**TERMS OF REFERENCE**

 **Purpose of the Assignment: To provide technical support to CENOE / INGC in improving Emergency related Information Management Systems**

**Section Submitting: Programme Coordination**

1. **Purpose and Objective:**

In 2019, Mozambique was struck by two Level 4 cyclones in less than 8 weeks. The first cyclone, Idai made landfall on the 14th March and hit the central part of the country hitting Beira city the hardest. Not long after, the cluster response was activated and multiple humanitarian actors came to support the Government of Mozambique in its response. Data was needed and multiple datasets and information started being made available but with the lack of a publishing mechanism the main sources of regular update were the INGC (Mozambique’s National Disaster Management Institute) daily snapshot as well as datasets uploaded to the Humanitarian Data Exchange (HDX platform). As part of its support to INGC, UNICEF developed an information system specifically designed to create data visualizations to assist in real time decision making, available at <https://ingc-mozambique.onalabs.org>.

On the 25th April history repeated itself and Cyclone Kenneth struck on the northern part of Mozambique. With the experience from Cyclone Idai, the platform was able to accommodate real time cyclone path information, allowing partners to visualize most affected areas and estimate impact. Less than 72 hours after initial landfall the Government of Mozambique was already releasing preliminary impact data on the site and initial resettlement camps were mapped and with information about number of displaced people. However, before the data visualization, there is a need to improve and strengthen the CENOE capacity for data collection and analysis of disaster impact. CENOE data is the main source of information to describe the humanitarian situation and for the response planning, therefore it should be robust and accurate enough for appropriate decision making.

While the improvement is remarkable, additional work is required to ensure both the Government of Mozambique and the humanitarian actors are effectively supported to provide a more efficient response. The present consultancy will focus on gathering core operational datasets, revising assessment tools and data workflows, and supporting enhancements to the use of drone technology data.

1. **Methodology and Technical Approach:**

The objective of the assignment is to provide support to CENOE / INGC in improving the organization’s information management systems, so that by the end of the consultancy CENOE / INGC has at its disposal a set of tools for data collection, analysis, dissemination and visualization as hosted on the <https://ingc-mozambique.onalabs.org> website.

There are four pillars that should guide the consultancy regarding its approach:

 - **Collaborative:** the consultant is expected to work closely with the CENOE (including key government sectors) / INGC staff as well as key UN agencies, under the guidance of its National Deputy Director;

 **- Coaching / Capacity building:** support and coach staff members at CENOE / INGC that would be ideally placed to manage the data collection process, IM platform and package or analyse the available data;

 - **Iterative:** the consultant must be able to re-adjust and adapt to the needs of CENOE / INGC and to react to unforeseen situations. This implies that the consultant must be able to critically analyse progress and provide any additional recommendations or propose changes to original plans in order to better achieve results

 **- Coordination:** the consultant must be aware of other similar ongoing initiatives/support to CENOE on Information Management system and alert CENOE and UNICEF in order to ensure complementarity and synergies;

Specifically, the consultant must:

1. Work together with the CENOE / INGC team to collect recommended georeferenced datasets for emergency response and define a governance structure for such datasets;
2. Under the leadership of CENOE / INGC work with partners to revise, test and roll out specific data collection and analysis tools, namely the Rapid Assessment tools for 72h, 14 days and 30 days;
3. Under the leadership of CENOE/INGC work in close collaboration with DNGRH and INAM to map and visualize at ONA platform the impact of early warning information regarding the approach of an event that may cause significant humanitarian impact;
4. Identify improvements to be made to <https://ingc-mozambique.onalabs.org> and communicate those to UNICEF and ONA.io for adoption as possible. This may include revising INGC databases so that they reflect specific data for specific events;
5. Assist UNICEF to identify necessary resources for additional Technical Assistance on UAV’s and Drone Imagery workflows;
6. Document the entire production process, highlighting opportunities for further improvement, bottlenecks experienced and results in capacity building. The documentation should also outline future development plans to further strengthen CENOE’s information and data management;
7. **Activities and Tasks:**

The technical assistance will focus on four key areas / products as partially reflected in the previous point.

