used RedRose to distribute mosquito nets in Pakistan for an anti-malaria programme.

Purpose of Review:

This review was commissioned after the IFRC's RedRose pilots in 2018 to document the lessons learned, opportunities and challenges in implementing data management for Cash and Voucher Assistance (CVA). Key stakeholders from the IFRC secretariat and National Societies involved in the pilots were consulted for this learning review. This document also provides recommendations to National Societies on how to implement data management in a sustainable manner and scale up its use for preparedness and emergency response.

Opportunities:

- Evidences in achieving scale, speed, and quality cash programming were observed with the use of RedRose by **digitalizing processes and having good, reliable data when needed**. Ease of use, adaptability to varying requirements, and predictable technical support were some of the key factors that help RedRose to be fit for purpose.

- Having the right competencies accompanied by a comprehensive data management system for different modalities of assistance (in-kind, cash, or services) that is flexible for different contexts would **help position National Societies as a partner of choice** by governments and donors, differentiating themselves from other actors.

- As cash and voucher assistance is considered and institutionalized, the **needs are evolving from the ability to deliver in a timely manner to managing risks**, by ensuring beneficiary data are responsibly used and programmes demonstrate appropriate controls for transparency and accountability. Having a robust data management solution with the right level of security and auditability would help increase confidence with donors and affected communities.

Key Challenges:

- Technology needs to be complemented with the right competencies—skills or know-how—to utilize tools (responsibly) and to address data issues. **Digital divide and low levels of data literacy** could be barriers in developing the right competencies and acquiring the appropriate technology.

- Data management particularly for cash assistance requires cooperation from multi-stakeholders contributing in the process (e.g. programme teams, finance, IT, IM, PMER, etc.), and **buy in from the different stakeholders are necessary to ensure the technology is adopted** for their various needs.

- Understanding the **cost structures for financing data management technology sustainably** is important to ensure National Societies can make the appropriate investments without huge upfront costs, monthly payments, or unpredictable support models.

Recommendations for National Societies:

- Demystify data management by piloting in small scale and gradually increase competencies. Having hands-on experience with the system builds understanding on how technology could help the National Society in practical terms.

- Embed data management in cash preparedness plans to ensure building capacities and competencies related to data are socialized with key stakeholders involved in CVA, their needs addressed, and actions monitored.

- Consider using the system for broader needs beyond emergency cash to maximize investments. Data management is crucial for all modalities of assistance including in-kind and services. It could also be used for recovery or preparations for early action. Having a comprehensive tool allows National Societies to be flexible when needs arise.

- Consider change management strategies when rolling out new technology to ensure it is adopted by the organization. Understanding the barriers for the National Society and having organizational enablers to help with advocacy are just as critical as having the appropriate tools and competencies.

Recommendations for IFRC:

- The evaluation and piloting process for RedRose has been spearheaded by the cash team at the IFRC and with the CPWG. For the IFRC to help advocate for such a system to other National Societies internal awareness raising and advocacy will also be necessary to ensure support from different IFRC stakeholders (management, technical, and operational). Evidence gathered from this piloting process and experiences of other Movement partners that have piloted RedRose would be helpful.

- Link data management with wider data and information-related capacity building. The use of RedRose demonstrates how to contextualize data management for cash. Develop a toolkit to help National Societies discover, learn, and try to implement RedRose for their own needs. Develop a network of resources that could support the National Societies in their implementation.

- Strengthen guidelines for data management in Cash Preparedness and develop practical examples of how to highlight data management in Cash Standard Operating Procedures (SOP).

Conclusions:

Evidences gathered during the piloting of RedRose in 2018 by the IFRC suggested that a robust data management system used with proper competencies helps speed up delivery of cash, enable scale-up, ensure quality programming, and increase accountability and transparency. This was seen in different contexts, using different delivery mechanisms, and looking at National Societies that have different levels of data, IM, and IT competencies.

Organizations that have invested in their own systems are already realizing the benefits in terms of reaching scale and partnering with major donors. For the IFRC and its members, to achieve their commitments to cash scale up, the rollout of cash data management and data competencies will need to be accelerated. Strategies that include embedding data management in cash preparedness and getting hands-on experience through small scale projects or emergencies can enable National Societies to start learning and growing their use of data management. Having a proven solution such as RedRose could help accelerate the learning process with minimal investment, in parallel to strengthening National Societies' capacities.
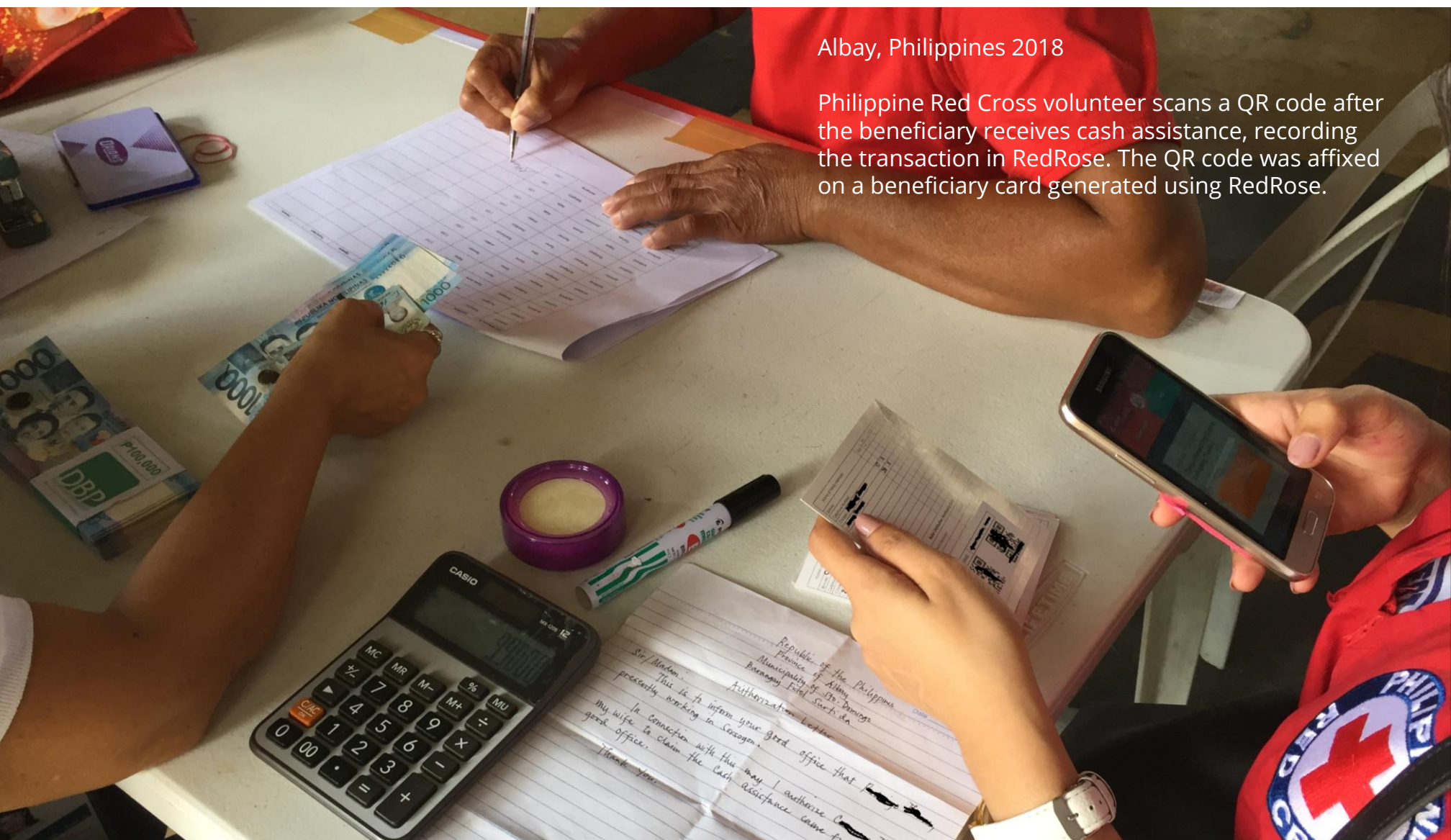
Albay, Philippines 2018

Philippine Red Cross volunteer scans a QR code after the beneficiary receives cash assistance, recording the transaction in RedRose. The QR code was affixed on a beneficiary card generated using RedRose.

INTRODUCTION

Background

The last decade has witnessed a steep growth in the use of humanitarian cash and voucher assistance (CVA). Cash empowers recipients to meet their individual needs while maintaining their dignity. In 2016, the Red Cross Red Crescent Movement ("the Movement") made a commitment to scale up cash interventions as part of the Grand Bargain at the World Humanitarian Summit.[1] To meet this commitment, the International Federation of Red Cross and Red Crescent Societies (IFRC) developed a strategic roadmap for cash scale-up, which was followed by contextualized regional roadmaps. The IFRC strategic roadmap highlighted that a "strong and secure data management system" is critical to deliver cash at scale.

