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# An Integrated Evaluation Appraisal of Disaster Response Support and Electronic Monitoring in Uganda: A Framework for COVID-19 Transitive Supplies in Urban Areas

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**ABSTRACT.** The aim of this study was to establish extents how integrated evaluation appraisal of disaster response of transitive relief supplies and electronic monitoring suggest solution to the COVID-19 indented food and logistics supplies challenges in urban areas in Uganda. The study worked on a sample of 693 of the targeted 1562 electronic media deployment teams, the distributors of food items and logistics, vulnerable groups, COVID-19 task force groups in urban areas. A positivistic approach and cross-sectional survey was conducted. Data analysis took correlational and descriptive statistics based on the purposive and simple random sampling techniques. Findings suggest that experiences on the nature of disasters, diseases (41.8%) frequently and adversely affect local people by 77.8 %, businesses by 13.0%, international community by 4.5% and districts by 3.4%. The methods of distribution of response support indicate that using local councils (45.2%), district task force (20.3%) and village task force (11.8%) were preferred on criteria of receiving supplies as a family (50.2%) and per head (22.0%) for those who don't live as a family. Shortfalls such as corruption (39.0%), inadequacies of food and logistics (23.2%), local politics (22.0%), poor road systems (9.6%), improper monitoring system (73.5%), poor media coverage (34.5%) caused by high cost (57.1%), unreliable network (34.5%), unacceptability of media staff by security (77.4%) were more prominent. Delivery and distribution of food and palliatives was low (37.3%), with 67.9% never received food supplies in time while 11.5% received after complaints. Those who did not receive at all made up 62.7%. For disaster experience, the source of relief and vulnerability positively influence appraisal, and significantly influenced delivery of relief supplies by 48.7%. Shortfalls of food response cause accumulative burden of 89.8%. Vulnerability of the people positively influenced appraisal by 21.8% and delivery of relief by 16.9%. The reasons and intensions of response negatively affected source of relief by 4.7%. Quality of relief had a positive correlation with reasons and intensions of response, source of relief and delivery of relief, level of vulnerability, monitoring and reporting. The suggested elements as determinant of the frame work include source of relief, methods of response, reasons and intensions of response, quality of relief, monitoring and reporting.

**KEYWORDS:** Disaster Response support, Appraisal, Electronic Monitoring, Transitive Supplies, COVID - 19

## I. INTRODUCTION.

Evaluation Appraisal (EA) is coined as assessment (estimation and judgement and) of Disaster Response Support (DRS) mechanisms deployed for the management of transitive relief in form of food supplies as well as other essential palliatives in terms of distribution, providence and quality analysis [11], while, Electronic monitoring is the tracking and surveillance of activities [7] intended for ascertaining occurrence, progress and continuity of ongoing activities (collection, transportation, / delivery, distribution and reporting) for transitive supplies in order to guarantee transparency and accountability in commitment of function(s) and or/ service using electronic gadgets /monitors (Televisions, Radio, social network platforms). These monitors are assumed key factors in tracking progress of transitive disaster response



support relief than technical and administrative tools of giving accountability and transparency. The assessment of performance during this disaster management therefore, can be generically used for predictability of similar incidences and outcomes forecasted to handle future similarities in a more informed way. Provision of food and logistical supplies to classified vulnerable people suggests that lockdown heavily affects many sector of the economy, limiting mobility, people depending on food rations and handouts, education on probation and others explain the predictions of inability to regain full potential status within one year and so. The donations at national and districts levels were delivered to people selectively and untimely, causing mistrust and dissatisfaction among beneficiaries due to absence of transparency, political and corruption behaviours of distributors and managers. The study therefore seeks to establish extents how electronic monitoring and evaluative appraisal of disaster response of the transitive relief and supplies in urban areas suggest a solution to the indented problem of the COVID-19 challenges in Uganda.

## II. BACKGROUND

Disaster is an unexpected natural or man-made catastrophe of an occurrence inflicting a substantial physical damage thus causing great loss of life and or / property to a whole or particular community, region or world They happen as natural disaster such as disease which appear as endemic (community or region) e.g. malaria, hepatitis, Ebola, cholera; epidemic (country wide) e.g. small pox, rubella, menses, haemophilus influenza; pandemic (global) e.g. AIDS, SARS [3], MERS, COVID-19, in the way they spreads. Other examples of disasters include floods and landslide, earthquake, famine and droughty, dangerous winds (helical, cyclonic, Katrina, Tsunami etc...). All these are characterized by long time distress that impacts negatively lives of people at large. These instances have a long time history of occurrence in human life globally and man has learned to live along with them by taking precautionary measures in case of occurrence , however has claimed a lot of lives of humanity. Man-made disasters may include war and genocide that have locked spheres of global politics and leaderships on the other hand [1]. In 1905, Dorothy Harmony investigated corona related diseases [5], [2] and discovered that a new species 229E infects humans and bats which was similar to that virus that attacked birds before. However, COVID-19 blesses its generic origin in a corona virus subsidiary group called MERS translated as *Middle East Respiratory Syndrome* [8] which occurred in China in 2003 [9], rapidly spread to twenty nine (29) countries all over the world and infected well over 8090 [17]. Later MERS re-occurred in species of NL63 and NH31 dangerously inhibited breath as it affected the bronchi of lungs by causing inflammations thus making breathing difficult, hence, this was more dangerous than the former. In 2012, after 50 years, another DNA strand 229E manifested symptoms in patients but those who had enhanced body immunity defeated it, it didn't have any cure but physicians used antibiotics to relieve the wreath [8]. Another MERS COV2 appeared, caused a lot of death, thus its origin was linked to bats and it spread through wet markets i.e. sale of meat, foods, fish and similar flesh, but later COV43 was spread through cows. However, MERS COV was spread through camels. However, severe Acute Respiratory Syndrome (SARS) COV2 [14], [8] was seen to spread through cattle vendors implying that there are many virus species, but SARS and COV2 combined to form the present COVID-19 which has locked the globe causing the highest number of the infected and death world over [3]. In Uganda some of these disasters have a historical distribution that occur naturally affecting glossily known regions and districts as earth quakes occurring more in western and north western colloidal, floods and landslide western and eastern sides of the country while floods are known to take place more in lake Victoria basin. Famine, drought, winds, disease and locust invasion can spreads all over the county if not controlled and or/ stopped. Therefore a survey on integrated evaluation appraisal of disaster response support and electronic monitoring in Uganda: a framework for covid-19 transitive supplies in urban areas is intended to examine how disaster response support and electronic monitoring can add value to disaster management and significantly bridge the gaps of relief dispensation to the vulnerable groups of Ugandan that are heavily affected by disasters during the time of occurrence.

