

SOCIAL PROTECTION & JOBS

# DISCUSSION PAPER

No. 2302 | March 2023



## DIGITAL-FIRST APPROACH TO EMERGENCY CASH TRANSFERS:

STEP-KIN IN THE DEMOCRATIC  
REPUBLIC OF CONGO

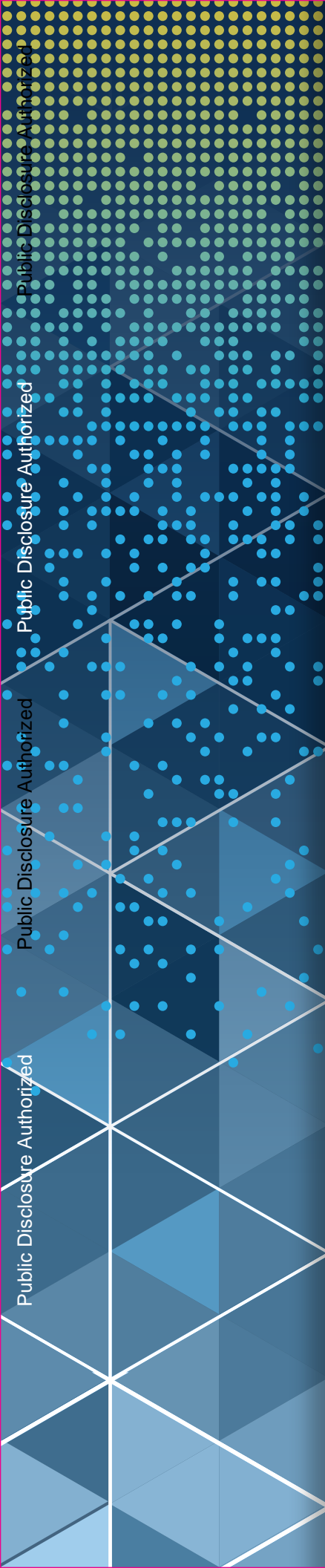
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## **Abstract**

This study looks in depth at Democratic Republic of the Congo's (DRC) approach to delivering emergency cash transfers: the Solidarity through Economic Transfers Against the Poverty in Kinshasa (STEP-KIN) program. In order to overcome severe data and operational constraints, this program used a combination of digital tools to deliver assistance to vulnerable urban populations during COVID-19, bypassing traditional processes. This paper aims to answer key and practical operational questions, including how the program was implemented throughout the delivery chain and the timeline of the program, highlighting milestones that were key to the successful rollout of the program. We also focus on the challenges faced and lessons learned, informing other countries looking for alternative ways to deliver social assistance at scale in the context of continuing global risk and uncertainty, while acknowledging the limitations of this approach beyond emergency response.

## **JEL codes**

O31, I38

## **Key words**

Social protection and labor, poverty, social assistance, cash transfers, access to social programs, technology, innovations, G2P (government to person payment), big data, call detail records (CDR), satellite imagery, targeting, geospatial targeting, emergency responses, COVID-19 responses.

## **Acknowledgements**

This paper was written by Anit Mukherjee, Laura Bermeo, Yuko Okamura, Jimmy Vulembera, and Paul Bance. The authors gratefully acknowledge valuable input and helpful comments from Francois Kabemba, Benjamin Keita, and Polydore Kabangwa at the DRC Social Fund and Afrimoney. Supported by the G2Px trust fund, this country case study was produced as a part of the global program "Using ML and big data for social assistance," led by Emil Tesliuc and Yuko Okamura with Minita Varghese as a core team member under overall guidance from Loli Arribas-Banos, Paolo Belli, Margaret Grosh, and Vyjayanti Desai. The paper was peer reviewed by Phillippe Leite and Sveta Milusheva; Olivia D'aoust, Ugo Gentilini, Melis Guven, John Downes, Yale Batana, and Guillaume Mathey provided additional input and support. Corresponding author: lbermeorojas@worldbank.org.

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# EXECUTIVE SUMMARY

**The application of non-conventional approaches in social assistance notably accelerated over the past few years.** The use of disruptive technologies is not new, but the availability of “big data”—including satellite imagery and call detail records—converged with the unprecedented need for urgent new social assistance responses due to the global pandemic.

**Yet, the application of these non-conventional approaches is still limited, with many unknowns.** The application of non-conventional approaches is primarily occurring in low-income countries with less developed administrative data systems and social protection systems. They are not yet rigorously evaluated, and there are still limited resources with which to comprehensively summarize the nuts and bolts of program design and operation for the practitioners.

**To that effect, this case study aims to harvest knowledge from a recent practice delivering emergency cash transfers using non-traditional approaches.** Specifically, this paper documents in depth the experience of Democratic Republic of the Congo’s (DRC), the Solidarity through Economic Transfers Against the Poverty in Kinshasa (STEP-KIN) program. In order to overcome severe data and operational constraints, this program used a combination of digital tools to deliver assistance to vulnerable urban populations during COVID-19, bypassing traditional processes.

**This paper aims to answer key and practical operational questions, including the prerequisites of such digital first approaches.** The recourse to a new digital mode of social assistance required an enabling institutional arrangement including partnerships with mobile network operators (MNOs), protocols/agreements surrounding the use of mobile data for this purpose, and financial regulatory reforms on KYC requirement. With all preparations complete, the program transferred the first payments in March 2021, one year after the first case of COVID-19 was detected in the country.

**The paper also walks through the implementation steps, adjusted for a simplified and speedy implementation compared to traditional methods.** For example, STEP-KIN used hotspots and vulnerability map (instead of small area estimates as per conventional method) and mobile phone data (instead of social registry and household visits) to identify target areas and populations. Consequently, an MNO sent mass messages to the screened phone numbers, and interested recipients applied and enrolled to the program on a first-come, first-serve basis, without any further prioritization among applicants.

**To date, 300,000 people have benefited from this very first social assistance intervention in the nation’s capital, with an expansion plan.** The preliminary results based on the post-distribution survey show that, overall, the program is achieving its objective and reaching the people in need. Cost-efficiency appears to be comparable to new and standard cash transfer programs. Encouraged by these initial

results, the government plans to double the program coverage, with considerations on improvements in a post-COVID environment.

**The paper concludes with lessons learned and considerations of adapting these nonconventional approaches in delivering social assistance beyond emergency settings.** First and foremost, political commitment is the key driver for this type of new and transformative programs, which requires policy reforms and bringing MNOs on board. In terms of program performance metrics, speed trumps accuracy for emergency responses. However, the targeting accuracy of digital approaches, which is still unknown, needs to be assessed in comparison with traditional approaches. More fundamentally, the mobile number based identification strategy excludes certain segments of the population, including people without mobile phone who are likely to be the poorest, women and rural populations whose mobile ownership rate is lower, and mobile users of certain carriers which are not part of the program. It is also important to highlight that these innovative approaches underscored the irreplaceability of conventional approaches, particularly the foundational infrastructures and traditional ways of doing business.



# 1. INTRODUCTION

In 2020, as COVID-19 spread across the world, governments responded with an unprecedented scale-up of social assistance measures. Policymakers shifted their focus to urban areas, particularly informal settlements, where inhabitants were hit the hardest by the pandemic and related restrictions on economic and social activities. Social assistance—which traditionally targeted chronic poverty in rural areas—was reoriented to help prevent informal workers affected by urban lockdowns from falling into poverty. To address these pressing needs, innovations in digitally enabled design and delivery of social transfers followed. We can tap into emerging lessons from this process as the world continues battling the pandemic, other crises, and their socioeconomic consequences.

Kinshasa, the capital of the Democratic Republic of the Congo (DRC), is a case in point. The social and economic effects of the COVID-19 crisis have been particularly devastating in this megacity of 15 million people, two-thirds of whom were poor before the pandemic (Batana et al. 2021b). The declaration of a state of emergency in March 2020 meant that people were directly affected by mobility restrictions and closures of businesses and services. Job losses, price increases, and a drop in remittances quickly increased the financial vulnerability of most households and continued well into early 2021 (Open Data DRC 2022).

The situation called for a large-scale emergency cash transfer program, with none of the usual prerequisites in place: no program administration to build on, no social registry or fiscal records to identify beneficiaries, and a weak financial ecosystem to make payments. In short, the program had to be developed from scratch, remotely and quickly, in an unconventional way and under unusual circumstance with many restrictions. The DRC Social Fund (Fond Social du DRC) took up this challenge with the *Solidarité par Transferts Economiques contre la Pauvreté à Kinshasa* (Solidarity through Economic Transfers Against the Poverty in Kinshasa, or STEP-KIN) program, which, to date, has supported about 300,000 direct beneficiaries and an estimated 1,500,000 direct and indirect beneficiaries<sup>1</sup>, or about 10% of Kinshasa's population.

What has been learned from this experience? Could digital data from nontraditional sources such as satellite imagery and mobile phones fill the void of traditional infrastructures? What was the plan, how was it implemented, and what have its achievements been so far? Is this experience relevant beyond COVID in other data-constrained, fragile, and conflict-affected areas?

This case study looks in depth at DRC's approach and strategy to deliver emergency cash transfers using a combination of digital tools to overcome severe data constraints. This paper details how a social assistance program can adopt a *digital-first* approach, bypassing traditional manual processes along the entire social protection delivery chain—identification, registration, payments, and management. It examines the timeline of the program from inception to implementation, highlighting milestones that were key to the successful rollout of the program. The intention is to focus on the challenges of designing

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<sup>1</sup> Based on program's administrative data, using the average household size reported in the program's survey.

and delivering a social assistance program with limited data and institutional capacity in a fragile state, how they were overcome, and the outstanding issues that need to be resolved. The paper concludes with lessons for other countries looking for alternative ways to deliver social assistance at scale, in the context of continuing global risk and uncertainty, while acknowledging the limitations of this approach beyond emergency response.

## 2. COUNTRY CONTEXT

DRC—the second largest country in Sub-Saharan Africa, home to a population of ninety-two million – is one of the poorest nations in the world.<sup>2</sup> The country has long experienced political instability, civil strife, refugee crises and health emergencies such as the Ebola epidemic, leaving it with a low coverage of social assistance, weak administrative capacity, and an absence of systems to identify and deliver social assistance to those in need. In 2015, the government spent only about 0.6 percent of the gross domestic product on social assistance, far below the average of comparable lower-income African countries. Social assistance is estimated to have reached only 5.5 percent of the population before the global pandemic (World Bank multiple years<sup>3</sup>), although an estimated 77 percent of the population lived under the absolute poverty line of \$1.90 dollar per day in 2012, nearly double that of the Sub-Saharan Africa average (World Bank 2018).

Furthermore, DRC does not have official poverty estimates based on nationally representative Living Standards Measurement Surveys (LSMS). The last population census was conducted in 1984, when the country was known as Zaire (National Institute of Statistics 1984). Two waves of demographic and health surveys were conducted in 2007 and 2013–14 respectively, providing the latest nationwide figures. However, the massive dislocation of people in response to political instability and conflict since the last survey was conducted, and the limited set of socioeconomic information collected renders the surveys outdated.<sup>4</sup> Another household living standard survey was conducted in 2018 but focused only on Kinshasa.