Challenges related to data and information gaps as a result of poor or lack of data management were underscored in operational evaluations and feasibility studies as affecting the effectiveness and efficiency of cash assistance. Such data challenges are not cash specific, however the perceived risks for cash is appears higher than other modalities[2] and this warrants more sensitivity and rigor in assessments, planning, and monitoring to show evidences of proper management of financial assistance in addition to timely delivery.

The bottlenecks and issues related to data were also recognized by the Movement's Cash Peer Working Group (CPWG) and considered data management as a priority. They initiated a sub-working group in 2017 to investigate solutions. The CPWG conducted a systematic desktop evaluation of different off-the-shelf data management solutions and found that the RedRose[3] system met most of the needs of the Movement for cash. The IFRC subsequently procured RedRose through a competitive bid process for field piloting to assess the performance of the system in different contexts.

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1 WHS commitments: https://www.ifrc.org/en/news-and-media/press-releases/europe/turkey/red-cross-red-crescent-movement-welcomes-grand-bargain/. There are other commitments such as the Manila Declaration targeting 60% of National Societies in Asia Pacific and MENA to be cash ready: https://media.ifrc.org/ifrc/wp-content/uploads/sites/5/2018/11/20181214-Manila-Declaration.pdf
2 https://www.calpnetwork.org/blog/cash-is-no-riskier-than-other-forms-of-aid-so-why-do-we-still-treat-in-kind-like-the-safer-option-2/
3 http://redrosecps.com/

WHAT DATA MANAGEMENT?

Cash programmes collect, store and use data throughout the programme lifecycle. This includes personal data (the registration of people affected by crisis), financial data (the allocation of funds and the distribution of cash), market indicators (commodity prices, availability of good) and programme data (the status of the distribution and surveys). To understand what Data Management is, it helps to also define the other two closely related areas of Data Collection and Payment Mechanisms for cash programmes:

- **Data collection** is the gathering of various data (e.g. household or beneficiary profile, needs, markets, feedback and complaints). This is typically done as a survey that involves asking the right questions, designing a form that allows for structured and systematic collection of responses, and facilitation of the collection process (e.g. using mobile phones, using pen and paper or basic excel spreadsheets, or sending a web link).

- **Data Management** is the practice of cleansing, collating, storing, updating and applying data in a structured way to facilitate data reuse and generate key information for cash programming. This involves processing the data after it has been collected and turning it into usable information for key decision making. In practical terms, this includes detecting and removing duplicates or erroneous data, linking separate datasets (e.g. beneficiary profile linked with financial transactions and feedback and complaints they may have raised), and keeping up to date information.

- **Payment mechanisms** are methods for distributing cash. Once decisions are taken on who will receive cash, when and how much they will receive, the next step is to carry out the actual cash distribution (e.g. through envelopes, bank transfer, pre-paid cards, mobile-money etc.).
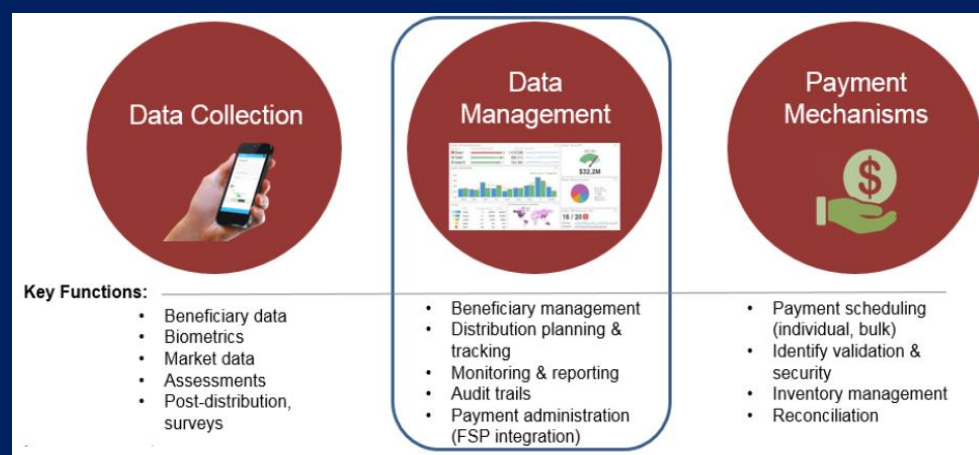

Figure 1: General classification of tools used in cash programming

In 2018, RedRose was piloted in three emergencies to distribute cash: flooding in Vietnam, volcano eruption in the Philippines and drought in Kenya. Additionally, in Pakistan, the system was piloted for in-kind distribution of mosquito nets for an anti-malaria programme. Based on the requirements of the programmes, some configuration and light customization was done to prepare the RedRose system. In general, the main out-of-the-box features used included: beneficiary management, distribution (planning, approval, and tracking), post-distribution monitoring surveys, and monitoring through dashboards and reports. For details of the pilots, please see the Annex.

Purpose of the learning review

The purpose of this learning review is to build evidence on the benefits of data management for CVA and share lessons learned from the piloting of RedRose by the IFRC in Vietnam, Philippines, Kenya, and Pakistan in 2018. The pilots looked at different emergency contexts, payment mechanisms, volume of targeted households, levels of data and digital literacy, and cash operating procedures to determine the flexibility of the RedRose data management solution for the varying needs of the National Societies. In addition to the opportunities, this learning review also highlights potential challenges or barriers in rolling out the solution, and recommendations for a sustainable implementation of RedRose data management with National Societies and support needed from the IFRC.

Methodology

The learning review engaged stakeholders from the National Societies and IFRC involved in the piloting of RedRose in 2018. Primary data was collected from key informants through semi-structured interviews. The interview questions were modified depending on the level of engagement of the informant with the RedRose system. The interviews were conducted in-person and remotely over Skype.

Secondary data sources were used including notes, presentations, and reports that were directly produced during the pilots as well as other information available online related to RedRose and its use by other organizations outside of the Movement.

The main constraint or limitation faced during the review was the inconsistent understanding of what data management was. Despite the efforts to define and differentiate it using the diagram above, there were still some confusion particularly with data collection and ODK/Kobo. This issue is discussed more under the challenges section below. Additionally, it was difficult to have quantifiable data to compare with since baseline information was not available.
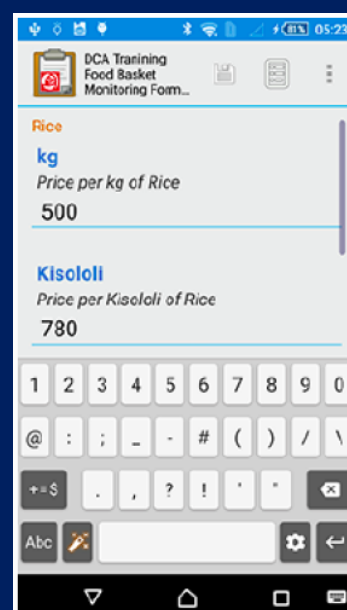
WHAT IS REDROSE?

RedRose is a data management platform that integrates with different data collection tools such as ODK/Kobo to manage data related to beneficiaries and markets. It also integrates with payment mechanisms (e.g. mobile money, remittance, e-voucher) to distribute cash assistance and enable automated reconciliation in a secured and auditable manner. The platform provides monitoring and reporting capabilities and can also be used for other assistance types such as in-kind and services. RedRose facilitates key programme activities such as beneficiary management, distribution planning and tracking, reconciliation, audits, and payment administration through Financial Service Provider (FSP) integration. RedRose can be used at all stages of the programme cycle including preparedness, assessments, response, and recovery.

Figure 2: Users interact with RedRose using the online portal or mobile phone applications.

Online portal

Mobile data collection
(ODK based)

Multipurpose mobile
app

OPPORTUNITIES

The following were key themes observed from the pilots showcasing the opportunities for other National Societies looking to incorporate data management in their delivery of cash assistance.

1. Data Driven Decisions & Digitalization

When the CPWG's Data Management subgroup[4] was created in 2017, a list of common bottlenecks in cash programming related to data was compiled based on evaluations and observations from field operations. The list highlighted issues in managing data after they have been gathered or collected. Some of the key gaps were: (1) lack of a robust beneficiary database with clean, up-to-date beneficiary profiles, and (2) lack of a way to manage distribution data. Typically, such management of data was done using basic pen and paper or Excel spreadsheets with manual processes, which were error prone. As volume of data and complexity of programme increases, it becomes difficult to maintain good quality data using these basic tools impacting the timeliness of decision making and delivery.