## III. STATEMENT OF THE PROBLEM

The drastic incidence of COVID-19, a disease caused by a virus (MERS COV2) [5] in Uganda surprised citizens and as such evoked a standoff of many activities, heating hard the social and economic status of most classes of people. This caused the government of Uganda to take radical decisions among others closure of International entry points, academic institutions, churches, business, transport means and others in order to save the lives of Ugandans. This led to a total lockdown in the country and in the region at large. The government started supplying food to classified vulnerable people and at the same time calling upon organization, institutions and individuals able to donate willingly. The



lockdown therefore heavily affected a number of sector of the economy and majorly transport become a problem, people depended on rations and food handouts, business suffered in many areas of the country, education was put on probation and so many others. All this explains the predictions of inability of the people to regain status of full potential within a period of time less than one year. The donations from gallant people and government destined for national disaster response centers at national and districts levels in form of money, food, utilities and logistic supplies were supplied to people selectively and untimely caused a lot of lack of trust and dissatisfaction among beneficiaries due to lack of transparency and corruption behaviours of distributors and managers which locked the process was heavily reported by media (electronic, print and social media). This study therefore seeks to establish extents how electronic monitoring and evaluative appraisal of disaster response of the transitive relief and supplies in urban areas suggest a solution to the indented problem of the COVID-19 challenges in Uganda

#### IV. OBJECTIVES

##### *Main objective*

The main objective was to establish extents how integrated evaluation appraisal of disaster response of the transitive relief supplies and electronic monitoring in urban areas suggest a solution to the indented problem of the COVID-19 challenges in Uganda.

##### *Specific objective*

- i) To investigate the evaluation appraisal of disaster response approaches of food and logistics dispensation and monitoring to the affected people in urban areas in Uganda.
- ii) To establish extent of the short falls of the present evaluation appraisal of disaster response approaches of food and logistics dispensation and electronic monitoring in urban areas in Uganda.
- iii) To design an appropriate disaster response framework that suits nature of disaster in terms of food and logistics dispensation in urban areas in Uganda.

#### V. METHODOLOGY

The study took a positivistic approach which share a mixed methods mechanism. Cross sectional survey was conducted using interview and observation especially. Questionnaires were administered to the food and logistics distributors, beneficiaries, district task force members, vulnerable elite groups and managers of COVID-19 in the mentioned districts because, on retrieval, they were easy to sanitize. Data analysis took a correlational and descriptive statistics on the response of the informants based on the purposive approaches, simple random sampling (SRS) techniques.

#### VI. FINDINGS

##### Key of mean measurements

| Mean Range  | Interpretation             | Description       |
|-------------|----------------------------|-------------------|
| 5.00 – 4.21 | Strongly Agree             | Very Satisfactory |
| 4.20 – 3.41 | Agree                      | Satisfactory      |
| 3.40 – 2.61 | Un decided (both are true) | Fair              |
| 2.60 – 1.81 | Disagree                   | Un Satisfactory   |
| 1.80 – 1.00 | Strongly Disagree          | Very Satisfactory |

Note. Cumulative percent has been adopted to refer to cumulative total percent of either Strongly Agree and Agree or Disagree and Strongly Disagree

##### *A. Nature of Disaster*

The experience of the nature of disasters' occurrence in Uganda reveals that diseases (41.8% mean = 2.25, median = 2.00, mode = 2.00) have frequently and adversely been affecting local people (77.8%, mean = 1.43) and needed internal or external response and support. These diseases include AIDS, Ebola, Marburg, Cholera and so on [1] and floods and landslides have rampantly occurred (26.7%, mean = 1.43 median = 1.00 and mode = 1.00), while famine and drought (23.2%, earthquake 5.1% winds and storms, war and genocide scoring 1.7% respectively. Disasters have a historical distribution that occur naturally affecting glossily known regions and districts as earth quakes occurring more in western and north western colloidal, floods and landslide western and eastern sides of the country while floods are known to take



place more in lake Victoria basin. Famine, drought, winds, disease and locust invasion can spread all over the country if not controlled and or/ stopped [6]. Businesses were also highly affected (freq. = 23 making 13.0%) and the international community by 4.5% too while districts by 3.4%.

