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Strengthening Nepal's Crisis Management Information System for effective Covid-19 policy responses

Executive Summary

The Crisis Management Information System (CMIS) influence Covid-19 fund allocation to local governments (LG). But, CMIS data entry and storage methods are currently inadequate for robust analysis of LG need. Further, data poverty may be contributing to poor Covid-19 financing response in vulnerable municipalities, especially in Terai region. Triangulating across data sources, and using the example of quarantine facilities, we show that LGs with functioning quarantine centers that failed to enter data on CMIS did not receive federal quarantine funds. These LGs are also more likely to have reported technical staff shortage. We make recommendations on how to improve the database and recommend providing technical support for local governments in need. Else, data poverty may worsen Covid-19 financing response in vulnerable municipalities.

Overview

The Crisis Management Information System (CMIS) is a web-based platform set up by Nepal's Ministry of Federal Affairs and General Administration (MoFAGA) in April 2020 to facilitate reporting by local governments on activities and expenditures related to the Covid-19 pandemic.

The CMIS is a potentially valuable source of data for tracking local governments' response to the pandemic, including variables such as amounts of available funding; health activities completed, including quarantining; and numbers of beneficiaries of government relief programs.

This analysis uses extracted CMIS data at four points during lockdown: June 8, 11, and 22, and July 6. For cross-validation and analysis we also use data from our Local and Provincial Government Survey (LGPS[1]), the Federal Capacity Needs Assessment Survey (FCNA[2]), and data from the United Nations Resident Coordinator Office (UNRCO).
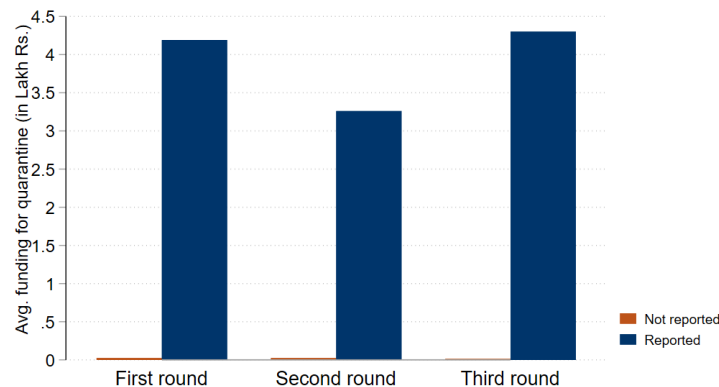
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[1] The LGPS survey was completed in June 2020 by Yale University, Nepal Administrative Staff College, GovLab Nepal, and the London School of Economics.

[2] The FCNA was completed in 2019 by the Nepal Administrative Staff College (NASC), Georgia State University, and the World Bank.

Key Findings

1. **Data reporting remains infrequent and imprecise.** Local governments are updating responses infrequently. Missing values are common in the database, and often coded as zero, making the cases of no data and measurements of zero indistinguishable in CMIS.

2. **Data responsiveness (and quality) matters for federal funding.** Figure 1 shows that local governments that report zero quarantine numbers in the system receive less funds for quarantine centers from the federal government. The difference in average quarantine funding available for municipalities that report people in quarantine at the time the data were extracted from CMIS ranges from NPR 4.1 lakh (June 12) to NPR 3.2 lakh (June 23), to NPR 4.3 lakh (July 7). In this case, UNRCO's survey of quarantine facilities shows that these municipalities had people in quarantine. This suggests the issue is missing data/lack of data entry.

Figure 1: Federal quarantine funding for reporting municipalities

Note: For each round, municipalities that received funding in the previous round(s) are not included.

Sources: CMIS (June 11, 2020) & OPMCM (June 12, 2020) for first; CMIS (June 22, 2020) & OPMCM (June 23, 2020) for second; CMIS (July 06, 2020) & OPMCM (July 07, 2020) for third.

3. **Staff shortages affect reporting.** Terai municipalities, especially in Province 2, have the lowest reporting levels. Municipalities with technical staff shortages (as recorded by FCNA survey) in digital data-entry positions report roughly 7.5 percentage points fewer variables.

4. **The database lacks system checks to ensure data consistency across categories.** Among local governments who report any individuals in quarantine, the sum of all individuals by quarantine type (government, home, private, etc.) and gender is different from the "total individuals in quarantine" question 99% of the time. Similarly, for 61% of local governments that report questions on funding, the total among all funding sources, when added up, does not equal the "total funding" question response.

Recommendations

MoFAGA can take multiple steps to enhance quality data entry by local governments:

1. **Reach out to local governments** – focusing on municipalities with lower reporting rates – to determine what reporting barriers they are facing, and accordingly resolve any issues in the system.

2. **Work with CMIS technical staff to allow for missing values in data** (to distinguish between "not reported" and "0"). It is impossible to draw conclusions about testing, tracing, funding, etc. when it is unclear whether zeros reflect on-the-ground reality or are evidence of missing data.

3. **Build in system and logic checks to the CMIS system to ensure consistency across variables within a category.**
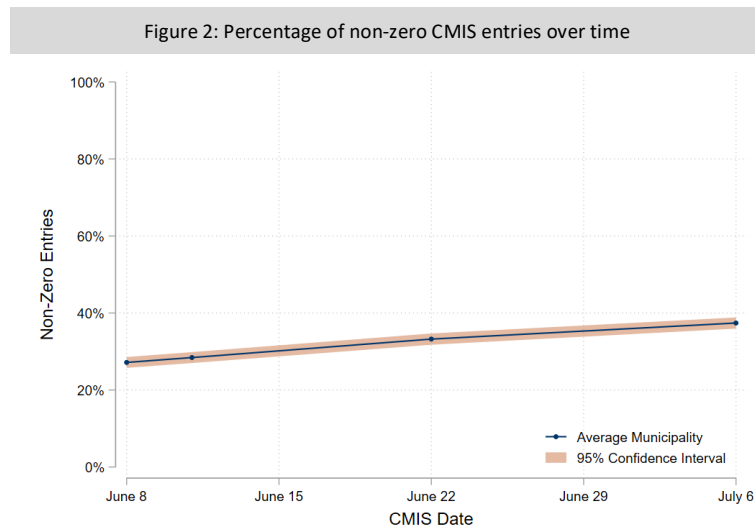
In addition, MoFAGA might consider a region-specific reallocation of personnel. Technical staff support would be valuable in Terai region municipalities.

Appendix

A full report of this analysis, titled "The Crisis Management Information System (CMIS): Summary, Data Quality, and Significance", is available upon request. Below, we briefly summarize some additional findings on CMIS data.

A. Most variables are rarely reported, and some are reported with significant lag.

Figure 2 shows that 73% and 63% of questions were coded zero (or missing) in June and July, respectively. Question detail matters: questions referencing broad categories, such as total number of quarantine shelters (92%) or beds available (87%), or total funding (72%) were more likely to be reported, while very specific questions, such as number of women in quarantine shelter created by a private organization (1.3%) or the total fruits or vegetables distributed (9.4%) were less likely to be reported.

Figure 2: Percentage of non-zero CMIS entries over time

B. Many variables that are reported are not updated regularly.

Many variables that were reported were not updated over the time referenced in this brief, including those that would be expected to change on a regular (if not daily) basis. For example, among municipalities that reported at least one male in quarantine on June 8, 70% reported the same figure on July 6th. Figure 3 shows that, among selected variables that we would expect to change regularly over time, fewer than 30% of municipalities made alterations between successive report updates, and fewer than 45% made any changes to these values between June and July.

Figure 3: Municipalities that altered data for selected questions