The RedRose platform comes with a beneficiary database and a programme management module with dashboards to manage and monitor distributions. The piloting with RedRose showed evidences of achieving scale, speed, and quality cash programming by digitalizing processes and having good, reliable data when needed. Ease of use, adaptability to varying requirements, and predictable technical support were some of the key factors attributed to make RedRose fit for purpose. The following examples were observed from the RedRose pilots.

> ➢ **Speed**

Some of the common bottlenecks appear during beneficiary registration, cash distribution, and reconciliation. National Societies using mobile data collection tools such as ODK/Kobo can speed up beneficiary registration. However, data from an ODK server is typically downloaded as an Excel file and still managed manually.

Two of the pilots (Philippines and Pakistan) used the mobile data collection application, RRCollect, which was based on ODK and directly integrated with RedRose. Because the National Societies had experience with ODK/Kobo, they did not require additional training on the app and did not notice much difference from KoboCollect or ODKCollect during the data collection. The speed gained was due to this integration—when the completed forms were submitted, they were automatically uploaded to RedRose. So as the field staff and volunteers continue to register new beneficiaries, the rest of the programme team was able to monitor the progress remotely, extract and verify the quality of data, and advice the field teams if adjustments were necessary. A basic dashboard was available for monitoring. One interviewee commented that it was like "having all the latest available data at my fingertips".

Another interviewee also mentioned that they did not have to ask and wait for the beneficiary data to be given to them (because otherwise someone would have to download the data from the ODK server and send it manually). They were able to access and view the data instantly. This also solved the issue of having multiple copies and no authoritative source.
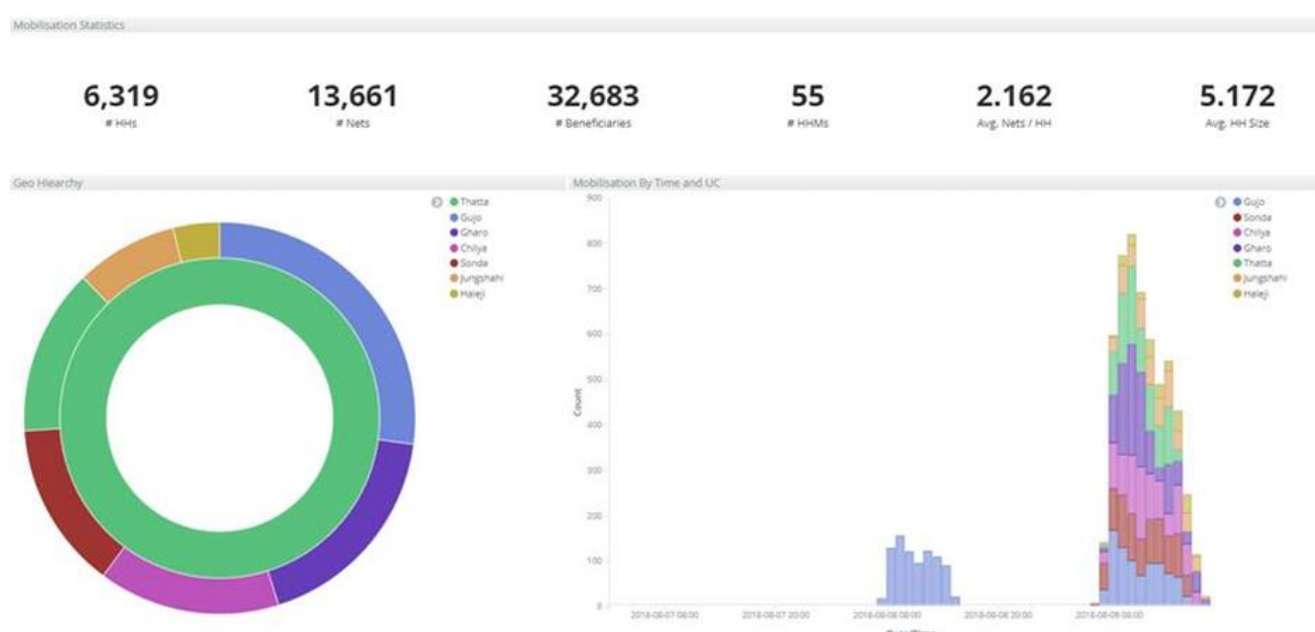
Figure 3: Beneficiary dashboard from the 2018 LLIN programme in Pakistan showing the volume of beneficiary households registered daily.

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4 The CPWG Data Management subgroup was formally created on January 2017 based on the recommendation of the CPWG in 2016. It was comprised of 10 members from IFRC, ICRC, and National Societies with expertise ranging in finance, data management, IT, innovation, and information management. In 2018, it merged with the IM subgroup to form the Cash Information Management subgroup of the CPWG.

Oldonyiro, Kenya 2018

Beneficiary receives a text message informing that they have received cash assistance from the Kenya Red Cross Society. Cash is deposited in their MPESA mobile money wallet ready to be redeemed with an MPESA agent or use where merchants accept MPESA payments.

"With a click of a button, hundreds of beneficiaries immediately received cash through their mobile wallets."

The direct integration with ODK and ability to remotely monitor was particularly helpful in Pakistan's LLIN programme where over 6,000 households were registered in one day (see figure 3). One of the programme advisors could not believe the speed to which the registration was done and said, "those numbers aren't possible, so data is being created or there is a problem with the system." The registration process and data were investigated, and all beneficiary data were accounted for. Having a simplified data collection form and groups of households living close by certainly helped speed up the process, but also the monitoring of data as they were submitted helped reduce downstream issues and contributed to the overall speed of the process.

The speed of cash distribution was apparent in the Kenya pilot where the RedRose system was directly integrated with Safaricom MPESA, a mobile money provider. Not only that the allocation of cash assistance and the approval done electronically, but the system automated the creation of the beneficiary list, sent it directly to the mobile money provider and processed it in real time. With a click of a button, hundreds of beneficiaries immediately received cash through their mobile wallets. Before the use of RedRose, it was a manual process to finalize the beneficiary list and upload it to the Safaricom MPESA web interface to trigger the distribution.

The interviewees mentioned that the manual preparation of the final beneficiary list alone could take days and even weeks due to the different stakeholders involved in the decision and approval process.

The speed in reconciling the amount that has been requested for disbursement and the actual amount disbursed to beneficiaries was another demonstrated benefit of having a data management system. In Kenya, before the integration with RedRose, manually reconciling the transactions recorded in the MPESA system against the manually generated Excel beneficiary list was cumbersome and time consuming, particularly when there were multiple projects running at the same time.

In the Philippines, where some reconciliation of cash for the typhoon Haiyan operation in 2013 took weeks and months due to the complexity of the operation, having a system that recorded the transactions during the cash distribution helped speed up the reconciliation process at the end of the day's distribution. A semi-integration with RedRose and the Philippine Red Cross' financial service provider, PHILPOST, was done. This allowed the FSP agents to download the beneficiary list directly from RedRose and upload the updated list with the status of distribution. As a secondary proof, a mobile app called RRApp was used to scan unique transaction QR codes of the beneficiaries after they received their cash assistance. At the end of the day, the records from the file that PHILPOST uploaded and the transactions from scanning the QR codes were compared and discrepancies were highlighted. This allowed the National Society to investigate any issues when the FSP agents, staff, volunteers, and access to the community was still possible. All transactions were verified and reconciled electronically at the end of the day's distribution, saving time for potential lengthy investigations later.

In Vietnam, the reconciliation process according to their SOP was paper-based. They had to go through all the paper coupons and add the amounts up. This process was laborious, prone to mistakes and mismatches. During the pilot, RedRose was used to scan unique barcodes associated to the coupons when cash was distributed. This provided real-time reconciliation of amounts, demonstrating efficiency and time savings.

The less time it takes to register and prepare the beneficiary list, the faster the beneficiaries receive help and address their immediate needs. And having proper reconciliation done at the end of every distribution, the faster it is to close the cash intervention knowing that the money has been fully accounted for.

➢ Scale

Scale could be attributed to the volume of cash to distribute or the volume of beneficiaries being reached. As these factors increase, so do the complexity of managing data and the risks to programme delivery. In the piloting process, different levels of scale were observed to understand how RedRose data management could be adapted as scale progressed given the capacity of the National Societies.

In the case of Kenya with a direct integration between the FSP and RedRose, payments to large volumes of beneficiaries were facilitated easily. Most of the effort was in verifying the right beneficiaries and ensuring updated and valid information (e.g. phone numbers), which was done on the same platform.

In Pakistan's LLIN programme, RedRose was used to register and process data of over 48,000 households, the largest of the four pilots conducted. Registration took seven days. According to a key informant, in previous projects using a paper-based system on a 1,100-household volume, it took them two to three weeks to collect and clean the data before being ready to be shared. The bulk of the distribution was done within five days to about 96% of the target households.