#### *B, Food Items and Logistics Distribution*

In response to the disaster, the type of support given to those who were affected was more of food and logistics (freq. = 83 constituting 46.9%, mean = 2.25, mode = 1.00) although medical constituted 31.1%, mode = 2.00) it appeared more frequent than any other support. Rehabilitation and relocation of those affected was at 8.5% whereas as those that were abandoned were 7.9%. Being abandoned could probably have involved those who might have refused to leave their premises and property at large in fear of eventualities such as grabbing and desertion. However, finances (5.6%) on top of others support were given out to supplement the effort to handle other costs. It is also revealed that government was key in responding to the disaster (52.5%), however the gallant men and women in form of individual contributions made 21.5%, whereas churches and other un described contributors to disasters rated 10.2% respectively whereas companies made 5.6%. This suggests that disasters cannot be stopped, but response support can be received from any source for a national or international cause. So the population cannot be desperate, but the issue is the intension and spirit in which the support was given to determine the purpose. Whereas relief and donations were given in the spirit of social responsibility 49.7% and nationalism (18.1%), they were given in the idea of publicity of own self 19.5%, getting favour from government (6.8%) while the religious point of view was 5.6%. The donations which are given in this kind of attitude is virtually short term, when the intention (rewards and benefits) for which it is authored in not achieved, the donor becomes demoralized, disappointed and soon the spirit of giving support is eluded because is not given in good faith.

#### *C, Source of Supplies for Collection Centers*

In agreement that relief can be generated from any interest and concerned persons throughout the country, it is revealed that regional stores would be more trusted for food and relief storage by the beneficiaries (44.1%) as government 25.4% and firms 14.1% are preferred to supplies from mere vendors (9.0%) and general warehouses (7.3%). Regional stores of food and supplies improves the quality because it is easy to verify (estimate and judge) supplies before are allowed for collection and delivery. This could be rationalized by the local leadership because very few would allow unverified stuff for consumption by their people as the local politics would check and champion the measures. However, the results reveal that 48.0% of the beneficiaries were not sure whether disaster response supplies were verified by quality standards agencies present in the country while a cumulative percent of 33.9% disagreed with the verification as opposed to 18.1% of those who agreed that the supplies were verified for quality by the respective agencies. Nevertheless, 62.7% suggested that the quality of supplies / relief given out moderately worth for consumption and or / use by the population and in the essence a cumulative number representing 18.7% appreciated its worthiness, 18.6% showed that it was not worth for consumption.

#### *D, Methods of dispensation and distribution*

Response and support to disaster vulnerability were intended to relieve suffering incurred by the groups and communities that become victims of the unexpected occurrence of instances. The approaches and or/ methods used to distribute relief to the affected people were using local councils (Mayumba kumi – ten house leadership) rated 45.2% as the most popular method of responding to the problem backed by the district task force (20.3%). Using army and police (19.8%) was also adopted before the ministry of health (5.1%) would come in. This could probably apply when the disaster was not purely medical, nevertheless disasters have a generic duo perspective of which one implies an eruption of disease which demands for the medical intervention. The involvement of army and police could be ideological in a thinking that adds a backup in terms of speed at which the service could be rendered and security which is a fundamental part of the process. Other methods that were used and or/ adopted included offering financial aid which today can be translated as digital financial remittance (35.3%) and distributing relief by religious institutions (29.4%) enhanced by village task force to back up the administration (11.8%) and voluntary groups (3.4%). Apparently, the new approach which mandated the area members of parliament (0.6%) to push financial aid and other support that lie in their jurisdictions and mandate as geared towards the political orientation that furnishes the process of food and logistics dispensation that adds support to the vulnerable groups and communities is a good approach. These approaches and or/ design of food and logistics



dispensation were locked by certain criteria which surely guided the distribution process. The criteria were principles which were benchmarked to receive support by the affected groups and or/ communities in the country, these included receiving relief as a family (50.2%) was more popular whereas receiving as per head quantitatively adds to the former although it helps those people who don't live as a family (22.0%), leave out and or / denies many because of their mobility. Receiving support as a district (14.7%), local council (11.3) and region (1.1%) were relatively less popular, their major disadvantage is that they leave the recipients of support very far and makes transparency and accountability to the beneficiary difficulty. Therefore a beneficiary relief based criteria to improve and mediate delivery and reception is "by head" as it motivates the vulnerable groups, surges the receiver with trust to even to receive more thus reduces inevitable doubling and or/ tripling behaviour that can promote corruption in the distribution process of the relief support.

#### *E, Short falls*

The loopholes in the relief dispensation to the vulnerable group and communities in Uganda were suggested as corruption (39.0%) raking higher in the process viewed on both sides of the disaster managers and administrators in terms of lacking transparency and good accountability (74.1%), inadequacies in food and logistics (23.2%) supplies that affected accessibility of DRS from stores manned by the task forces and government, local politics (22.0%) at both national and district levels in as who should give, deliver and distribute relief support and who shouldn't, poor road systems (9.6%) that caused delay in response to give support locked with poor command by the managers and administrators (6.2%) lastly lack of proper monitoring system (73.5%) where monitoring by government ranked at 35.6% as the highest, by local authorities at 29.4%, funders 8.5% and failure of the relief to reach the categories of people it was intended with a cumulative percent of 73.3%. other challenges during the exercise include lack of dedication of the media during coverage of the exercise (34.5%) even when they were given chance for priority coverage of collection, delivery and distribution, the cost of coverage in the country is not cost effective (relatively high) for the media and those with smartphones (cumulative percent 57.1%, mean = 2.56), lack of good transmission of network signals and reliability which is significantly low (34.5%, mean = 3.01) in some areas of the country where relief distribution takes place, and whereas the security and acceptability of the media staff is also a very big question during the processes (cumulative percent 77.4%)