The first key area focuses on collection of relevant core datasets that should be made available before the start of the rainy season. These core datasets have already been identified by OCHA and should be provided by line ministries to INGC through the ministries focal points for emergency. The complete list of core datasets can be found at the end of this document as Annex 1 – Core Operational Datasets for Natural Disasters. Over a two day workshop led by CENOE, focal points will gather to conduct a stock taking exercise on relevant COD / Datasets. The workshop will assess the sources of data, potential for automation in updates or definition of an update calendar. In the workshop, focus will be given to identifying all primary datasets required to inform decision making. Activities under this area should include:

* Liaise with CENOE team to identify Ministries focal points for data;
* Schedule and organize two day workshop;
* Gather and upload data collected to CENOE information website;
* Document workshop and produce data governance protocol;

The second key area for the consultancy work focuses on assessments which are vital for an efficient response. As highlighted in the issues, the assessment tools and processes are not standardized and this has caused delays and the generation of unreliable data. As such harmonizing and standardizing processes, tools and roles and responsibilities among the different stakeholders is key for the upcoming season.

To improve the assessments several actions are expected to be completed:

1. Run an in-depth, participatory and user centric diagnostic of existing situation: undertake field level diagnostics, starting from the grassroots level (community), and following the assessment and impact data workflow process. Map out existing tools and communication channels while identifying constraints and opportunities for improvement. This is recommended to be done in a minimum of 6 sites in at least 3 different Provinces.
2. Organize a kick-off workshop with relevant sectors and agencies as indicated by CENOE to present initial findings;
3. Revise and support drafting the tools and processes for assessments and impact data based on findings: after gathering the field information, recommendations are to be made with suggested data flows, roles and responsibilities of stakeholders and tools for data collection.
4. Run a simulation of new process and tools for assessments: considering that the revised process documented in b) are quasi-final, another quality assurance that the tools are suitable and the process is clear is achieved by running a simulation of an extreme event. In this case scenarios will be created in different locations and the new assessments workflow is tested to generate learning and improvements;
5. Final validation of revised process and tools: At this point, after the simulation learning has been integrated as part of the revised assessment process, a validation workshop will take place to ensure ownership and capture any final recommendations by key stakeholders.
6. Roll out training on the revised assessments and impact data processes: at this point the products originated in b), tested in c) and endorsed in e) need to be used to roll out trainings to all key intervenient;
7. Work closely with DNGRH and INAM to best represent the impact based forecast in the online platform as well as early warning information;
8. Upgrade <https://ingc-mozambique.onalabs.org> site with new information requirements, including the forecasting of 2019/2020 season and all historical data;

At the end of this stage, data collection and workflows should have been harmonized in time to capture the information of the rain season 2019 / 2020 with data flows tested and the platform ready to receive and return meaning data visualizations that support users in decision making.

Finally, drone imagery collected by INGC’s for mapping and impact assessment doesn’t have a speedy, automated workflow. As such the time between data collection, cataloguing, stitching and release is considered long. To be able to improve this situation and given that drone technology is considered tech-frontier, a specialized, external technical assistance would be required to document existing data flow and propose recommendations for improvement and usage of this data source. Activities under this area are as follows:

* Create Terms of reference and support recruitment process for the additional specialized, external technical assistance;
1. **Deliverables and Payments:**

Payments will be processed upon acceptance of the corresponding deliverable and against an invoice that will make reference to the contract reference and deliverable number. Payments will be approved by the respective budget owner.

*Deliverable 1: Core Operational Datasets for Natural Disasters are uploaded to the platform after workshop with line Ministries*

Delivery timeframe (specify weeks, months or working days): 6 weeks (30 working days)

Deliverable/product(s):

* Workshop documentation / report;
* Core Datasets are stored in CENOE’s system;
* Governance plan for datasets is produced;

*Deliverable 2: Run an in-depth, participatory and user centric diagnostic of existing assessment tools and processes*

Delivery timeframe (specify weeks, months or working days): 6 weeks (30 working days)

Deliverable/product(s):

* Diagnostic report identifying constraints and opportunities for improvement of assessments, containing the data workflow process as well as a map of existing tools and communication channels among INGC / COE structures;
* Organize kick off workshop with sectors and agencies to map out and have the initial review of existing tools, communication channels, data workflow and requirements for minimum datasets in a digital environment;
* Prepare an implementation plan for an improved mechanism for impact based forecast, endorsed by CENOE, DNGRH and INAM that is able to run on INGC’s information system;

*Deliverable 3: Update assessment tools*

Delivery timeframe (specify weeks, months or working days): 4 weeks (20 working days)

Deliverable/product(s):

* Assessment tools and processes for 72h, 14 days and 30 days assessments are revised, updated and adapted to a digital workflow (INGC information management system) based on findings from Diagnostic report;

*Deliverable 4: Conduct pre-test of assessment tools in simulation environment*

Delivery timeframe (specify weeks, months or working days): 4 weeks (20 working days)

Deliverable/product(s):

* Report of simulation of new processes and tools for assessments in a digital environment;