The risk in managing programme complexity, speed, and scale could be in the quality of data. In the LLIN programme, the government's technical working group suspended planned distribution in several areas, except where RedRose was used, due to issues with beneficiary data that required additional efforts to re-validate. The beneficiary lists and the reports produced with the RedRose system were accepted by the programme sponsors because they were auditable (e.g. duplicate data were identified and removed), and hence the distribution to those areas was allowed to proceed. Good quality and transparent accounting of data contributed to the trust of the government as well as the ability to monitor the progress in the field for such a big case load.

Sindh Province, Pakistan 2018

Pakistan Red Crescent volunteers scan the secure paper vouchers to validate the beneficiary information and check how many mosquito nets they are entitled to receive.

➢ **Quality Programming**

Quality programming can be observed in the use of data for decision making throughout the cash implementation including monitoring of the impact of the programme. The following are key points to observe: (1) were the right beneficiaries identified based on agreed targeting criteria, (2) did people receive their cash assistance, and (3) did the cash assistance meet the objectives of the programme. As described in the last section, scaling up an operation often means increasing the complexity of managing data risking the quality controls in a programme. The following examples from the pilots show how a proper data management solution could help assure quality.

Developing and applying the targeting criteria in a programme is typically a manual process and done even before registration begins. So when there are beneficiary data in question, the decisions for why they were included in the target group may not be well documented.

For the Vietnam pilot, a customization was done to track the targeting criteria such as family size and vulnerabilities (e.g. disabilities, poverty level) in the RedRose system, as well as to automatically calculate entitlements based on household size. Although the customization was not fully used in the pilot, the programme manager agreed that in future operations the targeting criteria could be used to easily filter the beneficiaries that meet the requirements. And the automatic calculation of cash entitlements could objectively allocate the funds, where in a spreadsheet could easily be overlooked or overwritten without knowing why and who changed them. This could also help the programme manager to instantaneously check allocations against the overall fund budget. If there was a complaint that someone may have been included in the list erroneously, the investigation process could easily check the data in the system to verify against the targeting criteria and the allocation decision.

Checking who has received their cash assistance and who is yet to claim theirs could also be tracked in the RedRose system because financial transactions are linked with the beneficiary profile. In the case of Kenya where cash distribution was automated, the status of the distribution was also available in real time. A report was generated with the beneficiaries that have received their assistance and those that have not, potentially due to a technical issue or because of an invalid MPESA account or phone number, for instance. Having this status information available helped flag what the issues were and address them quickly. This also enabled the programme team to quickly respond to beneficiaries' questions when asked why they still have not received their cash assistance.

Understanding whether the cash programme met the intended objectives needs direct feedback from the beneficiaries. The RedRose system was able to integrate beneficiary feedback and complaints as well as monitoring surveys--such as exit survey to check whether the distribution process could be improved and post-distribution monitoring (PDM) survey to understand how beneficiaries have used their cash assistance and its impact. In the Philippines, the National Society piloted the use of mobile data collection with their Community Engagement and Accountability (CEA) team. The same RRCollect based on ODK used during beneficiary registration was used by volunteers to capture questions, issues, and feedback from the community. If the beneficiary was already in the system, their feedback was linked directly with their profile so the person addressing the issue had all information related to that beneficiary, if needed in the investigation.

The exit surveys and PDM were also captured in the system and basic indicators such as, "how long did you wait to get your cash?", "would you have preferred something other than cash?", and "how did you use your cash?" was easily monitored to inform the programme and to adjust the process or information being communicated to the communities. The pilot in Vietnam was the first time a mobile data collection tool was used in their cash programme to conduct PDM; the results were directly used in the final DREF report.

The ability of the data management system to link various data points that otherwise would be difficult to manage in a paper-based or basic excel spreadsheet systems (i.e. financial transactions, feedback and complaints, monitoring responses), helped not only to deliver cash as quickly as possible but also increased the customer service and therefore the overall quality of the programmes.

➢ **Ease of Use**

"It was easy to use" was the response from nearly every key informant. The RedRose system was designed for humanitarian interventions where contexts vary greatly including offline environments. The out-of-the-box components including the beneficiary registration, distribution setup and tracking, surveys and dashboards were quick to deploy and ready to use within a week. The training generally took 3 to 5 days depending on the level of detail the participants needed to learn about the system, but typically within a day of demo and hands on exercises, the participants were able to navigate the system and perform key processes.

Vietnam Red Cross conducting Post-Distribution Monitoring (PDM) using mobile phones. Results immediately visualized and available for analysis.
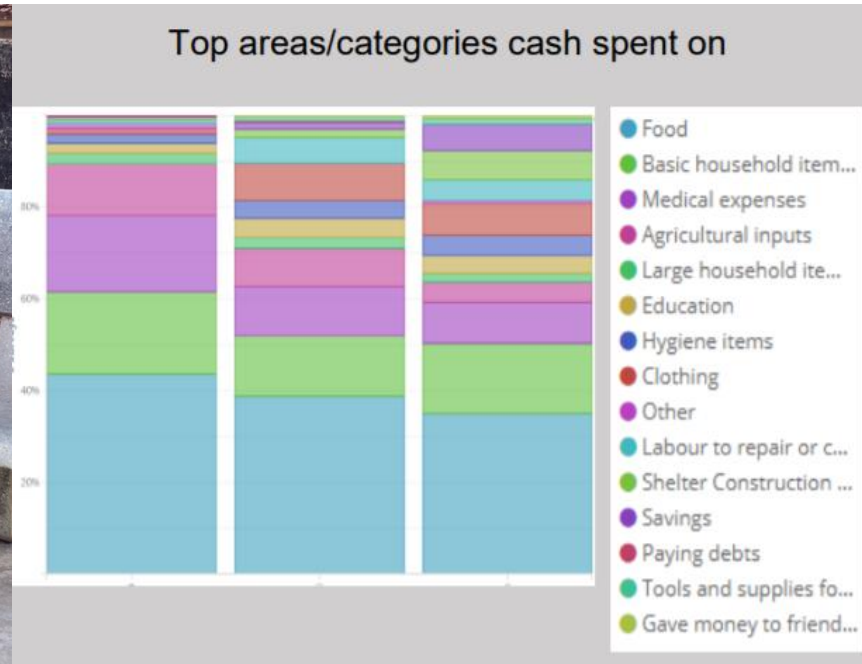
National Societies that have used ODK or Kobo in the past were quick to learn the RedRose system. It helped that the data collection was already based on ODK and therefore no new training on that process was required. Most of the training was done on the management of data from the web portal and the use of the RRApp for distribution (e.g. barcode scanning of vouchers).

The pilot participants found the system intuitive and user friendly. In some instances, during the data collection part of the RedRose system training, staff and volunteers spent more time working on the quality of the questions and how to engage with communities rather than on how to use the app itself.

In Vietnam and Pakistan, there were initial concerns that their volunteers and staff would find it challenging to use technology that they have never used before. But the training helped break down the processes and what different stakeholders needed to know. With some practical exercises in a demo environment, it helped demystify the concepts and participants realized that the system was very easy to use. As mentioned above, in Pakistan the volunteers were able to register and deliver NFI's to over 40,000 households in a matter of days.

In Vietnam, the programme team was particularly cautious because they have not used technology in their cash programmes before, including registration and distribution. On the first day of the cash distribution, it was mainly the IFRC and RedRose staff handling the technology to scan the barcodes of the beneficiaries after cash in envelopes were given. The National Society team observed and occasionally tried to do the barcode scanning. After realizing that it was very easy to use a mobile phone to scan barcodes by using the camera on the phone, they started doing it on their own. They described the process as, "like playing a game." The management from the branch even helped with the barcode scanning on the last day of the cash distribution.

➢ Adaptability to varying requirements

Addressing the various, changing needs of National Societies is critical for any data management solution to be scalable. The piloting process for RedRose looked at different emergency contexts such as floods, volcano eruption, and drought. It also looked at different payment mechanisms such as cash in envelopes, remittance, and mobile money. Furthermore, it looked at in-kind distribution of mosquito nets for an anti-malaria programme using secure paper vouchers. For these contexts, specific requirements from the National Societies were taken into account to ensure that the solution was fit for purpose. Such specific requirements included the integration with contracted FSP's, the design of the beneficiary cards and vouchers, specific metrics to track in reports and dashboards, and adapting to the processes of the National Societies.

The setup time was relatively quick--within one week for out-of-the-box solution. The configuration started with the definition of the beneficiary profile elements and the process for distribution. Additional customization of features based on specific requirements was estimated by RedRose technicians and planned accordingly to fit the implementation timeline.