#### *F, Collection, Transportation and Delivery (assessment)*

Other than the main responsibility of government to respond to disasters and invasion to the country, it is revealed that further relief support can come from any concerned and interested people (cumulative percent of 76.8%) with the intension of cooperate/social responsibility (46.9%). Although 11.3% were not sure on this noble source, 11.9% cumulatively disagreed with it implying that it is a sole responsibility of government, an idea which may generally represent a political projection and or/ a non-responsive attitude. However, 32.8% conceive the idea to be purely political, agape (11.9%) while others perceived it as a directive (4.5%) and international (4.0%) law to respond to disaster by donating to the vulnerable and affected communities and or/ countries. The major transportation means of witnessed in such cases were trucks and lorries (60.5%) suggesting the extents of donations /response support/relief received from the concerned and interested persons, however, does not determine the spirit in which the donation was give but could have a correlation with what majority of those donating agree to and believe in. This could be viewed in the way that government was the main transporter (32.8%) of relief to government / regional/ district stores within certain areas where deliveries by the task force groups to the beneficiaries is made from whereas in others individual donors did the work. Pickups (23.7%) and Boda Boda-bicycles and by head (14.7%) confirm the intricacy as poor road systems during the transportation, delivery and or/ distribution of food and logistics in disaster areas in the country, is probably the reason for adoption of helicopters (0.6%). This could represent still other weaknesses like dishonesty, mis-routing of food items, selfishness, theft, corruption, exchange of quality for less quality foods and logistics including service and many others during the process of distribution because it is easy to confuse basic monitoring. It is further revealed that disaster response support/ relief items were mainly transported to the collecting centers by individuals (28.2%) and local councils (22.0%). Companies rated 15.8% while international agencies 1.1%. This suggest that much of the relief for the disaster response was generated form within the country by the local gallants based on local content [1]. This therefore provides a preview to support the concept that relief may come from any concerned and interested



persons. Political, tribal, cultural (ethnic), religious ideologies may not apply in this situations, but calls for nationalism, social /corporate responsivity, agape and all other customs that support humanity in fighting disasters and calamities together as one.

#### VIII. INFORMATION ON ELECTRONIC MONITORING AND EVALUATION APPRAISAL OF DISASTER RESPONSE SUPPORT (DRS) OF TRANSITIVE SUPPLIES OF COVID-19

##### *A, Evaluation before delivery and distribution of relief supplies*

The evaluation of DRS is based on the assessment of the transitive supplies made to respond to the effects of COVID -19 on vulnerable groups of people in urban settings. The estimation and judgement of the quality concerns and worthiness trust involved in food and logistics including other palliatives is the benchmark for which the appraisal (reporting) is coined for monitoring. Electronic monitoring and evaluation of disaster response support of transitive supplies **before**, reporting suggest that 37.3% those who received food and related palliatives were unsatisfactorily low (mean = 1.63 mode = 2.00) as majority of the beneficiaries rated at 62.7% never received at all. It is argued that the relief although received was not distributed in time (cumulative percent = 67.9%) for even those who received (cumulative percent of 11.3%) was after complaints on media. The distribution was majored by district officials (50.3%, mean = 3.01 and mode = 4.00) under the guidance of local council one (32.2%) and religious leaders than LC IIs (1.1%) as focal point leadership, the monitoring and reporting (appraisal) therefore was majorly the work of representatives of the Ministry of disaster preparedness (63.3%, mean = 3.34, mode 4.00) although electronic monitoring tools were significantly visible (smartphone = 13.0%, Radio = 11.3% and TV = 10.%). Although the ministry was charged with the task of monitoring, it could not be exonerated from its administration reporting roles where accountability and transparency issues could not be supervised by overseers. Media has mandate to make coverage of relief dispensation processes, the onus is on the interest and advice of the task forces' officials as is visualized in the circles of social administration and management of COVID-19 devoid the instruments of managing the spread of the infection deny obvious disparities. However, e-monitoring is a trusted component of appraisal by the beneficiaries and donors if corruption vices were much reduced at all levels monitoring and administration, thus majority of the recipients were very dissatisfied (cumulative percent = 74.6% mean = 3.92, mode = 4.00) with way how food, logistics and other palliative were distributed in urban areas, although 13.0% were moderate, 12.5% were happy with the process. The dissatisfaction was based on the fact that food was given to selected groups of people (79.8%) and the task force rarely explained the reasons instead based on fulfilling conditions given by distributors but not task force (44.1%), however, 27.1% revealed that there were no conditions to satisfy and 12.9% assumed that all received support. This left a dilemma of establishing the cause of this gap. This could be the reason why it suggested that LC5 chairperson as a representative of the local people should be a very significant point onto which distribution and supervision (cumulative percent 63.3%, mean = 2.54, mode = 2.00) of relief in the district should rotate around. But this insights an involvement of politics which suggests a disjunction between government representation (RDCs) and electorate which produces representation of LC5 of the district may be inevitable. However, it is revealed that the Resident District Commissioner (RDC) is should take the administrative position (cumulative percent = 62.7% mean = 2.67) in distribution and supervision of food and logistics position in a districts but 29.4% cumulatively disagree with this idea. This reveals that the situation that the two offices must always have contradictions because both deal with social issues that affect people they represent. Thus it is suggested that the office (LC5) that is created by the people themselves can serve the more than any other because its checks and balances (accountability and transparency) are vested in the hands of the propounder. So as government should determine the type of relief and donations for disaster response (cumulative percent 37.9%), 50.9% disagree with this scenario because communities fairly have trust in this office (mean = 3.23).