Given the challenges that the government and its development partners face, historically social protection programs were limited in scale, focused on specific geographical areas, and mainly delivered as relief assistance through humanitarian organizations outside the government, including the United Nations. Implemented between 2014 and 2020, the flagship social protection program, *Stabilisation de l'Est pour la Paix (STEP)*, or *Stabilization of East for the Peace*, intended to support postconflict stabilization and recovery in eastern DRC. Implemented by the Social Fund, a government agency under the office of the president, it focused on supporting predominantly rural communities with local infrastructure rehabilitation, agricultural input, and wage employment in public works primarily in a postconflict context.

In 2020, additional financing to STEP was approved (STEP 2) in a context of overlapping crises, driven by the outbreak of the tenth Ebola epidemic, protracted fragility, forced displacement, and COVID-19. STEP 2 shifted its focus to developing a comprehensive and resilient shock-responsive social assistance system (Fuselli, Said, and Al-Ahmadi 2022). A third round of additional financing in 2021 (STEP 3) allowed for a direct scale-up to emphasize protecting human capital among communities that host a large number of refugees.

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<sup>2</sup> The country is among the five poorest nations in the world, 73 percent of the population lived on less than \$1.90 a day in 2018 (World Bank).

<sup>3</sup> The Atlas of Social Protection Indicators of Resilience and Equity (ASPIRE) data

<sup>4</sup> DHS surveys, which are independently funded by the US Agency for International Development, include questions about the economic circumstances of each surveyed household but not sufficiently in-depth ones for the rigorous welfare measurement undertaken that LSMS-type household surveys yield.

**Table 1. Comparison of STEP 1, STEP 2, STEP 3, and STEP-KIN**

Year	Stabilisation de l'Est pour la Paix (STEP 1, 2, and 3)			STEP-KIN
	STEP 1	STEP 2 and STEP 3		February 2021–June 2022
	2014–2020	2020–2024 (ongoing)		
Instrument	public works	public works	unconditional cash transfers	unconditional cash transfers
Geographic focus	rural and urban	urban	rural	urban
(Number of provinces)	(six eastern provinces)	(six provinces)	(six provinces)	(capital only)
Geographic targeting	local needs and operational feasibility (for example, security, accessibility)			hotspot (congestion) and vulnerability <sup>a</sup>
Individual targeting	self-selection and public lotteries	public lotteries	community-based targeting	exclusion criteria using Call Detail Record
Registration	on-site (STEP 1 by Social Fund staff with private contractors, STEP 2–3 by Social Fund staff)			mobile phone-based platform
Payment	manual payment (cash) (Digitalization opportunities being explored for STEP2–3)			mobile money account
Benefit amount (per beneficiary)	\$270 \$3/day for 90 days	\$400 \$3/day for 100 days + \$100 investment grant	\$300 \$75 for trimester	\$150 \$25/month for six months
Number of beneficiaries <sup>b</sup>	21,300	135,000	270,000	277,000
Program budget (\$)	51 million	291 million		45 million <sup>c</sup>

Source: Authors' compilation.

<sup>a</sup> Map based on satellite imagery Household Survey of Consumption and Living Conditions conducted in Kinshasa in 2018

<sup>b</sup> Target number in individuals, not actuals

<sup>c</sup> An unused balance of \$5 million remains from the original \$50 million budget for STEP-KIN Phase 1 and 2.

In 2020, in the humanitarian sector, thirteen active partners carried out multipurpose cash transfers in nine provinces, covering nearly 2.1 million people in need (OCHA 2021a). These were usually distributed physically following a predetermined schedule and at specific locations, facilitated by commercial banks. Multi-sectoral vouchers, especially for food, were another typical mode of social assistance. Several humanitarian organizations, however, committed to increasing their use of cash transfers rather than vouchers, particularly given lockdowns and other government restrictions in the context of COVID-19. Electronic transfers though, such as mobile money, remained difficult in light of regulatory restrictions and low mobile phone penetration. In 2020, only 44 percent of the population had access to a mobile phone, far fewer than in neighboring countries such as Uganda (62 percent) and Rwanda (81 percent) (ITU 2022). In the past, know your customer (KYC) norms that mandated identity documents were frequently unavailable to displaced populations, which hampered their opening bank or mobile money accounts. Further, only a quarter of births in the DRC are registered, and less than half of the population (40.2 million) had a voter ID in 2018 (World Bank 2022). According to FINDEX 2017, only 16 percent of the economically active age group (15+) had a mobile money account, and only 12 percent received digital payments. The poorest 40 percent were especially disadvantaged, among whom only 7 percent had mobile money accounts (see table 2).

**Table 2. Mobile Money in DRC, Access, and Use (percentage of Population Age 15 or Older)**

	Total	Male	Female	Poorest 40 percent
Mobile money account	16	19	14	12
Received digital payments in the past year	12	14	10	7

Source: World Bank 2017.



# 3. THE PROGRAM

Faced with the need to protect vulnerable households from the adverse effects of the unfolding COVID-19 pandemic, the government launched a large-scale emergency urban cash transfer program for vulnerable people (rather than the ultra-poor) in Kinshasa, the epicenter of the pandemic. The STEP-KIN aimed to reach two hundred fifty thousand direct recipients (about 1 million indirect beneficiaries, based on an average family size of four<sup>5</sup>) with \$150 in six monthly installments of \$25 (over six months).

With no prerequisites in place (no social registry or tax records, incomplete ID, limited cash transfer program, and little implementation experience as well as a weak financial ecosystem), STEP-KIN bypassed typical traditional practices and leveraged new digital methods such as satellite imagery, cellphone usage data, and mobile phone-based payments to identify and reach the vulnerable.

## INSTITUTIONAL ARRANGEMENT

The transition to a new digital mode of social assistance delivery required enabling institutional arrangements and regulatory changes. These included coordination, mobile network operator (MNO) participation, and financial regulatory reform.

### Coordination of Government, Development Partners, and the Private Sector

The expansion of the STEP program (STEP 2) was already underway shortly before the COVID-19 crisis became apparent, with the World Bank providing additional financial and technical support. Although the plan for the expansion did not initially cover Kinshasa, it was quickly revised to do so, given the impact of COVID-19 on those living in the capital who had no other support. The government leveraged an existing financial envelop to reallocate resources to STEP-KIN.<sup>6</sup> The Social Fund was chosen as the implementing agency for STEP-KIN based on its previous experience in managing STEP, including its strong operational presence and fiduciary capacity.

To address challenges with this new program, STEP-KIN was conceived through a consultative process involving the Ministry of Finance, the Social Fund, the World Bank, the DRC Cash Working Group, and other humanitarian organizations, as well as private-sector MNOs. For their part, some MNOs waived bulk payment charges or provided discounts, given their corporate social responsibility toward the poor, who were affected most by the crisis.

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<sup>5</sup> An average family size is four based on STEP-KIN beneficiary surveys, while the figure is five based on the DHS.

<sup>6</sup> The STEP 2 project design incorporated a mechanism, the Contingency Emergency Response Component (CERC), that allows the government to quickly reallocate funds from originally planned activities to urgent needs in the event of an emergency such as the COVID-19 pandemic. The original geographical coverage of STEP 2 did not include Kinshasa, but the government's request of June 2020, the CERC was activated in September 2020 with an initial allocation of \$50 million to finance STEP-KIN. STEP-2 funds were redirected from the livelihoods and employment generation component (safety assistance) and replenished with additional financing (STEP 3).

## Participation of Mobile Network Operators (MNOs)

In this digital-first approach, quick beneficiary identification needed the cooperation of MNOs in order to leverage mobile data for this purpose. It was a learning process for all parties in an environment in which MNOs had limited experience working with the government and development partners. More specifically, the process entailed exploring the potential interest of MNOs to participate in STEP-KIN and their capacity and willingness to use and share their data for the program, signing nondisclosure agreements (NDAs), and navigating complex procurement processes. These are discussed in detail later in this paper.

## ENABLING FINANCIAL REGULATORY REFORMS

The Central Bank of the DRC (Banque Centrale du Congo, or BCC) enabled the opening of special mobile money accounts to receive social transfers from humanitarian organizations and government agencies such as the Social Fund by revising the country's KYC norms.

The existing norms were restrictive, requiring documents such as national ID, voter ID, passport, student ID, or a social security card to open an account. Of these, voter ID had the highest coverage (47 percent), but significant gaps remained in the coverage of all other forms of IDs, especially among the poor and displaced (World Bank 2018). Consultation with the Ministry of Finance, BCC experts, and the World Bank ensured that regulatory changes would comply with Financial Action Task Force (FATF) Anti-Money Laundering and Combatting the Financing of Terrorism regulations (FATF 2020). Adopted in July 2020, BCC's Instruction 45 stated that registered beneficiaries of programs implemented by the Social Fund and other humanitarian organizations would be accepted as proof of identity, as long as the personal and financial account details were verified by the respective program implementing organizations. This allowed MNOs to easily and quickly open special mobile money accounts for social transfers per the Social Fund's instructions, with limits on daily and monthly transaction amounts, which could be used by the STEP-KIN program once beneficiaries were identified.

Simplifying KYC norms (such as no ID document required for STEP-KIN beneficiaries) was key to ensuring that mobile money accounts could be opened for STEP-KIN beneficiaries. Previous SIM registration and KYC guidelines would most likely have excluded those without a valid identification (ID) document—a large proportion of the population, including internally displaced people who were also most likely in need. Without this regulatory change, the compliance cost of customer identity verification and onboarding by MNOs would have been too high, or even prohibited their participation in the program, given the lack of any backend system to check applicants' identification documents and the likely risk of numerous applicants without them.

## TIMELINE

STEP-KIN was conceived in April 2020 immediately after the outbreak of COVID-19 in the country. Five months later, in September 2020, once the program funds were secured, the program was officially confirmed and announced. The preparatory phase thus took about ten months and the first payments were transferred to beneficiaries by the end of March 2021, a year after the first COVID-19 case in the country was identified (for a broad timeline, see figure 1).