The RedRose technical experts provided trainings and were available on the ground to provide technical support. Beyond the initial training, a skype group was created for each pilot project which allowed the programme teams to discuss any issues or questions directly with RedRose remote technical support 7 days a week. The availability and prompt response from the remote technical team was greatly appreciated by the participants, particularly in an emergency context where the turnaround time was critical. Even after the onsite support, the programme team was able to get direct support from the RedRose technical support team, so they did not feel like they were left without any assistance on the use of the system even after the end of the programme.

2. Being a Partner of Choice equipped with the right tools

During the piloting process, key informants agreed that it is important to have a data management system that could be used not just for cash but for any assistance modalities, which could also be used with other partners such as UN agencies, government, and partner National Societies (PNS). The scale up of cash meant going beyond just the IFRC supported programmes.

The IFRC's report on lessons learned and recommendations from the cash-based assistance in Greece published on April 2017 indicated that investing in digital data collection, beneficiary data management, and effective data protection can "place the IFRC more effectively amongst the global cash actors and be a platform for future learning."[5] Organizations leading in global implementation of cash at scale such as the World Food Programme (WFP) and UNHCR have invested significantly on their own data management solutions. WFP's beneficiary management system SCOPE has been in use since 2013 and have more than 40 million registered beneficiaries,[6] and UNHCR's registration and case management system called ProGres has been developed since 2003.[7]

Additionally, donors are increasingly looking at organizations that have robust data management systems to demonstrate efficiency. ECHO's guidelines published in 2017 for delivering large-scale cash transfers indicated that implementers should have "a single registry or at least interoperable registries of eligible beneficiaries".[8]

According to one pilot key informant, there was a potential partnership with another humanitarian agency to deliver cash and in-kind, but since their National Society did not have their own beneficiary management system the partner NGO had suggested to use theirs. The key informant would have preferred to use their own system so as not to be dependent on other organizations and be constrained on what they could do—only usable for bilateral programmes. This highlighted the fact that data management is a critical tool that National Societies should have. If they don't produce their own someone else will produce one for them, and it might be limiting and more costly for the National Societies to absorb.

The IFRC's global framework agreement with RedRose allows any Red Cross Red Crescent Movement entity to join the agreement and be able to establish their own RedRose instance for their own use. This would help establish a system that is ready to use without significant investment in procuring or building their own systems from scratch. This also allows National Societies to have a comprehensive system that is flexible for different contexts, multiple assistance modalities (in-kind, cash, or services), and prepared for scale up—which could help position National Societies as the partner of choice by governments and other donors, differentiating themselves from other actors.[9]

3. Needs are shifting from assistance delivery to risk management

As cash and voucher assistance is considered and institutionalized, the needs are evolving from the ability to deliver in a timely manner to managing risks, by ensuring beneficiaries' data are responsibly used and programmes can demonstrate appropriate controls as well as transparency and accountability. Having a robust data management solution with the right level of security and auditability would help increase the confidence with donors and affected communities.

Given that the perceived risks of cash in terms of diversion and misappropriation, there needs to be stronger controls in managing the flow of funds and more transparency on deciding who should receive cash assistance and who eventually receives it. This is arguably necessary for all forms of assistance, but more so for cash due to such risk perceptions. Implementing such controls are usually included in standard operating procedures but remain manual requiring paper signatures to capture approvals. The complexity comes when there are multiple donors and funds to manage, when communities receive assistance from different donors that require specific reporting, and when audit investigations are done and not enough artefacts or data are available for review. IFRC's large scale operations are starting to deploy audit personnel to help with the risk management at the onset of emergency instead of later in the implementation when it might be too late.[10]

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5 https://www.cash-hub.org/-/media/cashhub-documents/resources/2017/key-learning-and-recommendations-north-greece-cba-ifrc-042017.pdf

6 https://unctad.org/en/PublicationsLibrary/a75d62_bn_WFP.pdf

7 https://www.unhcr.org/registration-guidance/chapter3/registration-tools/

8 https://ec.europa.eu/echo/sites/echo-site/files/guidance_note_cash_23_11_2017.pdf

9 In 2019 after the pilot, Kenya Red Cross implemented two large scale cash programmes with Global Fund and the government of Kenya and the use of RedRose data management solution helped ensure confidence in them as cash implementors. See Kenya's cash for shelter programme learning review at https://cash-hub.org/-/media/cashhub-documents/resources/2019/building-back-safer-houses--icha-no-7.pdf. Also in 2019, the IFRC and Pakistan Red Crescent were selected by Global Fund to distribute mosquito nets to over 1 million households. The positive experience from the RedRose pilot in 2018 contributed to the confidence of the donor for the National Society to take responsibility of the entire LLIN programme that year.

10 In 2019, a staff from IFRC Audit and Investigations unit was deployed at the beginning of the Cyclone Idai operation in Mozambique and Typhoon Dorian operation in Bahamas.

Data protection and data security have always been important but takes a backseat when programmes face the pressure to deliver quickly and do not have the resources to implement them. However, the rollout of data protection laws such as the General Data Protection Regulation (GDPR) in Europe and equivalent measures in other countries, are forcing humanitarian organizations to adjust how they treat data of affected individuals. The ECHO guidelines for cash mentioned in the last section further states that there needs to be "guarantees on the protection of all personal data, respecting international and national data protection standards". Additionally, there are reputational risks for organizations as well as risks to the vulnerable population when their data is compromised or used without appropriate legal basis or used outside the original intended purpose. There have been recent reports on data breaches with organizations such as the UN[11] and there is concern that with increased digitalization that National Societies will not be equipped to address data protection and data security concerns.

The RedRose pilots demonstrated how to handle risks related to financial controls, data protection and data security. One of the built-in features was the approval process for funds disbursement and management. The system allowed a programme manager to manage the allocation of funds and beneficiary groups based on targeting criteria, and required a finance staff (or someone with authority) to approve the requests. This demonstrated segregation of duties to ensure that the requester is not the same as the approver. The system also prevented allocating more money to activities beyond the approved budget. Once cash was distributed, it was possible to trace the funds to who received cash from those funds increasing transparency. There were also audit features and system logs available to see who logged into the system, who downloaded data sets, what changed in the data, and who changed the data. This is particularly important for investigations and accountability.

For data protection and data security, an independent audit was commissioned to certify RedRose's GDPR compliance and data security compliance. The system's user management module helped ensure only authorized personnel was able to access the data. This module included granular settings for which users and roles were able to access content in the system. This prevented having to share beneficiary lists over email or Dropbox where security is not guaranteed. In the Philippines, the FSP's were asked to download beneficiary data directly from the RedRose system to avoid unsecured exchanges. In Kenya, the beneficiary data was transferred directly via API avoiding intermediate email exchanges.

The IFRC recognizes that it is not enough to have secured systems, it is equally important to have well trained staff and volunteers on implications of data protection and data security. Basic actions such as no sharing of login credentials and managing who should retain access to the system are also important.

After the pilot in Kenya, the National Society continued to use the system for two of their large-scale cash programmes in partnership with other actors. They used the RedRose system with biometrics to help reduce levels of corruption and fraud and to help identify those without official ID's. The National Society reported that their digitalization process using biometrics gained the trust of beneficiaries because it was only the specific registered beneficiary that was able to access the assistance intended for them and not anyone else. One of the large-scale interventions was the cash for shelter programme with the Kenyan government. In the learning review published, the National Society indicated that "the system helped show the donor (government) that the Red Cross was doing the right thing… the leadership team [was] equipped with auditable artifacts in case they were questioned on how the KRCS used the government funding for this operation… having all this data in an accessible way in the system boosted the confidence of KRCS senior management and they were able to account to the donor."[12]

Albay, Philippines 2018

Philippine Red Cross staff and their financial service provider, PHILPOST, conduct their reconciliation electronically at the end of the day's cash distribution. The FSP downloads the payroll list from the RedRose system and uploads it back with the status of distribution, preventing unsecured sharing via email.

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11 https://www.thenewhumanitarian.org/investigation/2020/01/29/united-nations-cyber-attack
12 https://cash-hub.org/-/media/cashhub-documents/resources/2019/building-back-safer-houses--icha-no-7.pdf

CHALLENGES

The pilots reported success in incorporating data management in their operations. However, in discussions on how to move from pilot to rollout or institutionalization of cash data management, the following were some challenges or potential barriers to adoption of the system that will need to be considered by National Societies.

1. Digital Divide & Data Literacy

One participant in a data management awareness session asked, "what is the minimum requirement for a National Society to implement data management?" Technology needs to be complemented with the right competencies—skills or know-how—to utilize tools (responsibly) and to address data issues. Digital divide and low levels of data literacy could be barriers in developing the right competencies and acquiring the appropriate technology. And therefore, the minimum requirement should reflect on these two concepts.