##### *B, Monitoring*

The Ministry of disaster preparedness has always performing monitoring and administration reporting roles of relief to furnish transparency and accountability, it revealed that, **the best choices to distribute food and logistics with impartiality to the beneficiaries are** religious leadership (42.4%) and local council (LC I) (37.3%) as compared to using army and police or district officials (9.6% respectively). It is clear that these choices know the people best and closer to the beneficiaries of relief. This guides the design of the framework an integrated DRS for relief dispensation (Fig.1) in victim communities and regions which share a similarity of a local situation [1] of Uganda. Therefore,



effective monitoring and tracking of the collection, transportation, distribution and delivery and reporting of food and supplies can done by independent voluntary groups (34.5%) not the ministry officials. These groups include e-media (cumulative percent = 22.0%, mean = 3.43, mode = 4.00) and Donors based monitors (19.8%), although giving a good accountability of the success of the exercise to the donors / funders of disaster support can be enhanced further by e-media 49.4%, mean = 3.16 and mode = 4.00 (TV= 23.2%, Radio = 9.3% and WhatsApp-Facebook = 16.9%), government involvement (28.8%) is vital and can enforced through e-government platforms. The purpose of monitoring therefore is to make sure that the objective for which it is initiated achieves the targeted goal for which end user and or/ beneficiary acts as the endpoint in the chain, e.g. such as policy, rules, regulations, guideline and similar structures like missions and philosophies. Therefore, to give good accountability of the success of the food distribution and delivery even to the recipients of disaster support suggests that e-media (50.8%, mean = 3.07 and mode = 4.00) is crucial and e-government systems (49.1%) i.e. (local government 35.0% and e-health 14.1%).

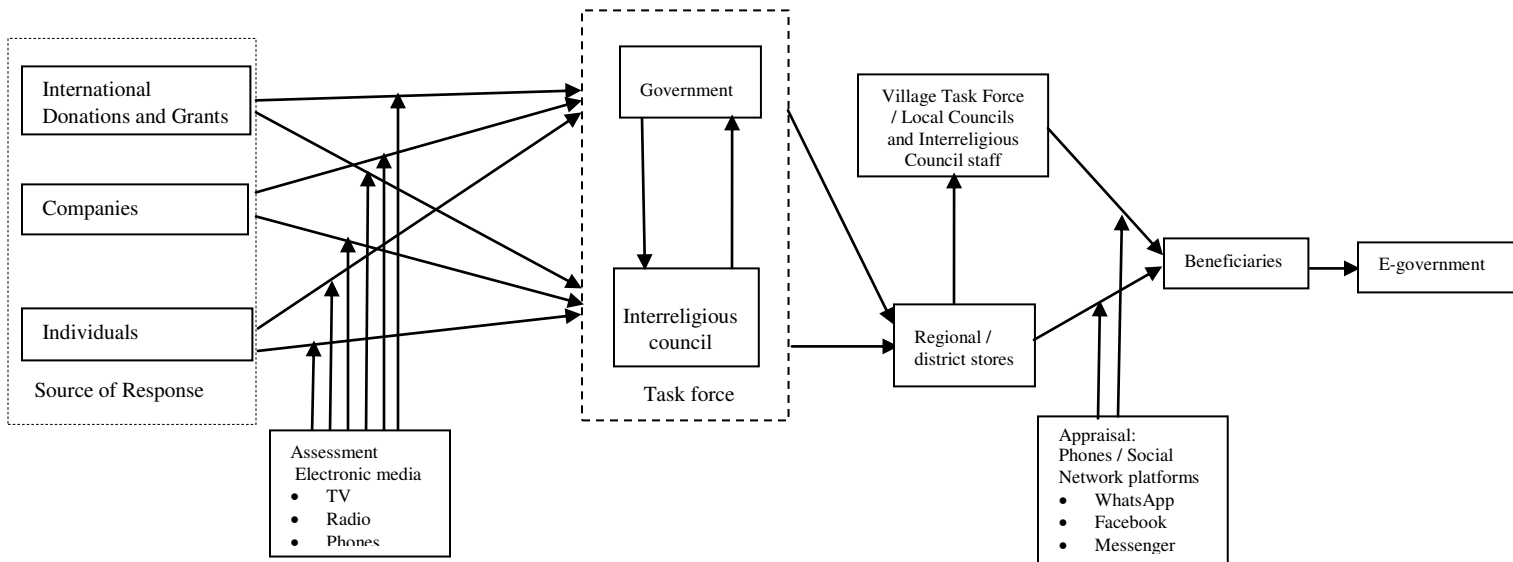
*i) Appraisals after delivery and distribution of relief supplies*