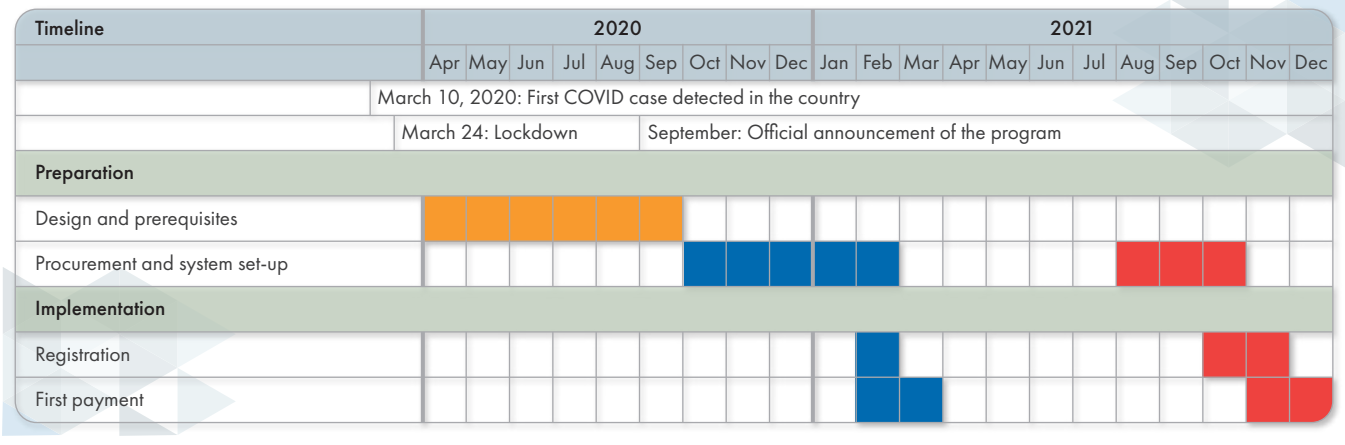
Preparation entailed various technical and operational elements, and institutional coordination was critical. Although many of the activities took place simultaneously, the initial months of preparation focused on key



elements of program design and its enablers, followed by finalizing and formalizing the implementation arrangements. For example, the vulnerability map based on satellite imagery was produced in June 2020 and geographic targeting was finalized by the end of July. The KYC dialogue with the BCC began in early April 2020 and Instruction 45 was published on July 30 of that year. Bilateral discussions with four MNOs began in early May, nondisclosure agreements were signed by mid-June, technical bids were finalized at the end of October, and contracts were issued by mid-December 2020.

Technical readiness aside, the length of the preparatory phase was ultimately defined by the time it took to mobilize financing, which was important to confirming the feasibility of the program. The procurement phase began after the program funds were transferred to the Social Fund in September 2020, thereby allowing them to issue the necessary contracts to move forward with setting up the systems and processes for program implementation. Hence, it was only by early 2021 that the government was ready to launch the program. Once the program was launched and beneficiaries completed the registration, the succeeding steps followed quite quickly, including the first payments being made within two weeks.

**Figure 1. STEP-KIN Timeline**

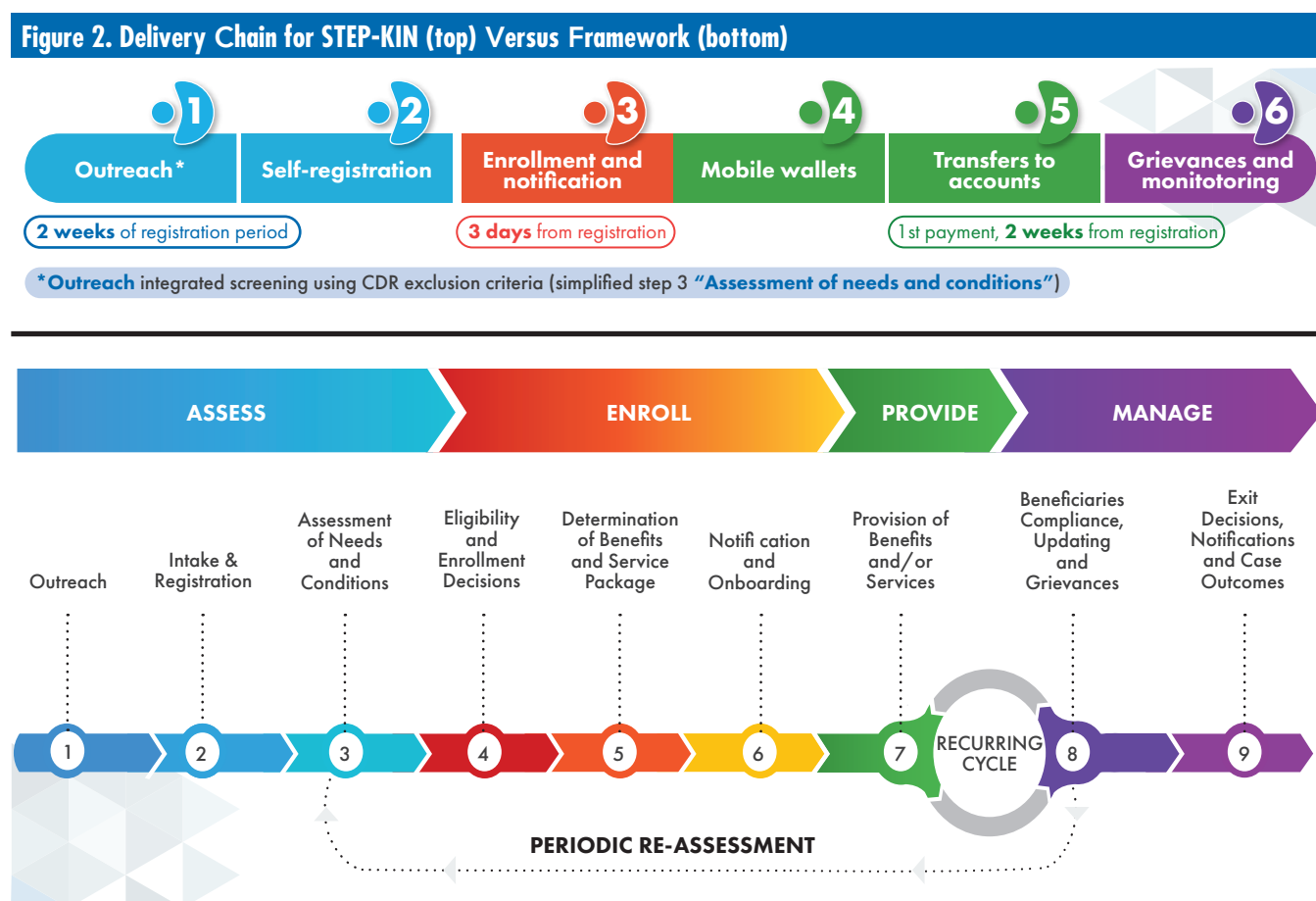


Source: World Bank staff.  
 Note: Phase 1 — Blue; Phase 2 — Red.



# 4. KEY IMPLEMENTATION STEPS

Following the principles of the social protection delivery chain framework (see figure 2), STEP-KIN incorporated adjustments, particularly in the assessment and enrollment phases, which enabled a speedy implementation (first payment two weeks after registration). Six steps are required to set up STEP-KIN from scratch.<sup>7</sup> To quantitatively capture STEP-KIN’s design and implementation, table 3 summarizes key numbers in each step.



Source: Adapted from Lindert et al. 2020. <https://openknowledge.worldbank.org/handle/10986/34044>.

## STEP 1. ASSESS—IDENTIFYING AND REACHING THE ELIGIBLE POPULATION

1a. **Geographic targeting.** A hotspot and vulnerability map was developed. Overcrowding was estimated for high COVID contagion risks, and a vulnerability score was calculated using available data,

<sup>7</sup> In an independent effort, Togo has used a similar methodology for Novissi cash transfer program. Other examples of tech-savvy innovations for each of these steps are numerous.

from satellite imagery to flood-prone cartography as well as a Kinshasa household survey. Of more than three hundred neighborhoods in Kinshasa, STEP-KIN selected 71 with the highest vulnerability score and an estimated number of 2.5 million vulnerable people.

1b. **Individual targeting.** Under nondisclosure agreements,<sup>8</sup> all MNOs shared anonymized lists of mobile numbers associated with the targeted areas (cell tower mapping). To exclude the wealthy, simple proxies were applied (i.e., smartphones, postpaid data plans, outgoing international calls, monthly bills of more than \$5) to generate the list of 2.3 million mobile numbers (*whitelists*) of potentially eligible individuals.

2. **Outreach.** Bulk text (short message service, or SMS) or audio (interactive voice response, or IVR) messages were sent to all whitelist numbers, inviting them to the program. In Phase 1, messages were sent to three hundred seventy thousand mobile numbers only (16% of 2.3 million mobile numbers in the consolidated whitelists), because only one MNO was selected.

Interested recipients applied through the call center or self-registration platform by entering their data with their consent.<sup>9</sup> Registration was closed once the number of applicants reached the quota, as the program operates first-come, first-served basis (no prioritization among the applicants).

In parallel, an information campaign using posters, newspaper, radio, and social media to raise awareness of STEP-KIN was implemented. This process was accompanied by support with ambassadors, information points or the project hotline (see also section on grievance redressal).

## STEP 2. ENROLL—FINALIZING THE PROGRAM’S BENEFICIARY REGISTRY

3. The Social Fund verified whether applicants came from eligible neighborhoods and whitelists by cross-checking their submitted phone numbers via the self-registration platform. Out of three hundred and fifteen thousand applicants, most (95 percent) matched and were therefore accepted and enrolled into the program.

## STEP 3. PROVIDE—PAYING BENEFICIARIES’ ELECTRONIC ACCOUNTS

4. MNOs opened a basic mobile money account for beneficiaries vetted by the Social Fund. This process was straightforward as beneficiaries were already phone subscribers and the simplified KYC requirements allowed them to open an account without any identification document or verification.<sup>10</sup>

5. MNOs then processed transfers to beneficiaries’ individual mobile accounts, and the first payment was deposited within a few weeks of the application. This and the following steps are standard in any cash transfer programs.

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<sup>8</sup> Because MNOs were required to provide the list of phone numbers (anonymized), they had to be reassured that the information would be safeguarded by NDA signatures.

<sup>9</sup> Information collected had to be minimal to maximize the response rate and protect respondents’ privacy.

<sup>10</sup> Depending on the country’s financial regulations, this step may require a simplified KYC framework.

## STEP 4. MANAGE—HANDLING QUERIES AND COMPLAINTS AND MONITORING

6a. To address questions and concerns of beneficiaries and others, the Social Fund set up a hotline to collect and respond to questions and grievances regarding the program. MNOs handle selected types of queries related to mobile accounts and payments (such as access codes and cash-out points).

6b. In addition, the Social Fund implemented a post-distribution survey as part of process monitoring to collect information on beneficiaries' profiles and the use of the transfers, and to understand what worked well and what needed adjustment. The Social Fund also monitored inactive accounts.