Digital divide in terms of access to technology and ability to manage it by the organization vary between countries and National Societies. Some have more access to technology, have infrastructure to support it, as well as network connectivity to access web-based services or content. Others do not even have basic hardware such as mobile phones for mobile data collection nor access to digital payments through mobile money or bank transfers.

Data literacy is the understanding of how data could be used for decision making, how to use data responsibly, and the skills to process it. This is the foundation of information management and therefore no sophisticated tools would be enough unless good data literacy is in place to manage data properly.

The four National Societies that participated in the pilots represented a spectrum of access to technology and level of competency to manage data. Kenya having very good access to technology and a widely used mobile money network; Pakistan and Philippines have used ODK mobile data collection but managed data with mostly manual processes; and, Vietnam which was new to using technology in their cash delivery. All organizations were new to the RedRose system.

But we have seen that after the pilots, Kenya was able to rollout the use of RedRose on their own for two large cash programmes. Pakistan, in addition to their use of the system for large scale anti-malaria campaign to distribute mosquito nets, was successful in using RedRose in three DREF operations distributing both cash through mobile money and in-kind (e.g. water filters) with some IFRC support. And the

Philippines was also able to use RedRose for the typhoon Mangkhut recovery operation after the pilot with some support from IFRC. Vietnam was keen on implementing RedRose for other programmes but needed more direct support.

We observed that National Societies that have experience with technology such as ODK and basic proficiency in Excel were successful in implementing RedRose data management with limited support. Other National Societies may require more dedicated support until they develop the foundational competencies to manage data on their own.

We also observed that concepts such as data collection and data management were not very clear to pilot participants. Many have referred to ODK/Kobo as data management despite the differentiation provided at the beginning of the pilots. We observed that because many of them have had experience or have heard of ODK/Kobo before, that the tendency was to refer to it as generic data technology.

Providing a more structured learning on Cash Information Management (IM) would be helpful as it will define and differentiate the different concepts essential in building the right competencies. Regional Cash IM workshops are being organized by the IFRC to help build awareness on the concepts and point participants to resources to strengthen their capacities. Other helpful learning opportunities such as Excel skill building and mobile data collection and analysis training are also being made available for National Societies, which would be helpful as primer to data management.

In terms of minimum requirement for connectivity and IT infrastructure. Given that the web portal of RedRose is cloud-based, there will need to be some predictable access to the internet to synchronize the devices and to manage data online. Data collection and distribution could be done in offline environments but will eventually need some access to the internet to upload the data. Access to mobile phones will be essential.

The pilots demonstrated that there was nothing particularly challenging about the use of digital technology. The initial perception that some people may not be savvy enough to use RedRose system turned out to be unfounded. The key was to get the volunteers and staff hands on access to the system to start learning about data management and then having the right infrastructure and resources to support them.

2. Organizational buy in

Data management particularly for cash assistance requires cooperation from multi-stakeholders contributing in the process (e.g. programme teams, finance, IT, IM, PMER, etc.), and their buy in are necessary to ensure the technology is adopted for their various needs.

One risk identified in discussion with pilot participants was that the technology could be seen as an IM tool or an IT tool, implying that the one who owns it should be the person or group operating or managing the technology, instead of being an organizational tool for managing cash programmes. The success of a cash programme relies not just with the programme team managing the response but also the support services that need to provide inputs such as Logistics for market and commodities monitoring, Finance who will need to approve the budgets and expenditures, Audit who will help ensure the risk management elements are assessed, IT who will help with the infrastructure and technical setup, and IM and PMER who will help collect, manage, and analyse the data to support decision making. So, technology enablement should also consider this multi-stakeholder approach for adoption and use.

As part of the IFRC's awareness sessions on data management, participants were asked what data related pain points or bottlenecks have they faced in their cash programmes. This exercise helps reflect on the key stakeholders that take part in the programme, their responsibilities, how the data challenges might be preventing them from doing their job, and what motivation they may have for a data management solution. This is also a good opportunity to understand how technology, digitalization, and data may help improve the manual processes in their current standard operating procedures. Communicating the benefits of a data management system to all key stakeholders could help get the support needed to make sure the solution is not seen as a tool for one function, but rather for the organization.

3. Costing

Understanding the cost structures for financing data management technology sustainably is important to ensure National Societies can make the appropriate investments without huge upfront costs, monthly payments, or unpredictable support models.

Like many other software, there is one-time costs for setup and recurring costs to keep the RedRose system operational. This raised concerns for pilot participants as this was seen as additional costs to absorb given their already limited resources, and they were worried this would not be sustainable for them. There was a comment that ODK/Kobo was free, and questionned

why data management seemed costly. There was also a question in terms of scale, where some of them were doing small scale cash and that the additional cost for this system may not be worth the benefits for that scale.

Unlike other software, the recurring costs of RedRose is on a pay-as-you-go model instead of a monthly license fee. So, customers pay only when there is actual distribution to beneficiaries, and the service fee is based on a percentage of the total cash disbursed or for in-kind is a fixed amount based on volume of distribution transactions. The system can therefore be used to prepare for different scenarios and train personnel with no service fees incurred until an actual distribution. The service fee includes remote technical support seven days a week (including assistance in creating ODK forms and troubleshooting issues), secured hosting of data, maintenance including security updates, and full use of features within the system. Since it is software-as-a-service, feature enhancements and upgrades are also deployed periodically. The costing model has been tied to actual transactions to align with the funding model of humanitarian organizations, where typically funds for operations come when there are disaster events.

Budgeting to cover the costs of RedRose is key, which is needed when introducing any new technology to an organization. For IFRC funded emergency operations, the cost of data management could be included in the DREF or Emergency Appeal budget as operational cost. For bilateral or other programmes not overseen by IFRC, a similar approach could be taken. One National Society, for example, got support from Partner National Societies (PNS) in their country to contribute to the cost of RedRose for joint programmes. And each PNS as donors got access to the system to monitor the progress of their programmes. Big donors such as ECHO, as mentioned in the previous section, are expecting implementing agencies to have their own robust data management systems. Being able to communicate the value of the system for the overall programme starting with efficient and effective delivery to protection of beneficiary data, assurance of transparent fund management, and reduction of risks related to diversion and fraud, are all benefits that donors also want.

RedRose is being offered as an option for National Societies particularly those that want to jump start their programmes without having to invest costly on building their own system or going through lengthy procurement process. The IFRC has negotiated the rates with RedRose allowing for economies of scale in their Global Framework Agreement. And any National Society may join the agreement and benefit from the negotiated rates and terms and conditions. There are further incentives when global volume thresholds are reached, so everyone part of the agreement receives additional discounts.

In terms of the appropriateness of data management for low scale cash programmes, it is important to reflect on whether basic Excel spreadsheets might be sufficient and the level of risks without using an integrated system, particularly when the programmes are indeed small in caseload and short term (e.g. one time distribution) with simple criteria to manage. It is also important to make sure that the due diligence in data management could be assured given the manual processes. Likely for smaller scale cash programmes, given the costing is a percentage of actual cash disbursements, then RedRose costs could be potentially lower too.

Another strategy could be considered, however, particularly when the National Society is doing more in-kind distributions, where a RedRose data management would also be beneficial and when smaller scale cash programmes are done, they could use the same platform further maximizing the benefits and therefore the investment in the system.

On comparing the cost with ODK/Kobo, it is important to firstly be reminded that there is a difference between data collection and data management. While ODK/Kobo fulfils very specific, concrete functions for data collection, data management requires more functions beyond the initial collection. Secondly, although there is no license cost for software such as ODK/Kobo, it is important to consider the Total Cost of Ownership (TCO) when identifying the costing model for any technology—assuming the options fulfil the same functional and non-functional requirements adequately. A TCO calculation for IT is an estimate of direct and indirect costs of acquiring hardware and software.[13] This includes not just the one time setup costs and training but also the recurring costs to operate the technology including hosting, support and maintenance, enhancements, and upgrades. For software that is either donated to an organization for free or does not have a recurring license cost, there needs to be an analysis in terms of costs to customize the solution for the specific needs of the organization, and to ensure dedicated support and maintenance. Particularly for emergencies, a predictable and timely technical support is necessary.

"For software that is either donated to an organization for free or does not have a recurring license cost, there needs to be an analysis in terms of costs to customize the solution for the specific needs of the organization, and to ensure dedicated support and maintenance. Particularly for emergencies, a predictable and timely technical support is necessary."