*Deliverable 5: Revised processes and tools agreed with CENOE (sign-off) and coordination with software developers is completed for website update*

Delivery timeframe (specify weeks, months or working days): 4 weeks (20 working days)

Deliverable/product(s):

* Finalized SOP with revised processes and tools agreed with CENOE / INGC and partners;
* INGC/CENOE website is updated to suit the requirements of INGC regarding the visualization of new data and geospatial information

*Deliverable 6: Capacity building plan is developed and roll out strategy put in place and UAV workflow technical expertise is identified and put in place*

Delivery timeframe (specify weeks, months or working days): 4 weeks (20 working days)

Deliverable/product(s):

* Capacity building plan for training in assessment tools and information management system is developed and implemented
* Create ToR for an individual contractor to support INGC in optimization of UAV data workflow;
1. **Management and Supervision:**

The consultant will be based in INGC office premises, with regular visits to UNICEF Mozambique offices with access to a computer and wi-fi to be provided by the office. The consultant will be supervised by Claudio Julaia, Emergency Specialist and António José Beleza, Director Nacional Adjunto CENOE. The consultant is also expected to work in close collaboration with Nelson Rodrigues, Innovation Specialist and other relevant programme and ICT Unit staff.

1. **Qualifications and Specialized Knowledge:**

**Academic qualifications:**

At least a Bachelors[[1]](#footnote-1) degree in computer science or related field such as information systems, information and communication technology, library or geographic sciences, or engineering. Masters degree highly desirable

**Work experience:**

Three years of relevant professional experience, in the field of data and information management systems and data analysis;

Proven technical experience in development and use of innovative technology, particularly in the areas of data, humanitarian performance monitoring, use of mobiles and open source, and training in the related field is highly desirable;

**Specific knowledge, competencies, and skills required:**

Knowledge and experience in using GIS software packages (QGIS, ArcGis are highly desirable);

Previous experience in project management and the capacity to track progress and monitor programme implementation is desirable

**Language skills:**

Fluency in Portuguese;

Working knowledge of English;

1. **Conditions of Work:**

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| **Items** | **Provided by UNICEF** | **Remarks** |
| **Yes** | **No** |
| Service incurred death, injury or illness | x |  | Per the provisions of CF/IC/2013-001 on insurance coverage “in cases of service-incurred injury, illness or death under a third-party provider”. |
| Health Insurance |  | x |  |
| Office Space | X |  | The consultant is expected to share its time between UNICEF office and INGC offices |
| Computer in office premises | X |  |  |
| Access to printer in the office premises | X |  |  |
| Airtime |  | X |  |

1. **In-country Travel.**

Approved travel within Mozambique will be covered/reimbursed by UNICEF as follows:

Travel organised by UNICEF through a Travel Authorisation per the applicable policy, with standard terminal expenses, and per diem at 75% of the applicable UN Mozambique DSA rate.

1. **Evaluation Criteria**

The selection of the consultant will be based on a two stage process. The first stage will be a desk review of applicants CV based on the criteria below. A minimum score of 35 will be required to make a candidate eligible for the second stage.

In stage two, from the total pool of candidates with minimum score additional testing will be conducted for up to a maximum of five applicants. Additional testing modality will include using a digital platform and an interview. Should two candidates have equal scoring in both stages, proposed fees might be used as a criterion for selection.

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| **Item** | **Technical Criteria/Qualifications**  | **Max. Points** |
| **1** | **Education**  |  |
| **1.1** | Bachelors[[2]](#footnote-2) degree in computer science or related field such as information systems, information and communication technology, library or geographic sciences, or engineering | 10 |
| **2** | **Work Experience**  |  |
| **2.1** | Three years of relevant professional experience, in the field of data and information management systems and data analysis | 10 |
| **2.2** | Proven technical experience in development and use of innovative technology, particularly in the areas of data, humanitarian performance monitoring, use of mobiles and open source, and training in the related field is highly desirable | 5 |
| **3** | **Technical Skills and Knowledge**  |  |
| **3.1** | Knowledge and experience in using GIS software packages (QGIS, ArcGis are highly desirable); | 10 |
| **3.2** | Previous experience in project management and the capacity to track progress and monitor programme implementation is desirable | 10 |
| **3.3** | Language skills: working knowledge of English | 5 |
|  | ecblank**Maximum Score in desk review** | **50** |
|  | *Only those candidates meeting a minimum technical score of 35 will be eligible for further review.* |

1. **Remarks:** *Provide any other comments as necessary.*
1. [↑](#footnote-ref-1)
2. NO/P-1 and 2: at least a BA; NO/P-3 and above: at least a Masters [↑](#footnote-ref-2)