**Table 3. STEP-KIN Key Numbers and Criteria in Delivery Chain**

Implementation steps or processes	Number or criteria	
<b>Step 1. ASSESS—Identifying and reaching eligible population</b>		
<b>Geographic targeting</b>		
1	Number of target areas	71 neighborhoods
2	Total population in the target areas	3.8 million people
<b>Individual targeting</b>		
3	Vulnerable population in target areas	2.5 million
	Vulnerable mobile subscribers in target areas	2.22 million (mobile coverage rate of 90 percent)
4	Total number of mobile numbers in whitelists	2.25 million <sup>a</sup> (total of four MNOs)
	Exclusion criteria used to generate whitelists	i) smartphone, ii) postpaid data plan, iii) monthly bill exceeds \$5, iv) outgoing international calls
5	Mobile numbers contacted (via SMS/IVR)	370,000 (only by one MNO, 16 percent of the total number in the whitelists)
<b>Step 2. ENROLL—Finalizing the program's beneficiary registry</b>		
6	Number of self-registration applications	315,000 (85 percent of numbers contacted)
7	Validation criteria for enrolment decision	phone number in whitelist residency in selected neighborhoods
8	Enrollment decision (validation results)	
	Number of ineligible applicants	5 percent of applicants rejected
	Number of eligible applicants enrolled	95 percent of applicants accepted (300,829)
<b>Step 3. PROVIDE—Payment to beneficiaries' electronic accounts</b>		
9	Mobile money accounts	
	Beneficiaries with existing account	42 percent (Phase 1: 42 percent; Phase 2: 43 percent)
	Beneficiaries without existing account (hence opened new accounts)	58 percent (Phase 1: 58 percent; Phase 2: 57 percent)
10	Payments successfully transferred to accounts	100 percent of enrolled beneficiaries <sup>b</sup>
11	Monitoring active versus inactive accounts	
	Active rate (money claimed/withdrawn)	90 percent
	Inactive rate (money never claimed)	10 percent
<b>Step 4. MANAGE—Handling queries and complaints and monitoring*</b>		
12	Main reason for grievance or query	Issues with PIN (83 percent) <sup>c</sup>

Source: Authors' tabulation.

<sup>a</sup> 2.3 million consisting of four MNOs. The whitelist from only one MNO was used for the implementation of initial phases.

<sup>b</sup> 100,512 for Phase 1 (March to October) and 200,317 for Phase 2 (November to date)

<sup>c</sup> For illustrative purposes only, based on a sample data of about 5,400 cases



# 5. IMPLEMENTATION STEP-BY-STEP

This section explains the implementation steps in greater detail, starting with geographic targeting, followed by individual targeting, and then outreach and intake. Next are payment mechanisms and their challenges. Lastly, it summarizes the grievance redress mechanism in place.

As an emergency support, almost everyone living in target areas was deemed eligible for STEP-KIN (quasi-universal geographic targeting). We must therefore acknowledge inclusion errors (wealthy people living in poor areas) which should be fairly limited, given that poverty is still geographically concentrated in urban areas (that is, pockets of poverty). Recall that the program targeted the vulnerable, not the ultra-poor, for whom inclusion errors would matter far more. In that sense, STEP-KIN combined geographic targeting with universal eligibility, which is rare, as explained in the following section.

## GEOGRAPHIC TARGETING

In the absence of a census and household consumption and income survey to estimate poverty at the neighborhood level, satellite imagery and other geospatial data was used to develop a hotspot and vulnerability map, which considered overcrowding for high COVID contagion risks and four proxy indicators for high concentration of vulnerable populations (see box 1 and Lall and Wahba 2020).

**Table 4. Geographic Targeting: Traditional Approach Versus STEP-KIN**

	Traditional approach	STEP-KIN
Estimates	Poverty rate estimated for small areas	Crowding, vulnerability score
Data source	Household survey and census data	Satellite imagery
Level	Disaggregated administrative level (ex. municipality)	100 x 100 meter grid
Time required	Several months to years	One month
Cost	Several hundred to millions of dollars to conduct census and LSMS survey	\$20,000 including personnel

Source: World Bank staff.

The development of the Kinshasa hotspot and vulnerability map, which took about a month, was developed through an interactive process involving various ministries, sectors of the government, and the World Bank. In particular, the World Bank's urban team and the Geo-Enabling initiative for Monitoring and Supervision team (GEMS) supported the process with highly specialized expertise on geospatial data collection on the ground, working closely with their counterpart ministry to roll out a quick questionnaire on the availability of key services. The key steps are described as follows.

### Step 1: Estimating potential COVID hotspots

For overcrowding, estimated raw measures of density (people per unit of land) are adjusted to also include a measure of livability (people per unit of floor space; Lall and Wahba 2020). At the start of the pandemic, social distancing norms required that people needed to maintain a distance of at least 2 meters from one another. Places where density surpasses this threshold are those where complying with the minimum social distance requirements is not possible and are thus deemed overcrowded, and are potential hotspots for

contagion.<sup>11</sup> Overcrowding was thus estimated based on population density and modeled building height at a resolution of a 100x100 meter grid, which is much more granular than the traditional poverty map.

In addition, high contagion risk was computed along quickest routes (as the crow flies) to key public services such as water taps, bus stops, public toilets, waste disposal, and the central market, which are important reasons for mobility within poor neighborhoods. It also assumed eight neighboring grid pixels as the limit of mobility along the quickest routes. These locations were provided by the data collected by GEMS. The areas of high contagion risk were found to host nearly 70 percent of the population of Kinshasa.

## Step 2: Calculating the vulnerability score

To further prioritize the vulnerable areas among the potential COVID hotspots, a vulnerability score was calculated using the characteristics of the sampling frame used for the Household Survey of Housing and Living Conditions in Kinshasa (the Kinshasa survey) conducted by the National Statistics Institute (INS) and the World Bank in 2018. This source was used in the absence of a census and any other representative LSMSs to estimate poor and vulnerable population at the decentralized level as per the conventional approach (See box 2 for the discussion on sampling).

The sampling frame was based on high-resolution satellite imagery that captured three indicators used to calculate vulnerability scores. These are precariousness of construction buildings (Batana 2021), density of buildings (Batana 2021), and risk of flooding (Fathom 2020). Lack of access to employment opportunities was added as a fourth indicator (He et al. 2021). For additional information on these indicators, see box 1. The overall vulnerability score is the sum of these four components, each first rescaled from 0 to 1, and ranged from 0 to 2.8 (of 4), higher scores signifying higher exposure to vulnerability risks.

### Box 1. Indicators for Vulnerability Score for Kinshasa

1. **Precarious construction** is a dummy variable coded as 1 for precarious areas and 0 for others. Precarious areas are those whose dwellings are built by the occupants of housing on land acquired in undeveloped areas, on agricultural and market gardening land, and on uneven land with high exposure to erosion and floods. The constructions are anarchic with the frequent use of recycled materials (cardboard, plastics, sheet metal). Most often, they are located in parts of the city neglected by the more affluent categories: on steep slopes or near industrial areas, which makes them all the more dangerous.
2. **Density of buildings** is a number ranging from 0 to 1 based on the distribution of building density.
3. **Flooding risk** is also binary (coded 1 for high risk, top 95 percentile in terms of the estimated depth of flooding; 0 otherwise). Flood risks are measured based on SSBN 3 arc-second (90 m) Global Flood Hazard Data. High-flood risk areas are defined as those enumeration areas where expected water depth caused by both fluvial and pluvial flooding is in the top 5 percentile of all enumeration areas in urban Kinshasa. The likelihood of exposure to flooding is particularly high in densely populated areas of the city.
4. **Access to jobs** captures the share of employment opportunities accessible from the sampling unit within a travel time  $t$ . This index was then put in the form of a floating number between 0 (highest job accessibility) and 1 (lowest job accessibility) to measure lack of access (for more detail, see He et al. 2021).

<sup>11</sup> Assuming minimum of 3.464 square meters of space per person translates to a density of approximately 0.29 people per square meter of floor space.



## Box 1. Indicators for Vulnerability Score for Kinshasa

**Table 5. Summary of Indicators Used for Hotspot and Vulnerability Map**

Indicator	Definition (reference)	Data source (reference)
<b>Hotspots for COVID contagion</b>		
Overcrowding	for each 100m <sup>2</sup> cell, population per total floor area (TFA) is more than 0.29 people/m <sup>2</sup>	World Settlement Footprint 3D (Esch et al. 2022) and Population (WorldPop 2020)
<b>Vulnerability score</b>		
Precarious construction	binary: 1 if precarious, 0 otherwise	high-resolution satellite imagery (Batana et al. 2021b)
Building density	continuous, from 0 to 1	
Flooding risks	binary: 1 if the risk is top 5 percent, 0 otherwise	flash flood or pluvial flood hazard data (Fathom v2 2020)
Access to jobs	floating, between 0 to 1	Locally collected Commuter travel survey, General Transit Feed Specification (GTFS) dataset, high-resolution satellite imagery, OpenStreetMap and high-resolution global flood maps (He et al. 2021)

Source: World Bank staff.

Note: Overcrowding based on required two meters of social distancing.

Notes: FATHOM v2 is a model based on flash flood or pluvial flood hazard data (2020). About 14 percent of the households in the Kinshasa survey reported being directly exposed to flooding, rendering them the most prone to frequent disaster, followed by erosion (5 percent) and landslides (6 percent). The likelihood of exposure to flooding is particularly high in densely populated areas of Kinshasa. Within the high-density precarious areas, about 19 percent of households reported being exposed to flooding, which adds to the vulnerability of households already living in unsafe habitations.

One caveat on the sampling and the validity of the vulnerability map is the extreme difficulty in designing a sampling survey to collect information about households and individuals that represents Kinshasa, given the lack of a recent population census. The sampling to develop the vulnerability map was therefore prepared by drawing on satellite imagery, not household listings as is normally the case. This implies that, despite such an innovative sampling approach, the vulnerability map raises concerns about respondent selection and possible biases that may arise. These are mitigated, however, by the fact that the vulnerability score uses observable characteristics (quality of construction, for example) that can be validated with other forms of geographic information, especially in a digital form. Given that the construction and use of a vulnerability index to transfer social assistance in an urban setting is unique,<sup>12</sup> the validity and reliability of this alternative sampling and estimation methods requires further study post-crisis, subject to data availability.