The IFRC has attempted to build its own data management solution back in 2014 using open source solution but was not successful due to high costs and lack of capacity for sustainable support and maintenance. The IFRC has also been implementing its cloud strategy where software-as-a-service that is fit for business purpose is seen as a benefit, lowering upfront investments and accelerating productive use. There were no free solutions available when the CPWG evaluated off-the-shelf products back in 2017.[14]

In conversations with IFRC's Audit and Investigation unit, we were reminded that there are costs when organizations encounter issues related to data and quantifying the risks also need to be considered. Such are reputational risks or legal risks if sensitive data of beneficiaries are leaked and compromised, making them more vulnerable. It could be inability to be considered for large grant funding or inability to deliver large scale cash programmes altogether.

Organizations leading in cash-based assistance such as WFP and UNHCR have invested in developing their own systems for data management; many other NGO's are looking for similar systems, accentuating the fact that having such a system is critical for scale up. National Societies will need to reflect on investments needed based on total cost of ownership for their contexts and needs, and engaging with partners and donors for sustainable resourcing.

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13 https://www.techopedia.com/definition/159/total-cost-of-ownership-tco
14 In 2018, RC2 Relief using ODK X technology was developed by the IFRC Americas Regional Office and released in late 2019. It aims to expand the features of ODK to include data management as a free/open-source option with no license fees. It is planned to be tested for cash use cases at the time of this report.

RECOMMENDATIONS

For National Societies

- **Embed data management in cash preparedness plans to ensure building capacities and competencies related to data are socialized with key stakeholders involved in CVA, their needs included, and actions monitored.**

  Introducing data management in an organization as part of the wider cash scale-up agenda through cash preparedness helps link the concepts together and avoids perceiving data management as a separate initiative. This is already encapsulated in the current Cash Preparedness approach, albeit the linkages will need to be strengthened (see recommendation on Cash Preparedness for IFRC below). By including data management in cash preparedness, relevant activities such as procuring data management solution like RedRose and getting trained on it will be included in the workplan. This will help ensure the activities are tracked and have visibility from different stakeholders and levels within the organization. This will also help communicate the needs to partners and donors looking to support cash preparedness activities.

- **Demystify data management by piloting on a small scale and gradually increase competencies. Having hands-on experience with the system helps understand how technology could help the National Society in practical terms.**

  While the use of RedRose was greatly appreciated in the pilots, the lack of prior digital use in operations indicated that some National Societies may require a steadier foundation on which to build their data management solution. Efforts should be made to ensure good quality data is collected which is then fed into a data management system. And the introduction of a data management solution may require progressive, gradual steps instead of expecting National Societies to be completely transitioned once a system has been setup. A pilot, even for a small scale cash programme, on the use of RedRose would help National Societies better understand the concepts of data collection and data management in a practical setting, help them identify the areas they need to build proficiencies on, and link the needs with their cash preparedness initiatives.

  It is also recommended for National Societies to have an introduction to the competencies for cash data and information management. See recommendation for the IFRC below regarding Cash Information Management (Cash IM) to help build the foundation to understand data and processing it to enable cash scale-up.

- **Consider using the system for broader needs beyond emergency cash to maximize investments.** Data management is crucial for all modalities of assistance including in-kind and services. It could also be used for recovery or preparations for early action. Having a comprehensive tool allows National Societies to be flexible when needs arise.

  As mentioned in previous sections above, data management is not necessarily only for cash nor only for emergencies. Using the same system for wider set of activities and contexts would help ensure the National Society is well equipped to address different needs. It could be used during preparedness to analyse different scenarios, train staff and volunteers in different branches on using the system, and manage beneficiary data for areas frequently hit by disasters and be prepared to provide "early action" assistance (e.g. Forecast Based Financing). During recovery, the system could be used by different sectors (e.g. Livelihoods, Shelter, Health) where both in-kind and cash could be managed including monitoring of software components (e.g. hygiene promotion, shelter construction or livelihoods training). In some cases, the same system could also be used to manage volunteer activities and linked with provision of per diem or cash allowance.

- **Consider change management strategies when rolling out a new technology to ensure it is adopted by the organization.** Understanding the barriers for the National Society and having organizational enablers to help with advocacy are just as critical as having the appropriate tools and competencies.

  Unlike some of the tools that address a specific function (e.g. data collection), the rollout for a data management system should be considered as an organizational tool because different stakeholders are involved in managing data related to CVA. And organizational-level rollout requires a well-planned change management strategy. Such strategy should include advocacy for different stakeholders and levels including senior management, donors or partners, technical teams, support services, and operational teams. It is recommended to prioritize certain subgroups first and allow them to be champions to help influence other units. Getting technical support to help with the rollout process would be essential. There are other Movement partners that have experience in rolling out the RedRose system and leveraging the lessons they have learned and getting advice or direct support from them is in the spirit of Movement cooperation.

For IFRC

- The evaluation and piloting process for RedRose has been spearheaded by the IFRC cash team with support from the CPWG. For the IFRC to help advocate for such a system to other National Societies, **internal awareness raising and advocacy will also be necessary to ensure support from different IFRC stakeholders (management, technical, and operational teams)**. Evidence gathered from this piloting process and experiences from other Movement partners that have piloted RedRose would be helpful.

  For management advocacy, the Directors' Task Force for cash which is comprised of directors from different departments and regional directors within the IFRC secretariat would be a good forum for top-level awareness. Support from the Governing Board and the Cash Advisory Group would also be helpful as this is part of the cash scale up agenda. Technical groups representing sectors and thematic areas such as Community Engagement and Accountability (CEA), Shelter, Livelihoods, and Recovery units would need to be informed on how to link the management of cash data with their objectives. For operations, having stronger engagement with the Information Management unit and the wider Surge Information Management Support (SIMS) network as well as the Relief ERU working group, will also be important to ensure they are aware of RedRose as an option for data management for broader contexts outside of cash. The regional cash focal points will also need to be equipped with basic understanding of RedRose to be able to advocate for it in their regions and include it in their regional strategic workplans.

- **Link data management with wider data and information-related capacity building.** The use of RedRose shows how to contextualize data management for cash. Develop a toolkit to help National Societies discover, learn, and try to implement RedRose for their own needs. Develop a network of resources that could support the National Societies in their implementation.

  The Cash Information Management (Cash IM) workshop was developed by the CPWG Cash IM subgroup in 2018 as part of the capacity building and cash preparedness for National Societies. The workshop is being rolled out in the regions which aims at providing a holistic view of the competencies related to data and IM to support cash programming. During the workshop, National

Societies reflect on their current capacities, get an overview of the concepts related to data and IM for cash, and draft an action plan on how to address identified gaps when they go back to their organizations. The workshop includes a module on data management and links it with other elements in the information management cycle. The Cash IM subgroup is also planning to develop online training materials to help National Societies acquire understanding and skills in data and information management. The IFRC in collaboration with other partners should continue to coordinate these initiatives to ensure appropriate support for National Societies looking to strengthen their capacities. And where possible and appropriate, combine cash concepts with wider IM and data trainings or workshops to maximize the time with National Societies, particularly when the same participants are required.

- **Strengthen guidelines for data management in Cash Preparedness and develop practical examples of how to highlight data management in Standard Operating Procedures (SOP) for CVA.**

  An evaluation of the Cash Preparedness approach was conducted in 2018 and one of the findings was that "the chronic gaps in information technology and information management National Society HQ and branch levels in terms of servers and databases has been identified as a significant factor related to enabling systems (track 1) limiting successful cash preparedness."[15] And the recommendation was for National Societies to invest more in digitalization and technology for data management and delivery systems.

  However, as much as acquiring the technology is important, it would be helpful to be explicit on the needs for building competencies on data management, as well. As the cash preparedness approach, guidelines, and relevant materials are revised following the evaluation in 2018, it would be good for the IFRC to work closely with the Cash Preparedness sub-working group of the CPWG to ensure data management tools such as RedRose and competency building is included or clarified. Where more detailed analysis and understanding of concepts are needed, then National Societies could be referred to the Cash IM workshop. Additionally, any practical examples that National Societies can refer to when they develop or revise their SOP's would be helpful.

CONCLUSIONS

The evaluation of the Cash Preparedness Approach mentioned previously highlighted that, "several informants expressed concern that a National Society's advantage of early presence at a disaster site may be lost without rapid data collection tools and digital information management systems."

Evidences gathered during the piloting of RedRose in 2018 by the IFRC suggested that a robust data management system used with proper competencies helps speed up delivery of cash, enable scale-up, ensure quality programming, and increase accountability and transparency. This was seen in different contexts, using different delivery mechanisms, and looking at National Societies that have different levels of data, IM, and IT competencies.

Other organizations that have invested in their own systems are already realizing the benefits in terms of reaching scale and partnering with major donors. For the IFRC and its members to achieve their commitments to cash scale up, the rollout of cash data management and data competencies will need to be accelerated. Strategies that include embedding data management in cash preparedness and getting hands-on experience through small scale projects can enable National Societies to start learning and growing their use of data management. Having a proven solution such as RedRose could help National Societies fast-track the learning process with minimal investment and grow to be a partner of choice.