Appraisal was coined as monitoring and reporting after delivery and distribution of relief supplies to beneficiaries during the process of disaster response due to COVID-19 emergence. In this regard, requests and or/ directives for coverage to the respective monitor and reporting agencies are issued as required. In line with this therefore, it is revealed that media houses unsatisfactory receive enough information from task forces (cumulative percent 33.3%, mean = 2.90) on schedules of food and logistics distribution in time (timely), this information is moderately (28.8%) issued, task forces are the sole provider of the planned schedules (cumulative percent 52.6%). This implies that therefore some intervention on information flow should come from some other valid source elsewhere (cumulative percent 33.9%) in order to beef up the process on monitoring and reporting (validity). As the media houses are doing monitoring and coverage of all the food and logistics dispensation (comprehensibility) 60.0%, results further indicate that 34.5% are moderately dedicated. Similar trends were observed even when they were given chance for priority coverage of collection, delivery and distribution of food and logistics every time dispensation would take place. However 23.7% represents that media is not dedicated and are not given priority when covering the relief dispensation processes (mean = 2.72 and mode = 2.72). The assumption to this effect is based on the fact that the cost of coverage in the country is not cost effective (relatively high) for the media and those with smartphones (cumulative percent 57.1%, mean = 2.56) High cost of coverage has links with reliability of the transmission of network signals which is moderate (34.5%) and significantly low (34.5%, mean = 3.01) in some areas of the country where relief distribution takes place. The security and acceptability of the media staff is also a very big question during the processes (cumulative percent 77.4%). In the event that all this happens, still, some beneficiaries would send messages to task force in appreciation of receipt of relief (46.9%, mean = 2.93) by posing coverage of activities of food and logistics dispensation on WhatsApp and Facebook (agreement = 61.9% and moderate = 18.2%, mean = 2.44). Therefore such acts of e-reporting furnish heavily electronic monitoring and makes it a standard proliferation for adoption of the framework.

## IX. THE FRAMEWORK

The frame work depicts government (districts) as a major distribution agency under the guidance of local council one (LC I) and religious institution as focal point leadership is the best option for managing disaster support in the country to furnish beneficiaries with support in order to relieve them from the catastrophe. The monitoring and reporting (appraisal) is done by the ministry of disaster preparedness and e-monitoring (smartphone, radio, and TV) significantly supplies the portals of e-government platform through virtual ministries.





**Fig. 1** Integrated Evaluation Appraisal of Disaster Response Support and Electronic Monitoring in Uganda: A Framework for COVID-19 Transitive Supplies in Urban Areas

The arrangement or basic conceptual structure as explicit / implicit processes of DRSEM is based on the strength and closeness of relationships or cohering processes for the dispensation of relief, and the steps below depict the order of priority and flow to follow:

- i) Disaster experience initiates the response by gallants and interested donors basing on the type of disaster in occurrence to evoke relief delivery.
- ii) Deliver relief directly to the affected people using impartial groups of dispensers from trusted sources using the recommended methods of distribution based on appropriate criteria.
- iii) Quality supplies related to the reasons and intensions of donating representing good will should be adopted to reduce serious shortfalls as visualized by assessment, monitoring and reporting (AMR).
- vi) Make appraising of AMR using e-monitoring and reporting tools to the donors to ensure transparency and accountability for better service delivery.

*A) Correlations Analysis of pillar dependents of DRSEM*

To establish the magnitude and / or extent of such relationship among the variables / constructs, Pearson’s cross product bivariate deviation and covariance’s option was used and the representative results were generated showing how significant the correlation existed [10]



Table. 1 Shows Pearson’s Cross-product deviation and covariance matrix of Variables

| Abbr. | Variable                               | DE      | PARR   | SR      | RIR    | MoR    | SFR     | DR      | QoR     | MR     | APP  |
|-------|--|---------|--------|---------|--------|--------|---------|---------|---------|--------|------|
| DE    | Disaster Experience                    | 1.00    |        |         |        |        |         |         |         |        |      |
| PARR  | People Affected and Response Received  | -0.394* | 1.00   |         |        |        |         |         |         |        |      |
| SR    | Source of Response                     | 0.264   | -0.256 | 1.00    |        |        |         |         |         |        |      |
| RIR   | Reasons and Intension for Response     | 0.194   | 0.013  | -0.047  | 1.00   |        |         |         |         |        |      |
| MoR   | Methods of Response                    | -0.200  | -0.076 | 0.168   | 0.245  | 1.00   |         |         |         |        |      |
| SFR   | Shortfalls of Response                 | 0.062   | 0.096  | -0.293* | 0.041  | 0.034  | 1.00    |         |         |        |      |
| DR    | Delivery of Response                   | 0.015   | 0.119  | 0.070   | 0.166  | 0.167  | 0.135   | 1.00    |         |        |      |
| QoR   | Quality of Relief                      | -0.039  | -0.018 | -0.007  | 0.015  | -0.156 | -0.185  | -0.012  | 1.00    |        |      |
| AMR   | Assessment of Monitoring and Reporting | 0.058   | 0.060  | 0.261   | -0.009 | -0.064 | -0.215  | 0.487** | -0.312* | 1.00   |      |
| APP   | Appraisal                              | 0.048   | 0.218  | -0.281  | -0.056 | -0.023 | 0.898** | 0.169   | -0.113  | -0.151 | 1.00 |

Key \*. Correlation is significant at the 0.05 level, \*\*. Correlation is significant at the 0.01 level.