### Step 3: Selection of target areas for STEP-KIN

Among COVID hotspot areas, 20 percent of the most vulnerable areas—primary sampling units (PSU)—were kept for STEP-KIN.<sup>13</sup> Because the government does not implement programs based on the survey sampling frame (or PSU grid cells), selected hotspots with the top quintile vulnerability score were

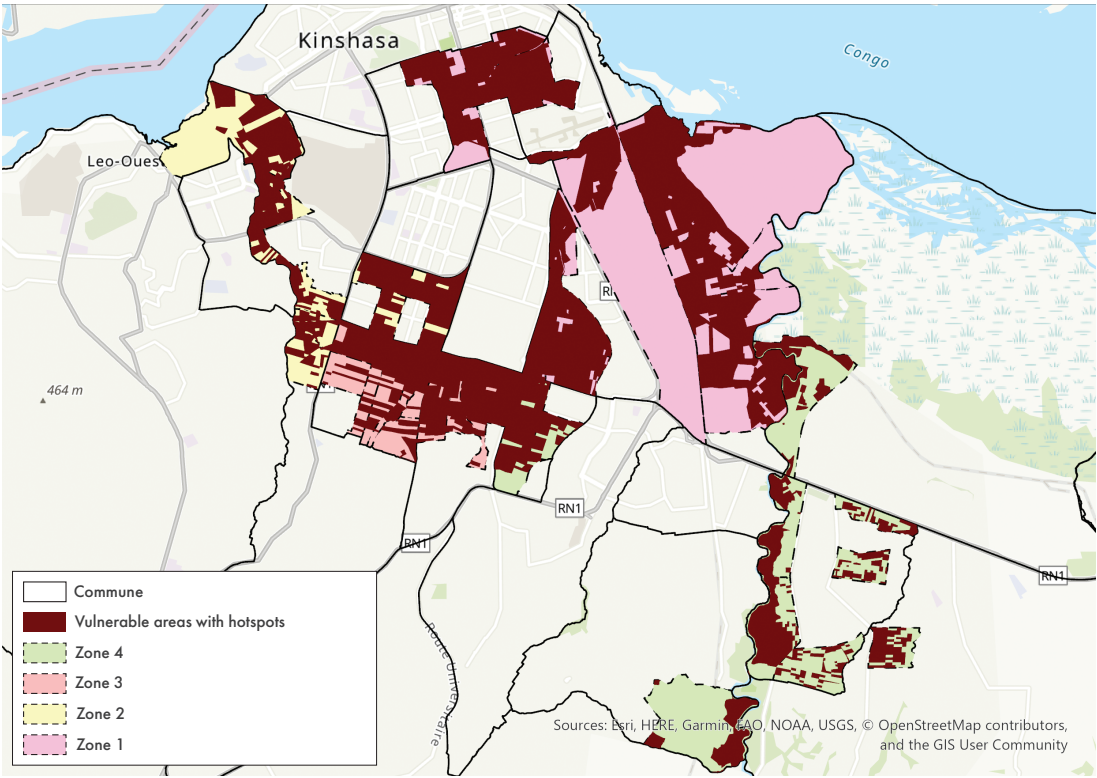
<sup>12</sup> No other comparative indices are available to benchmark the numbers, either for DRC or for other urban centers in Sub-Saharan Africa.

<sup>13</sup> The STEP-KIN areas are those in the top 20 percent of the score range, between 1.3 and 2.8.

overlaid with the administrative neighborhoods. As a result, 71 neighborhoods were chosen as target areas for STEP-KIN, covering approximately 105 square kilometers (nearly one-sixth of total area of the capital) and an estimated 6.1 million people (approximately 43 percent of the total population in Kinshasa). Consequently, beneficiary neighborhoods were further prioritized using two criteria: at least 75 percent of the population is vulnerable or a minimum of twenty thousand vulnerable inhabitants (representing 3.8 million people, of whom 2.5 million are estimated vulnerable).

For implementation, 71 neighborhoods were divided into four zones (see figure 3) to incentivize competition and allow the distribution among four MNOs (rather than one operator covering all areas), each of which could potentially get at least one zone. Each zone was to be covered by a single operator to minimize the likelihood of people with multiple SIM cards of different operators applying for the program multiple times to receive multiple benefits.

**Figure 3. Vulnerability Mapping of Target Areas, Kinshasa**



Source: World Bank 2020 and Bourgeois and D'Aoust 2020.

### INDIVIDUAL TARGETING

The program budget covered two hundred fifty thousand beneficiaries,<sup>14</sup> only some 10 percent of the total estimated vulnerable population in the targeted areas, hence the need for individual targeting as the next step. Without a traditional backend system to identify beneficiaries, such as a social registry,

<sup>14</sup> Of these, one hundred thousand beneficiaries were chosen for the first round of STEP-KIN between March and October 2021 and an additional one hundred sixty thousand for the second phase, which started in October 2021 (see figure 1).

STEP-KIN took an alternative and simplified digital approach, taking into account the lack of identification documents and poverty targeting mechanisms, mobile phone penetration, multiple SIM card usage, and COVID-related mobility restrictions while facing the trade-offs between exclusion and the need for speedy emergency relief.

A similar strategy was adapted in other countries, such as Togo, but the challenges of undertaking such an approach were more pronounced in DRC for several reasons. First, the lack of access to a verifiable identification document with high coverage, such as a national ID card, made it difficult to uniquely identify and validate individuals. The key difference in Togo is that Novissi cross-checked the voter ID to verify people's identity in the backend, which was not the case for DRC. Second, DRC's mobile phone penetration rate is just above 50 percent, one of the lowest in the region. This meant that STEP-KIN program started focusing on Kinshasa, which has 90 percent mobile phone coverage and access to a network of mobile money agents, for beneficiaries to withdraw cash. It is also important to acknowledge that, even with high coverage in the program areas, a mobile-only digital transfer excludes those without a mobile phone, almost certainly the poorest and the most vulnerable, including women and the elderly in need of social assistance. Third, in the absence of data to estimate household welfare (income or consumption), STEP-KIN used only a selected number of simple criteria for eligibility and operated on a first-come, first-served basis. This is another key distinction from Togo, which had access to relevant data to develop an algorithm using machine learning to estimate welfare and prioritize among applicants. Furthermore, in absence of a means to detect the relationship between applicants (or cellphone owners), STEP-KIN approach may have led to the duplicate benefits by the same families or households (see box 2 for additional observations).

To design and operationalize this digital-only approach, STEP-KIN needed information on the use of mobile phones in the targeted neighborhoods. The government therefore engaged all four MNOs in Kinshasa, explaining the program requirements and requested their participation in generating a list of mobile numbers in the chosen neighborhoods, that is, a whitelist of mobile numbers indicating potentially eligible beneficiaries. This process was considered important for full transparency in contracting requirements, safeguarding commercially sensitive information (such as number and location of customers and type of plan), and protecting individual privacy. This information is sensitive because it contained nonpersonal but identifiable data (i.e., it did not contain names, for example, but did contain mobile numbers). To mitigate these concerns, the government and MNOs signed nondisclosure agreements to safeguard the integrity of the data. It was also agreed that the anonymized list of cell phone numbers (that is, the numbers alone without any other information) would be shared to the Social Fund initially in a sample pilot to test the approach, and then as a qualifying condition (rather than an ad hoc agreement) to participate in the vetted bidding process, adding extra legal and procedural guarantees on confidentiality.<sup>15</sup>

Specifically, STEP-KIN used a limited number (4) of simple variables readily available from MNOs' administrative reporting systems to identify potential beneficiaries. These variables, which are deemed as proxies of poverty and vulnerabilities, included: (i) not owning smartphone; (ii) a prepaid data plan, (iii) monthly expenditure<sup>16</sup> of less than \$5 for voice, data, and SMS combined; and (iv) no outgoing

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<sup>15</sup> In addition, rules of data storage, limitations on the purpose of personal data use and payment cost or fee had to be agreed upon before information could be shared between MNOs and the Social Fund.

<sup>16</sup> The average national figure is close to \$3 per subscriber per month, according to the ARPTC (Agence de Régulation des Postes et des Telecommunications (ARPTC)).

international calls. Although this did not fully eliminate the risk of inclusion of the nonpoor, it exemplifies the potential innovative use of nontraditional data to improve the beneficiary targeting as data analytics advances. Applying these criteria and methodology to SIM cards which are active for more than six months, a combined whitelist of 2.3 million mobile numbers was identified by four MNOs.

Operation-wise, after the evaluation of the bidding documents—which included identification methodology and an implementation plan—Afrimoney was selected, assigned two zones, and given an initial target of eighty thousand beneficiaries in 47 of the 71 neighborhoods. Another operator was assigned the other two zones, but that contract was never signed given failure as a result of testing beneficiary registration process.<sup>17</sup> After Afrimoney's encouraging initial results, the company's contract was subsequently amended to cover all four zones and reach 250 thousand beneficiaries in total. This outcome could indicate that STEP-KIN benefited from an alignment of incentives on both sides, apart from being the more cost-effective of the alternatives, having waived cash-out fees for all beneficiaries and thus reducing operating costs; Afrimoney was a newcomer in the market and was proactive in its extra effort and resources to implement STEP-KIN. At the same time, Afrimoney has the smallest share in the market (16 percent of whitelist numbers), indicating that the majority of potentially eligible people (i.e., those who are in other MNO whitelists) were not invited to the program, solely on the basis of their carrier.

## OUTREACH AND ONBOARDING

In digital cash transfer programs with a beneficiary-centric design, clear communication plays an important role in setting expectations, explaining both the application process and the form of payment. Because they have no experience with this type of social assistance, potential beneficiaries need to be informed on program eligibility and benefits. From their perspective, availing themselves of STEP-KIN benefits required active moves: applying for the program digitally, receiving confirmation of their eligibility, and being aware of the transfer to their mobile money accounts. Experience in other countries shows that these processes are often difficult for beneficiaries to understand and execute, especially first-time beneficiaries under an emergency setting such as COVID-19 (Mukherjee 2020).



STEP-KIN program communications used a mix of traditional and digital media, including posters, newspaper advertisements, radio, television, and social media and messaging applications. Afrimoney was proactive in communication and outreach efforts, facilitating program communication and registration by deploying local facilitators and information points in the targeted neighborhoods and set up a dedicated call center.

After this preparatory groundwork, Afrimoney's sent SMS text and IVR messages to the mobile numbers in their whitelist, providing guidance on how to apply for the program. IVR/SMS recipients interested

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<sup>17</sup> A two-way SMS system was piloted to register beneficiaries from the second operator; however, the initiative was dropped given the very low response rate (less than 1 percent).

in the program completed a Unstructured Supplementary Service Data (USSD)-based registration questionnaire by themselves or with the support from the call center. In the registration form, applicants provided their consent to participate in the program and share their basic personal information (full name, date of birth, and address). These personal details were provided to the Social Fund directly by the applicants themselves; MNOs shared only mobile numbers in the whitelist. The application did not require any identification documents.

Subsequently, the Social Fund cross-checked whether the applicant’s number was indeed on the whitelist and whether the applicant lived in an eligible neighborhood. Approximately 5 percent of applicants were deemed ineligible; the majority (95 percent) were deemed eligible, accepted to participate in the program, and became beneficiaries.

In terms of timeline, onboarding systems were ready by January 2021 and registration began in February 2021. For the first wave, it took nearly six weeks to reach thirty-seven thousand applications (15 percent of target beneficiaries). This may be explained by a combination of low digital capacity and limits in the capacity for personalized support through call centers and in-person outreach. Building on lessons learned from this first wave, the process was accelerated and later registration periods took only 11 to 12 days to reach the target. Another decision was to stagger the payment schedule, starting with existing registrations and including more beneficiaries on a rolling basis.

**Table 6. STEP-KIN Registration Period, by wave**

Phase 1 wave (100K beneficiaries)	Registration period	
Wave 1 (37K)	February 5 to March 15	(45 days)
Wave 2 and 3 (34K)	March 14 to 25	(12 days)
Wave 4 (28K)	May 7 to 17	(11 days)

## PAYMENTS

Once beneficiaries were enrolled in the program, mobile wallets were opened using the same phone number or SIM card to enable the government to transfer cash digitally to the beneficiaries, who could then withdraw the money at designated mobile money agents in their neighborhoods. It turned out that 42 percent of beneficiaries already had a mobile wallet account to be linked, three times as many as the national average.