Oldonyiro, Kenya 2018

Kenya Red Cross provides information to the community about the cash programme. This was followed by getting consent from the beneficiaries to use their personal information to receive cash assistance using mobile money. Consent was recorded using mobile phones and linked with their beneficiary profiles.

ANNEX: Overview of country pilots

National Society	Vietnam Red Cross
Disaster Type	Floods
Overview	During the last quarter of 2017, parts of central and northern Vietnam experienced heavy rainfall over a prolonged period resulting to land erosion and floods. This severe back-to-back flooding caused damages to infrastructure (bridges and roads) isolating many communities. The most affected areas were the provinces of Hoa Binh, Yen Bai, and Thanh Hoa with 75 deaths and dozens injured. A DREF of CHF 236,480 was launched to provide immediate assistance, including the provision of one-time unconditional cash grant to affected households to meet their basic needs. The RedRose data management pilot was conducted between November and December 2017 with support from IFRC Geneva and RDRT deployment. This was the first time that technology was used in a cash programme by the National Society including the use of mobile data collection for post-distribution monitoring.
Funding / Reference	DREF - http://adore.ifrc.org/Download.aspx?FileId=195772

Total number of households reached (during the pilot)	3,445	Amount of cash disbursed per household	VND 500,000 to 1,500,000 (CHF 21 – CHF 36) per household depending on size of household
Modality	Unconditional cash grant	Delivery mechanism	Cash in envelopes
Activities where RedRose was used	- Beneficiary data was already collected in Excel. The spreadsheet was then uploaded to the RedRose platform generating beneficiary barcodes. - During distribution, barcodes were scanned using mobile phones to record cash transaction in the RedRose system. - Monitoring of the distribution progress and reconciliation using dashboards and analytics. - PDM conducted using an ODK-based survey application on mobile phones.		

Vietnam Red Cross cash in envelopes distribution using barcode scanning & dashboard analytics

National Society	Philippines Red Cross
Disaster Type	Volcano Eruption
Overview	In early January 2018, steam and ash started generating from Mayon volcano in the Philippines. The volcano is situated approximately 300 km southeast of the Philippines' capital, Manila, in Albay province. On the 16th of January 2018 a state of calamity was declared as lava flowed out and rockfall was observed, evacuating over 91,000 people from the neighbouring areas.
	As a response to the volcano eruption, the Philippine Red Cross implemented among several key activities, a multi-purpose cash grant programme for livelihoods and basic needs.
	The piloting of the RedRose data management system was supported by IFRC (Geneva, regional, and country offices) from February to March 2018. The platform was used in the end-to-end process of cash implementation from beneficiary registration to distribution and post distribution monitoring. The learnings from the pilot were included in the revision of the Cash Preparedness plan by the National Society particularly in strengthening competencies and systems for cash scale up. RedRose was subsequently used at the recovery phase of the Typhoon Mangkhut operation which started in the last quarter of 2018.
Funding / Reference	DREF - http://adore.ifrc.org/Download.aspx?FileId=212856
	IFRC Philippines newsletter: https://mailchi.mp/3685c7fba362/our-work-in-the-philippines-ifrc-jan-to-may-1545201?e=29f7f49bc8

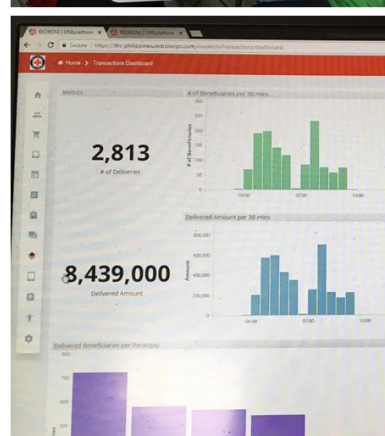| Total number of households reached (during the pilot)	2,813	Amount of cash disbursed per household	PHP 3,000 (CHF 62)
Modality	Multi-purpose cash grants	Delivery mechanism	Remittance through postal service (PHILPOST)
Activities where RedRose was used	• Beneficiary registration & management • Beneficiary card & beneficiary barcode printing • Online approval of cash distribution • Cash distribution using barcode scanning • FSP semi-integration and reconciliation • Exit survey & Post distribution monitoring • Complaints and feedback survey		

Beneficiary Registration

Beneficiary Communication
Feedback Survey

Beneficiary ID Verification

Cash Distribution
Exit Survey

Reconciliation with FSP

National Society	Kenya Red Cross Society		
Disaster Type	Drought		
Overview	From March 2016 to May 2017, Kenya went through a period of drought with the highest severity in the pastoral areas. This resulted in low livestock productivity and thus constrained incomes, food shortages, and high food prices. High levels of malnutrition and continued deterioration due to the impacts of severe drought prompted the humanitarian response by the Kenya Red Cross Society (KRCS). The KRCS and the IFRC launched an emergency appeal in November 2016 to help respond to the effects of the drought across the country through direct cash transfer among several other interventions in which a total of 251,682 beneficiaries were reached.		
	The RedRose data management system was piloted to support this emergency operation in Isiolo county as part of an innovation project investigating the opportunities and challenges of blockchain technology in distributing cash. The field pilot was done between March and April 2018. This was the first time that an integration with RedRose data management was done with mobile money (Safaricom MPESA) and blockchain technology to record transactions in an immutable ledger. The blockchain technology has not been used since the pilot, but KRCS has continued using RedRose for other large-scale cash programmes with other partners.		
Funding / Reference	Innovation Norway – Link to learning review: https://www.preparecenter.org/resources/blockchain-open-loop-cash-transfer-pilot-project		
Total number of households reached (during the pilot)	2,090	**Amount of cash disbursed per household**	KSHS 3,000 (CHF 30)
Modality	Unconditional cash grants	**Delivery mechanism**	Mobile money using Safaricom MPESA
Activities where RedRose was used	• Beneficiary data was already collected by KRCS using Kobo prior to the pilot. Data was then uploaded into the RedRose platform as an Excel file. • Consent collected from beneficiaries using mobile data collection integrated with RedRose, which updated their pre-loaded beneficiary profile. • Integration with Safaricom MPESA mobile money to automate the request to distribute cash to beneficiaries. • Monitoring of status of cash distribution via dashboards and reports. • Recording of transactions on the blockchain for accountability and transparency. • Post-distribution monitoring		

National Society	Pakistan Red Crescent Society
Context	Anti-malaria campaign - distribution of mosquito nets
Overview	With financial support from the Global Fund, the Pakistan Red Crescent Society (PRCS) partnered with the World Food Programme (WFP) to distribute long-lasting insecticidal nets (LLIN) to 1.08 million households in 11 districts of Balochistan, Sindh, Khyber Pakhtunkhwa, and tribal districts in September 2018. The initiative was in collaboration with the government of Pakistan's Directorate of Malaria Control and the Indus Health Network. The PRCS managed the beneficiary registration and distribution activities with over 2,000 volunteers reaching even rural areas where communities felt they have been neglected previously. The programme had to collect an unprecedented volume of data in a very short period of time using ODK and manage over 500 distribution points. Given the ambitious volume of beneficiary data, the IFRC and British Red Cross supported the PRCS in piloting with the RedRose data management platform in Thatta district of the Sindh province. Over 60 volunteers were trained to use the RedRose mobile application to register beneficiaries and issue secure paper vouchers with unique identifiers and security features to prevent unauthorized reproduction. A bulk of the registration was done over seven days in August 2018. This pilot area was the first to get approval to proceed with the distribution in September 2018 compared to the rest of the country. At the end of this pilot, over one million mosquito nets were distributed to 45,276 households. The pilot initially planned to integrate the RedRose system with one of PRCS' approved FSP to facilitate payment of per diem to the large number of volunteers and aimed at preparing for future cash transfer programmes for beneficiaries. Unfortunately, due to time constraints the direct integration and therefore payments to volunteers using the system was taken out of the pilot scope.
Funding	Global Fund - http://prcs.org.pk/wp-content/uploads/2019/08/PRC-Mag-Oct-Dec-2018.pdf

Total number of households reached (during the pilot)	45,276	Number of items distributed per household	Depending on the household size, can receive between one to three nets per household
Modality	In-kind LLIN (mosquito nets)	Delivery mechanism	Secure paper vouchers with unique QR codes, hologram, and other security features to avoid unauthorized reproduction
Activities where RedRose was used	• Beneficiary registration and assigning secure paper vouchers to beneficiaries for redemption later (offline) • Beneficiary management including duplicate checks and data cleaning • Distribution of LLIN using a mobile app which scanned the QR code on the secure paper vouchers (offline) • Basic stock management indicating how many LLIN's were received per distribution point and how many have been distributed • Dashboards and excel-based reports		