The significant index of relationship existing between the disaster experience (DE) is negative confirming that the people are adversely (-0.394) affected negatively by these disasters (PARR) well above 39.4% and definitely need positive response, where the by source of the response (SR) doesn’t matter. It is further revealed that, the reasons and intensions for the response are positive and relatively affects the source of response negatively (-0.047) by just 4.7% which is a small extent, so this can’t jeopardize the support to the disaster. Methods of response (MoR) should relatively vary with the ways how disaster is experienced (DE) (index -0.200) and the people affected including the response to be received PARR index is -0.076) inspite of the sources and intentions for donating. The shortfalls are positively experienced as challenges during the process relief dispensation, but the source of relief is not a significantly problem (SFR index = -0.293\*) implying that whenever a disaster occurs, there is always a relative alternative solution whether long term or short term referred to as delivery of response (DR). The quality of relief is not determined by Disaster Experience (DE), People Affected and Response Received (PARR), Source of Response (SR), Methods of Response (MoR), Shortfalls of Response (SFR) and Delivery of Response (DR), rather has a positive correlation with Reasons and Intensions for Response (RIR). The assessment of tracking, surveillance (monitoring) and reporting of relief supplies concentrates positively on disasters experienced (DE), people affected and receiving response (PARR), source of response (SR) and very significantly on delivery of relief (DR) to about 48.7% and significantly not on Quality of relief (QoR) to about 31.2%, shortfalls of response (SFR) to about 21.5%), methods of response (MoR) to about 6.4% and intensions of response absolutely very low to about 0.9%, however, appraisal (estimation and judgement) concentrated quantitatively on the variables and very significantly isolated shortfalls of response (SFR) to about 89.8%, and positively the People Affected and Response Received (PARR) to about 21.8%, delivery of relief to about 16.9% and disaster experience to about 4.8%.



*B, Regression of the DE, PARR, SR, RIR, MoR, SFR, DR, QoR, AMR and APP.*

The coefficients of regression were generated and arranged using simulated activity on arrow (A-O-A) chart form of response, which subscribe to the relief dispensation processes, establish the strength of relationships between them, direction and distance from the line of fitness [10] within its main pillar dependents sequentially relating them in the whole exercise. Facilitation of the measurement of correlation during the generation of the framework, Unstandardized, Standardized coefficients, the standard error (SE) and R Square values were determined (Fig. 2)

- i) Unstandardized values are coefficients obtainable when a regression is performed on an actual variables called unstandardized variable. Thus the coefficient is labelled B defines the degree of correlation and /or interpret the direction of correlation between variables as positive or negative
- ii) Standardized coefficient is an estimated value obtainable after analysis of the predictor (IV) variable which has been standardized (its variance is 1.0), thus the coefficient is labelled Beta ( $\beta$ ). This coefficient measures and / or estimates the strength of each predictor (IV) variable influence on a dependent variable.
- iii) Standard Error (SE) measures the distance existing between the regression line and the points that make it described as strong / perfect or weak relationship.
- iv) R depicts the measure of correlation between observed value and the predicted (dependent) variable. This suggests the magnitude of variation of the dependent variable which represents that of the independent variable. But the amount of variation in the dependent variable that is represented by the independent variables is measured by the value referred to as the coefficient of determination called  $R^2$  Adjusted thus gives the most useful measure of the success of the model / framework.
- v) The significant value (sig value or Pvalue) suggests the impact of the independent variable onto the dependent one which case that when the Pvalue is less or equal to 0.05 the relationship between the independent and the dependent variable then is significant whereas above (Pvalue > 0.05) this the relationship is not significant. All the above are common representation of regression analysis and were key in model determination [10], [12], [4], [16], [15], [13].

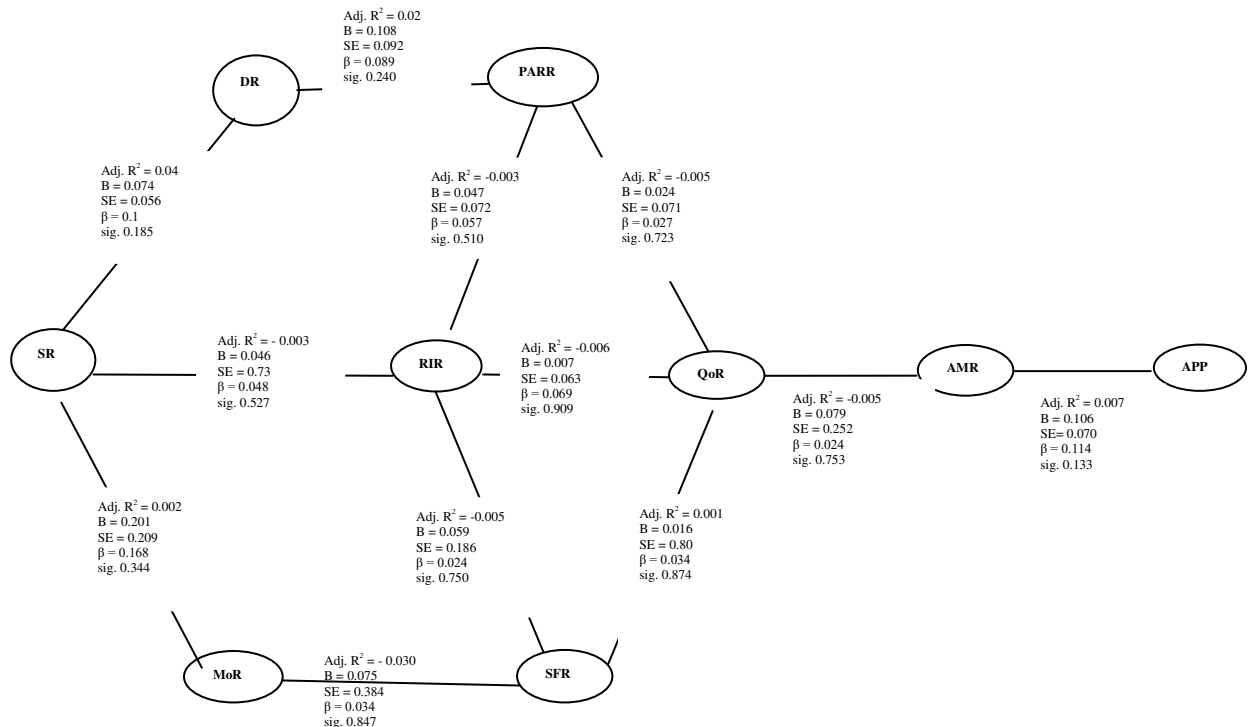


Fig. 2 Regression coefficients of simulated A-O-A chart form of response of pillar dependents of relief distribution and supplies in urban areas.