For the rest (that is, 58 percent of beneficiaries), Afrimoney opened new mobile wallets. The process was easy for two reasons. First, beneficiaries are already subscribers to Africell (the parent company of Afrimoney) with SIM cards and phone number, which are prerequisites to opening mobile wallets. Second, temporary KYC relaxation agreed to by the central bank enabled all beneficiaries to open mobile accounts without submitting any identification documents, given that STEP-KIN beneficiaries had already fulfilled that requirement under emergency setting. All beneficiaries were then paid through Afrimoney digital wallets in a timely manner.

After the registration period, it usually took only a few days to complete verification and finalize the beneficiary enrollment decision, and the first payment started within a few weeks for the first 37

thousand beneficiaries, and within one week for those that followed (table 5). For example, the first wave included the initial set of 37 thousand beneficiaries who completed registration by March 15. The payment process proceeded rapidly—they received the first payment between March 26 and April 2. The registration and payment length for subsequent waves was reduced as the process was mastered. All registered beneficiaries received their six transfers by October 3, 2021, completing the first phase of the program.

**Table 7. STEP-KIN Registration and Payment Schedule, by wave**

Phase 1 wave (100K beneficiaries)	Registration period	First payment
Wave 1 (37K)	Feb 5 to March 15	March 26 to April 2
Wave 2 and 3 (34K)	March 14 to 25	April 12 to 20
Wave 4 (28K)	May 7 to 17	May 26 to June 3

For beneficiaries to receive their payments on time, the Social Fund set up a segregated designated account for STEP-KIN. For each payment phase and installment, the Social Fund started the process by producing the list of beneficiaries, their accounts, and amounts to be paid. On receiving the payment advice, Afrimoney requested funds (including cash-out fees) from the Social Fund. When funds became available in their account, Afrimoney transferred them to the beneficiary’s accounts. Although payments could be handled in one batch, the transfers were capped at five thousand per day in Phase 1 to limit crowds at cash-out points—given the need for social distancing—and to allow time to ensure cash availability and program supervision. The cap was increased to 12,500 in the extension of the program, complying with public health guidelines.

Overall, the payment system worked well, but was not without challenges. First, beneficiaries had questions about PINs and the location of cash withdrawal points, an issue that was addressed by Afrimoney’s dedicated call center. Second, 10 percent of beneficiaries’ accounts remained inactive after three payments, specifically, without any cash-out. After several failed attempts to reach these beneficiaries, the program decided to stop transfers to inactive accounts. The unclaimed funds were returned from beneficiaries’ e-wallets to the program account (*clawback*) and later reallocated to expand the program to additional beneficiaries.<sup>18</sup>

## MONITORING AND GRIEVANCE REDRESSAL

Regular monitoring was built into the delivery system, including post-distribution surveys and regular progress reports. For example, disbursement reports capture and monitor the fund flows from the Social Fund to Afrimoney, from Afrimoney to beneficiaries’ e-wallet, and finally cash-outs from e-wallets by beneficiaries. As noted, monitoring of cash-out data revealed that some 10 percent of beneficiaries did not cash out their funds. Because this is potentially an important issue, additional measures could have been taken to validate the identity and the legitimacy of beneficiaries, such as household visits, in the context of regular programs, that is, nonemergency programs (for additional observations, see box 2). This was not possible, however, under emergency circumstances.

<sup>18</sup> The clawback process can only be done manually by the payment service provider.

## Box 2. Identification System to Detect Duplication

Regular cash transfer programs usually incorporate a systematic mechanism to verify the identity of applicants and their family members to prevent the same person or different members from the same family or household receiving multiple benefits. STEP-KIN does not have such a rigorous mechanism as it is an emergency program, and the lack of a good ID system and comprehensive SIM registration in the country makes it difficult to determine the extent to which individuals or families receive multiple benefits. The same individuals receiving multiple benefits would nonetheless be marginal given that a beneficiary would need to have multiple SIM cards from the same operator, and should have applied to the program either under the same, similar, or an entirely different names. The Social Fund checked applicants' names, but the review was neither rigorous nor comprehensive. This situation is mitigated somewhat by Afrimoney's low coverage of mobile money accounts before COVID and by the strategy of covering one area with only one operator, assuming people might have multiple SIMs but with different operators. What could have been much more common is to have multiple people in the same families or households receiving benefits (estimated at 8 percent based on post-distribution surveys). It was not the scope of the program to try to prevent this given that it focused on individuals rather than families or households.

Like other cash transfer programs, new, digital-first cash transfer programs require strong grievance resolution mechanisms to address exclusion errors and technical difficulties in receipt or withdrawal of benefits. STEP-KIN followed the best practice of separating types of queries or complaints handled by the two entities: the Social Fund is responsible for overall program implementation and Afrimoney for payments. The Social Fund set up a call center for redressal of grievances regarding program implementation, including application procedures, cash-out fees, delayed payments, reporting fraudulent transactions, as well as instances of domestic violence, sexual harassment, and abusive behaviors. All technical issues related to payments—opening and use of mobile accounts, passcodes, or cash-out points—were handled through a toll-free number operated by Afrimoney. Based on sample information shared for this paper (around 5,400 cases), the majority (84 percent) of queries were related to PINs (see table 8), followed by issues with registration and cash-out. As the program expands in the next phase with multiple providers, regular and real-time monitoring data would become an important tool for policymakers to track progress and outcomes.

**Table 8. Types of Problems**

Types of problems	Percentage
PIN	83.5
Registration	9.2
Cash-out	6.8
Others (including complaints)	0.5
Total	100

Source: Afrimoney (based on the subset of data, 5,400 cases)

The Social Fund handled three categories of complaints: general inquiries and complaints, including need for information, ignorance of procedures, and quality of implementation; sensitive complaints, including cash-out fees charged by agents, delayed payments, and suspected fraud by officials; and hypersensitive complaints, such as gender-based violence, sexual harassment, and abuse. The Social Fund grievances team handled these cases, including social factors, and considering the local context. This grievance redressal mechanism emphasized confidentiality, especially for those queries related

to corruption, violence, and discrimination. Although information on the type of category was not made available for this report, their explicit mention in communication materials could help reduce social ills in the STEP-KIN implementation process. This approach is unique and can be emulated elsewhere.



## 6. PROGRESS AND PLAN

Within three months, STEP-KIN identified, registered, and paid more than one hundred thousand individuals in 50 initial poor neighborhoods, becoming the first and largest cash-based operation in Kinshasa.

The results of the post-distribution survey show that STEP-KIN is achieving its objective and reaching its target group. A survey which was conducted with more than twelve thousand beneficiaries randomly selected from the Phase 1 cohort confirmed that most participants were poor and vulnerable (self-declared): 39 percent unemployed and 61 percent earning less than \$100 per month on average, mainly from commerce activities (47 percent) or manual works (16 percent), suggesting that the program mainly reached people in the informal sector.<sup>19</sup> Recipients used money to meet their basic and daily needs, including food (46 percent), health and education (35 percent), reinvestment in their livelihoods (32 percent), and rent (12 percent). The results also provide a picture of the beneficiary experience during receipt and cash-out of digital payments, informing improvements to program implementation. For example, albeit a small share, 5 percent of beneficiaries reported issues during registration: essentially these individuals did not know why they were selected, indicating the potential benefit of better communication.<sup>20</sup> In terms of a demographic profile, the average age of beneficiaries was 33. Around 36 percent were female, showing the scope (and the need) for improvement to ensure more gender equity for future expansion of the program.<sup>21</sup>

However, this type of survey is not the instrument to rigorously evaluate whether the program is reaching the target population. A future household survey collecting, *inter alia*, information on consumption, could answer the question by rigorously evaluating the targeting performance, quantifying the extent of inclusion and exclusion errors, and suggesting measures to remedy it in future digital social assistance programs. In the meantime, elsewhere—such as in Rwanda (Blumenstock et al. 2015), Afghanistan (Aiken et al. 2022a), and Togo (Aiken et al. 2022b)—some emerging evidence shows that CDR (call detail records) can predict areas and people in need reasonably well, which requires further assessment.

The overall administrative costs accounted for only 6 percent of the total program budget (i.e., cost of transfers and administrative costs). In terms of cost efficiency, a share of 94 percent of total program budget going to transfers shows a satisfactory performance compared to new and standard cash transfer programs. The factors contributing to keeping administrative cost low would include leveraging the existing implementation structure (the Social Fund), a simplification of program procedures triggered by the emergency conditions (ex. KYC), a digital intake strategy that reduced data collection cost,<sup>22</sup> and a competitive offer and fee waivers by the successful bidder for technical assistance and payment services.

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<sup>19</sup> Among those unemployed, 75 percent had never had a job and 21 percent had been unemployed for more than a year.

<sup>20</sup> In addition, fewer than 0.3 percent reported issues during payments including having to pay extra fees to mobile money agents and forgetting their passcode; 0.2 percent reported having personal grievances or complaints during the surveys and were redirected immediately to the project's grievance redress mechanism.

<sup>21</sup> Regarding the gender-related observation, focus group discussion gathered anecdotal and qualitative information suggesting a significant redistribution of the cash from male recipients toward female-headed business; no figures were given, however.

<sup>22</sup> Costs to collect data for eligibility assessment alone can reach 7 to 8 percent for nascent cash transfer programs in low-income countries (Grosh et al. 2021). Such costs were minimal for STEP-KIN, which used SMS/IVR and online registration platform whereby applicants provided their information themselves.

**Table 9. STEP-KIN Program Budget, Direct Versus Operational Cost**

Cost component	Percentage
Direct costs (transfers to beneficiaries)	94.3
Indirect costs (administrative, operational cost)	5.7
Mobile money services (by MNOs) and technical assistance (by implementing partner)*	3.0
Operational costs (including Social Fund staff, central management information system, communication materials)	1.5
Banking and wire fees (from Social Fund commercial bank to mobile money service provider's bank account)	1.2
Total	100.0

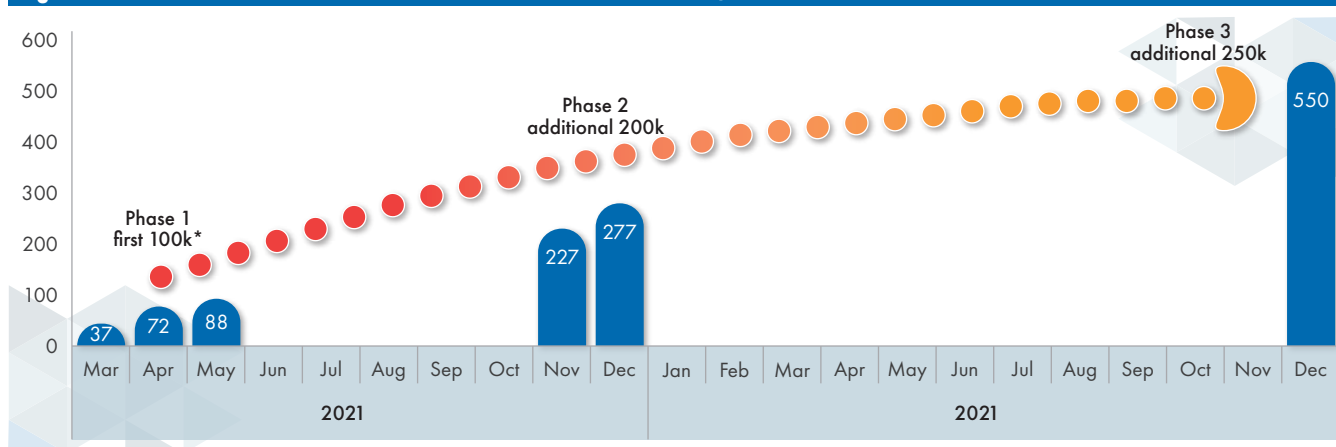
Source: World Bank staff.

Note: \*Technical assistance included hotline and piloting a new system and platform for the registration and payment.

Encouraged by these initial results, the program was expanded in October 2021, disbursing \$41 million to a total of 277,000 recipients as of June 2022 (Phase 2).<sup>23</sup> Indirect beneficiaries totaled 1.2 million, including recipients' family members: about 10% of the poor population of Kinshasa. The government plans to double the program size by the end of the year to a total of 550,000 recipients (2.4 million indirect beneficiaries: 20% of the poor population in Kinshasa) with additional financing support from the World Bank and a total program budget of \$100 million (see figure 4).

This expansion was made possible by stronger partnership with MNOs and nongovernmental organizations (NGOs). For the ongoing expansion, Afrimoney plays a greater role in terms of the scope and the geographic coverage, and the Social Fund worked with a second MNO (Vodacom/M-Pesa) now coupled with a second digital cash platform, MobileAid (Marchenko and Chia 2021),<sup>24</sup> operated by the NGO GiveDirectly. The two service providers (Afrimoney and M-Pesa) operate independently from one another and have different geographic assignments specifically to diversify and limit operational and fiduciary risk. Both operators submit their reports and data to a simple central management information system where the Social Fund can monitor an integrated picture of the program implementation.

**Figure 4. Number of Active STEP-KIN Beneficiaries (in Thousands, Cumulative)**



Note: Thirty-one thousand inactive numbers were removed from the beneficiary list between Phase 1 and 2.

<sup>23</sup> Thirty-one thousand inactive recipients were removed from the beneficiary list after contacting them proved impossible.

<sup>24</sup> MobileAid has its own self-registration system based on USSD, integrated with payment system.

# 7. LESSONS LEARNED

As the first cash transfer program of the country, STEP-KIN was designed by necessity as an emergency response and deployed with a learning-by-doing approach to support vulnerable people in the national capital. One year into implementation, more than 277,000 beneficiaries received payments on time, despite COVID-related mobility restrictions and in a fragile and conflict-affected country context. The key initial lessons<sup>25</sup> presented here focus on what worked well, as well as the challenges and limitations of a digital-first approach. This section also explores the potential of a digital-first approach in terms of improving social assistance programs beyond emergency settings.

## **LESSON 1: POLITICAL COMMITMENT IS THE KEY DRIVER FOR NEW AND TRANSFORMATIVE PROGRAMS.**

Digitally enabled delivery mechanisms reduce power and discretion of local intermediaries—officials, contractors, and agents—who play a key role in delivering traditional social assistance. The transition to a digital-first approach diminishes their influence. At the same time, direct cash transfers increase the agency of the beneficiaries, but only if the program is designed and implemented appropriately.

Transformative programs such as STEP-KIN therefore require significant political commitment to undertake necessary reforms, provide resources, monitor progress, and take corrective action. The political choice for such a strategy hinges on the expected rewards from increased popular support. This support comes only if the delivery of benefits unfolds at speed and scale.<sup>26</sup> It also means that a responsive grievance redress mechanism is crucial.

A policy change relaxing KYC norms to open mobile money accounts for emergency transfers was also essential for STEP-KIN. In many countries, a well-known exclusion factor in social protection programs is the lack of proper identification documents (World Bank 2021b), just as in the DRC, where mobile money account ownership rate was the lowest in the region. This poses a barrier to digital-first cash transfer programs based on remote verification and digital payments. STEP-KIN worked with the Ministry of Finance and the Central Bank to reform the KYC documentation requirements, allowing social protection and humanitarian assistance beneficiaries to open mobile accounts without presenting any ID documents to receive their cash transfers.

Government leadership is also the key driver to strengthening the institutional set-up to deliver social protection to a wider section of its citizens. STEP-KIN has demonstrated that the government and the private sector, particularly the MNOs, could become close partners to serve a greater good, as we discuss in the second lesson.

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<sup>25</sup> The DRC Social Fund, with the support of the World Bank and other stakeholders, continues to improve the STEP-KIN program day after day to serve better the people of the DRC. (<https://www.facebook.com/fondsocial.cd>, [fondsocial@fondsocial.cd](mailto:fondsocial@fondsocial.cd); <https://www.fondsocial.cd/>)

<sup>26</sup> MobileAid instantaneous payments were piloted during the last phase of the project. The quickest payment was conducted within 45 seconds of registration and more than 3,500 payments were made in less than one hour.

## LESSON 2: MNOS MUST BE ON BOARD FOR THE DIGITAL-FIRST APPROACH.

The fundamental premise of this digital-first approach is the participation of MNOs. In traditional approaches, they have only a limited role as payment service providers. STEP-KIN, however, outsourced an expanded scope of activities across the delivery chain—from individual targeting by screening eligible subscribers using call data records, outreach through SMS/IVR, grievance handling, to developing a registration platform and receiving payments.

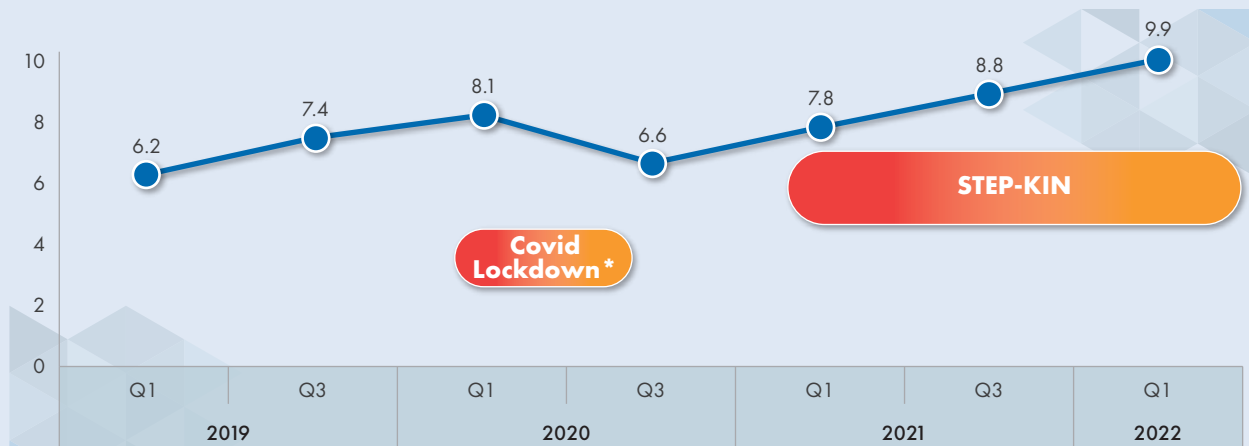
Most MNOs in DRC were unfamiliar with this type of social transfer, with limited understanding of public aid’s mandate and the objectives of the program. As a result, STEP-KIN needed to invest a fair amount of effort and time to build understanding, relationships, and trust. Beyond corporate social responsibility, sharing anonymized mobile numbers was made a condition for the STEP-KIN bidding process. The procurement procedure served as the framework to facilitate this process, and the nondisclosure agreements and contracts between the government’s implementing agency and MNOs formalized the partnership. Although the Social Fund was successful in accessing CDR data, the use case of CDR data is still fairly limited, especially for external actors such as researchers and academics, which clearly hinders optimizing its potential. Importantly, the participation of MNOs (that is, carriers) was a main determinant for the program inclusion.

### Box 3. Growth of Mobile Money Accounts in DRC

The total number of mobile money subscriptions in DRC increased by about 20 percent in the same period of STEP-KIN registration, from 7.8 million in January 2021 to 9.5 million in December 2021, as shown in Figure B3.1).

This might indicate the change in KYC norms makes it easier for the ID-less poor and vulnerable people, including beneficiaries of social assistance and relief programs, to open mobile accounts, leading the overall growth of digital payment ecosystem in the country.

Figure B3.1. Number of Active Mobile Money Accounts in DRC (in Millions)



Source: ARPTC.

Note: Strict lockdown was for March–April 2020.

## LESSON 3: FOR EMERGENCY RESPONSES, SPEED TRUMPS ACCURACY; YET THE QUALITY OF IDENTIFYING TARGET POPULATIONS STILL NEEDS TO BE ASSESSED AND IMPROVED.

A quick and dirty approach works when the goal is to rapidly reach as many of the population as possible in an emergency setting. The so-called missing middle, particularly urban informal workers, became the focus for the expansion of many social assistance programs in response to COVID-19. Speed and cost efficiency win over accuracy in this approach. Other targeting methods that require more time, data, and resources to develop would be a better option when accuracy matters more than speed, such as inclusion or exclusion errors mattering more for the assistance targeted for the ultra-poor (Grosh et al. 2022).

Although the targeting approach of STEP-KIN is largely deemed acceptable and sensible in an emergency context (that is, the extent to which actual aid recipients match the intended beneficiaries), records of program consultations indicate challenges, especially regarding perceptions of the inclusiveness of the program (see box 4). At the time of writing, targeting performance has not been assessed in terms of quantifying the level of errors based on a household survey.<sup>27</sup>

### Box 4. Perception of Inclusion and Exclusion Errors of STEP-KIN

Some challenges have been lodged regarding the legitimacy of the program; that is, the extent to which it is perceived as fair by beneficiaries and others. During consultations, including live Q&A sessions broadcast on the primary radio station, several questions focused on inclusion and exclusion errors, such as “some rich people are living in poor neighborhoods” or “poor people may not have a phone.” All acknowledged, however, that the marginal inclusion errors were not high enough to justify slowing the enrollment process with additional checks. The limited program budget was perceived as the real exclusion factor: “there are other poor neighborhoods”; “some people don’t have Afrimoney.” Given additional resources, the program was extended to additional neighborhoods and MNOs.