Table.2 definition of relationships and regression coefficients of the simulated A-O-A chart form of response of pillar dependents of relief distribution and supplies in urban areas

| Variables    | Relationship             | Direction (B) | Strength (β) | Distance from the line of fitness (SE) | Interpretation of SE |
|--------------|--------------------------|---------------|--------------|--|----------------------|
| SR and DR    | Positive and strong      | 0.074         | 0.1          | 0.056                                  | Very close           |
| SR and RIR   | Positive and less strong | 0.046         | 0.048        | 0.73                                   | Very far             |
| SR and MoR   | Positive and strong      | 0.201         | 0.168        | 0.209                                  | Close                |
| DR and PARR  | Positive and less strong | 0.108         | 0.089        | 0.092                                  | Very close           |
| RIR and PARR | Positive and less strong | 0.047         | 0.057        | 0.072                                  | Very close           |
| MoR and SFR  | Positive and less strong | 0.075         | 0.034        | 0.384                                  | Far                  |
| RIR and SFR  | Positive and less strong | 0.059         | 0.024        | 0.186                                  | Close                |
| SFR and QoR  | Positive and less strong | 0.016         | 0.034        | 0.80                                   | Very far             |
| PARR and QoR | Positive and less strong | 0.024         | 0.027        | 0.071                                  | Very close           |
| QoR and AMR  | Positive and less strong | 0.079         | 0.024        | 0.252                                  | Close                |
| AMR and APP  | Positive and strong      | 0.106         | 0.114        | 0.070                                  | Very close           |

Pillar dependents of relief distribution and supply that have **very close** relationships are source of relief (SR) and delivery of relief (DR). This implies that every relief that is accumulated at any point must be transported to the collection centers either regional or government stores, disaster response (DR) and people affected that must receive response (PARR), reasons and intensions of response by those who give relief (RIR) and people affected and response received, response received and quality of relief (QoR), assessment, monitoring and reporting (AMR) with appraisal (APP) which was applied as reporting in general. Those which have close relationship are SR and MoR, RIR and SFR, QoR and AMR while those with far/ separated/ divergent include methods of response (MoR) and Shortfalls of relief (SFR) and very far / divergent include SR and RIR, SFR and quality of relief (QoR).

## X. RECOMMENDATIONS

Donors should attach the religious and moral domains on relief and disaster support because it is the way it can be received in good faith (it is the one which is permanent) to all other than attaching conditions of reward and benefits from the beneficiaries. This positively affects the response support dispensation by all those in the process of distribution in order to reach all those it is intended to reach.

Regional office trusted more by the vulnerable groups should be established than centralized ones, supervised by standards agencies to guarantee quality relief supplies for purposes of cost effectiveness and compliancy in order to reduce doubt and mistrust among the food beneficiaries.

The office of LC5 should be much involved in the relief dispensation (distribution and supervision) to the beneficiaries in the district because its checks and balances (accountability and transparency) are vested in the hands of the propounder i.e. who create them.

Religious leadership and local council (LC I) should be the major distributors of food and logistics with impartiality to the beneficiaries are because are the best choices who clearly know the people and are closer to the beneficiaries of relief.



## XI. CONCLUSIONS

- Beneficiary relief distribution based criteria improves and mediate delivery and reception of relief supplies is “by head” motivates the vulnerable groups, surges the receiver with trust to even expect more, reduces inevitable doubling and or/ tripling behaviour that promote corruption in the distribution process of the relief support in urban areas in Uganda.
- The best choices to distribute food and logistics with impartiality to the beneficiaries are religious leadership and local council (LC I) as compared to using army and police or district officials because they clearly know the people and are closer to the beneficiaries of relief.
- Although giving response support by donors and gallants are projected by intensions and ideas of publicity, getting favour from government, politics and others, relatively affects the source negatively by just 4.7% which is a small extent, to jeopardize the support to the disaster affecting well above 39.4% of the victims.
- Methods of response should relatively vary with the ways how disaster is experienced and the people affected including the response to be received inspite of the sources and intentions for donations
- The quality of relief is not determined by Disaster Experience (DE), People Affected and Response Received (PARR), Source of Response (SR), Methods of Response (MoR), Shortfalls of Response (SFR) and or/ Delivery of Response (DR), rather has a positive correlation with Reasons and Intensions for Response (RIR).
- Source of relief (SR) and delivery of relief (DR), disaster response (DR) and people affected to receive response (PARR), reasons and intensions of response by those who give relief (RIR) and people affected and response received (PARR), PARR and quality of relief (QoR), assessment, monitoring and reporting (AMR) with appraisal (APP) have **very close** relationships. SR and MoR, RIR and SFR, QoR and AMR have **close relationship** while methods of response (MoR) and Shortfalls of relief (SFR) have **far/ separated/ divergent** ones whereas SR and RIR, SFR and quality of relief (QoR) have **very far / divergent**.

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