The STEP-KIN approach, though, would not necessarily work in other settings or be appropriate in other programs. For example, Kinshasa has very high mobile penetration rate (90 percent) and cash-out points are easily accessible. Thus, such a program would only work in urban settings that meet these prerequisites. Unintended consequences are also important to bear in mind: the use of technology may increase both de facto exclusion of the poorest (such as those without mobile numbers—at least 10 percent of the Kinshasa population<sup>28</sup>) and lower applications among women.<sup>29</sup> Alternatives to technology-based modalities, such as on-site registration, must be offered as a choice depending on the program objective and digital literacy of the target population.

Further, MNOs can be a main determinant in program inclusion depending on their participation; STEP-KIN ended up leaving the majority of eligible mobile numbers uninformed during Phases 1 and 2 (see box 5).

<sup>27</sup> A new household survey is being discussed for the implementation; the work program and analysis plan need to be developed to assess the targeting performance of STEP-KIN and other programs.

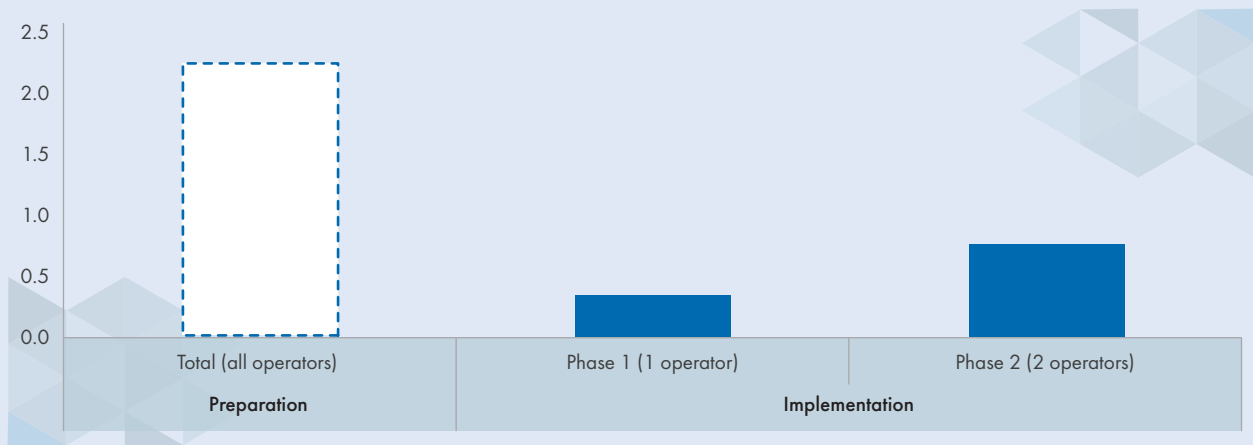
<sup>28</sup> Kinshasa’s mobile penetration rate is 90 percent. This means that 10 percent of the population do not have mobile phones, though this proportion is presumably higher in the poorest areas of the capital (Target Research & Consulting 2016).

<sup>29</sup> Mobile rate is lower for women (75 percent compared to 88 percent among men (Target Research & Consulting 2016). Also, the share of female beneficiaries of the STEP-KIN is 36 percent to date.

## Box 5. How Many from Whitelists Were Invited to the STEP-KIN?

Of a total 2.3 million mobile numbers in the whitelists generated by the four MNOs, only up to 16 percent<sup>a</sup> from one operator received the invitation SMS/IVR messages for the STEP-KIN program during Phase 1. The number increased to 33 percent with an additional operator in Phase 2, although not all of the numbers were contacted due to the assignment rule that allowed one operator per neighborhood/zone. As a result, a large share (67 to 84 percent of the total in the whitelists) remained uninformed since their mobile services are not partners for the STEP-KIN implementation. Although this was possibly a programmatic decision<sup>b</sup> for the initial rollout, the program needs to reconsider this issue as it expands.

**Figure B5.1. Number of Mobile Numbers in Whitelists (in Millions)**



Source: ARPTC.

<sup>a</sup> Up to 16 percent is a high estimate, as this figure relates to all target neighborhoods (71), only 47 of which were covered in the first phase.

<sup>b</sup> For example, having a single MNO reduced the likelihood of duplication; that is, the same person with multiple SIM cards from different MNOs receiving multiple benefits.

In addition, STEP-KIN operates on a first-come, first-served basis and thus the self-registration portal closes once the number of applicants reaches the quota. This principle has worked well so far, in the absence of oversubscription. Once the number of applicants exceeds the quota, however, the program will need a selection mechanism to rank applicants and to select beneficiaries. The development of such a prioritization method would require access to full CDR data and ground truth data, as well as analytical expertise (ex. partnership with academia).

Last: the **identification systems**. While requiring ID documents can bottleneck social programs, better identification systems can also improve targeting because they enable verification of applicant and beneficiary identity. STEP-KIN does not require any identity documents throughout its delivery process, including getting SIM cards,<sup>30</sup> applying to and enrolling in the program, and opening a mobile account. Although this approach contributed to a rapid inclusion of new beneficiaries, it diverges from the norms of regular cash transfer programs, which typically check a potential beneficiary's identity against certain types of identification document or systems in accordance with the country's KYC requirement. Thus, as the program expansion continues in the wake of COVID, gradually integrating a certain mechanism for checking applicants is possible (such as a duplicity checker using names or a matching algorithm without requesting the ID document, and/or to start requesting ID document while helping ID-less applicants acquire the required documents).

<sup>30</sup> In the DRC, people can actually get a SIM card without a valid identification document, without adhering registration guidelines.

## **LESSON 4: THE INNOVATIVE APPROACH UNDERScoreD THE IMPORTANCE OF CONVENTIONAL APPROACHES — PARTICULARLY FOUNDATIONAL INFRASTRUCTURES AND TRADITIONAL WAYS OF DOING BUSINESS.**

Digital tools can complement but cannot completely replace conventional approaches to delivering social assistance. More fundamentally, the digital-first approach was the best alternative (second-best option) for a country lacking solid traditional infrastructure. As in other countries that scaled up pandemic-related emergency assistance, STEP-KIN's digital-first approach was the only option to transfer assistance quickly and at scale in the context of the public health restrictions imposed in Kinshasa and the lack of typical, foundational enablers such as census, household survey, an ID system, or social registry. For a country with the administrative capacity and interoperability across databases to identify and verify target individuals, the usefulness of mobile call data records would be limited or even irrelevant. This reinforces the importance of continued investment in the country's foundational infrastructure (identification, authentication, interoperability, payment ecosystems) as well as social protection delivery systems including social registry and management information systems (MIS), which can be used to respond to future shocks and different needs in a more systematic, cost effective, and efficient manner.

This said, in the context of DRC STEP-KIN registry is a good starting point. Current beneficiaries, however, are more capable digitally even among the vulnerable group, considering that many already had existing mobile accounts (42 percent, relative to the national average of 12 percent). To better calibrate the program, an investment in a traditional LSMS household survey is essential to evaluation of the different eligibility criteria.

Given its expansion in a nonemergency context, the program will also need to offer a traditional and manual approach in parallel (such as on-demand applications collected face-to-face at local offices) so that those without or with less digital capacity will be able to apply and receive benefits. For payments, providing alternative, nondigital payment mechanisms will also be important; as will cash payments or an onboarding session dedicated to opening and using mobile wallets, all considering the capacity of beneficiaries to interact with digital systems and reduce the risk of exclusion.

Last, the MIS, another backbone system, also requires further development as the program expands. Currently, STEP-KIN implementation partners use different delivery platforms connected to the central system to report to the Social Fund. As the Social Fund works toward more autonomous management, it will be important to ensure that the MIS architecture is harmonized across the process and the implementors allowing for easy adaptation for future adjustments and expansion.

## **LESSON 5: DATA USE CAN CREATE A VIRTUOUS CYCLE, HELPING “DATA-DESERTS” GRADUALLY BECOME “DATA LAKES.” SUCH DATA USE NEEDS TO RESPECT THE PROTECTION OF PERSONAL DATA, HOWEVER.**

STEP-KIN was conceived in a desert country in terms of official and traditional types of data (census, household surveys, administrative data). The DRC's last census was conducted in 1984, the last nationally representative household survey was nearly a decade old, and the country did not have a social registry, tax records, or an ID database with wide enough coverage to identify those in need. Using existing big data from satellite imagery and cellphone call records, the program was able to identify, bring on

board, and pay beneficiaries at scale and speed. From almost no systematic information on individuals that could be used for service delivery, STEP-KIN made a first step toward creating a social registry of relevant personal and proximity attributes that could be used to target the poor, and thus could catalyze the foundation for a beneficiary registry for broader social protection programs in the future (Harris 2022).

As a proof of concept, STEP-KIN has shown that a digital-first program can be designed and implemented with a strategic approach to data collection, management, and analysis. DRC can take advantage of this groundwork for a long-term vision of building a modern, digitally enabled social protection system that leverages a combination of both digital and traditional data for individuals, households, and communities.

Last, but equally important, protecting beneficiaries' privacy is a priority in processing personal data. STEP-KIN provides a use case on how to facilitate strong data-sharing protocols among parties by building trust and putting in place effective checks against inappropriate use of sensitive information. Specifically, STEP-KIN applied a combination of measures to mitigate the risks of misuse: nondisclosure agreements between mobile operators, use of a minimum set of variables using mobile data, anonymized whitelists, and inclusion based on applicants' consent to share their personal information. The current outcome is favorable for everyone: beneficiaries, who benefit from social assistance; the private sector, which develops the market for mobile money further; and the government, which increases financial inclusion and expands social protection. This win-win situation opens up an array of possible options for social protection, both in the emergency phase and in the longer term. However, continued and active monitoring of usage and timely redressal of grievance is required, given that programs can strengthen risk mitigation measures related to personal data. For example, the STEP-KIN could be implemented without sharing the full whitelists (i.e., list of phone numbers of potential beneficiaries) up front with the government. Instead, once interested people apply for the program with consent, their data could be cross checked with MNOs to confirm whether their numbers are in the whitelists.



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## Abstract

This study looks in depth at Democratic Republic of the Congo's (DRC) approach to delivering emergency cash transfers: the Solidarity through Economic Transfers Against the Poverty in Kinshasa (STEP-KIN) program. In order to overcome severe data and operational constraints, this program used a combination of digital tools to deliver assistance to vulnerable urban populations during COVID-19, bypassing traditional processes. This paper aims to answer key and practical operational questions, including how the program was implemented throughout the delivery chain and the timeline of the program, highlighting milestones that were key to the successful rollout of the program. We also focus on the challenges faced and lessons learned, informing other countries looking for alternative ways to deliver social assistance at scale in the context of continuing global risk and uncertainty, while acknowledging the limitations of this approach beyond emergency response.

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Social Protection & Jobs Discussion Papers are published to communicate the results of the World Bank's work to the development community with the least possible delay. This paper therefore has not been prepared in accordance with the procedures appropriate for formally edited texts. This paper is being published in partnership with the G2Px initiative to produce a collection of papers on the use of new data for social assistance delivery.

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