



**United Nations Children's Fund
(UNICEF Bangladesh)**

Terms of Reference (TOR) for Individual Consultant/Contractor

Position Title (International/National Consultant): **International Consultant**

Proposed Level : P4

Duration of Contract with indicative assignment date: 45 Days

Duty Station (*UNICEF-BCO/Field Office/Govt./Home based*): UNICEF-BCO (Deputed in MIS-DGHS)

Work Plan Code Number: Rolling Annual Work Plan 2014-15, Activity #1.2.1.5

Background (Context of Consultancy Requirement)

Under the Country Programme of cooperation of UNICEF with the Government of Bangladesh, 2012-2016, Government focuses on the reduction of maternal, neonatal and under-five mortality and morbidity, and improve child growth and development in selected districts through increasing and sustaining vaccine coverage, introducing new vaccines and strengthening health system with increased availability & access to quality maternal, neonatal, child health and nutrition services. The Maternal neonatal and child health programs are implemented at national and sub-national level with special attention to low performing districts and hard to reach areas in line with the 20 most vulnerable districts as selected by UNDAF. A focused decentralized approach to planning, funding, implementation, monitoring and supervision of the project activities are key strategies to identify the capacity gaps, institutional/human resources constraints and effective means to address those. UNICEF's new approach of Monitoring Results for Equity (MOREs) will be introduced to identify the key bottleneck in achieving the results and will be applied in evidence based planning. As a part of Health System Strengthening, UNICEF will provide technical support to build a strong Health Management Information System (HMIS), contributing to the sustainability of health system. UNICEF has scaled up support to 11 districts (Sirajgonj, Jamalpur, Sunamganj, Bagerhat, Patuakhali, Rangamati, Barguna, Kurigram and Rangpur, Cox'sbazar, Bandarban and Netrokona) through HMIS consultants. To measure the coverage of each intervention by geographical areas and monitor the impact, it is imperative to establish a comprehensive health information system. Robust data collection both at community and health facility level, data recording, reporting, and data analysis are the core parts of Health System Strengthening of the project. Current situation in these districts and sub-districts is that no reliable data exist through health information system that one can rely to take informed decisions. The biggest challenge for health system planning is that no reliable denominators are available at sub-district and district level, with the exception of major indicators. To achieve that, the system will need customization in order to adopt the changes. There are demands for continuous request for changes in the system, on a needs basis; however, this demands are so high and it has turned unmanageable. To address these health system issues the HMIS department of DGHS jointly with UNICEF has started implementing community HMIS using community clinics for data collection.

The Director General of Health Services (DGHS) uses an open source software called District Health Information Software (DHIS-2) to collect information from 16,000 health facilities. This is web based software was introduced in 2009. UNICEF is extensively utilizing the DHIS-2.16 version to aggregate data and the [DHIS-2.13 version](#) to provide individual records. Currently, [DHIS-2](#) technical issues are being supported by GIZ. This TOR has been written to

engage one consultant to provide technical and operational support to redesign DHIS-2 and to strengthen the facility and community based MIS by incorporating key variables of maternal, neonatal health in order to harmonize and have an integrated MIS for all programmes.

Rationale for DHIS-2 Consultants:

Bangladesh is regarded as the largest implementer of DHIS-2 software in terms of number of organization collecting data. Around 16,000 organizations are reporting through this open source software and sending report to higher authority. Every day the Management Information System of DGHS receiving request to troubleshoot problems which are beyond the support capacity of DGHS. There are reported issues very technical in nature, which needs support from a core developer. The DGHS technical team also expressed interest in improving their capacity and skills, thus benefitting from the knowledge of a core software developer for the system.

Bangladesh needs guidance to develop a standard individual record system for pregnant mother and child for default tracking. Currently Bangladesh is in a process of developing universal shared record.

The Consultant is expected to be able to resolve the existing problems, together with the Bangladesh team, within the time of the contract period. There is a need to improve the capacity of the national level staff managing DHIS-2 software. The consultant need to train and improve capacity of the local team in order to allow them resolving the more complex trouble shooting issues for DHIS-2 system at national level.

In addition, Bangladesh is currently planning to integrate cold chain management for immunization program in DHIS-2. This is considered as a new module and the software needs upgradation and integration

Purpose of Assignment:

The purpose of the assignment is to support Director General of Health Services (DGHS) in developing and strengthening community based Management Information System (MIS) for Maternal Neonatal and Child Health (MNCH). The consultant will improve, develop, and introduce real time data management information system for vaccine, logistic & cold chain at all levels for immunization programs. The incumbents will carry out the following activities in at national level based at DGHS:

- 1) Redesign DHIS-2 individual record system and tracking module for pregnant mother and child.
- 2) Correct organization list in the DHIS-2 sync with national facility registry
- 3) Deletion of unnecessary forms in the DHIS-2.
- 4) Upgrade of individual record from version 2.13 to latest version.
- 5) Archive aggregate data from 2009-2013 in DHIS-2
- 6) Integrate EPI vaccine, logistic and cold chain in the DHIS-2
- 7) Transfer data from DHIS to other web portal through API
- 8) On the job training of National DHIS-2 team on software trouble shooting
- 9) Draft national implementation policy for DHIS and documentation
- 10) Reporting bug fixing for downloading of data from DHIS-2
- 11) Integrate union wise map in the DHIS

Estimated Total Budget : 25065 USD (Consultancy: 19800 USD And DSA: 5265 USD)
USD: \$440 per day and \$ 117 for TA/DSA for 45 days

PBA/ WBS #: **SC150016**, WBS# **5070/A0/04/001/002/005**

Supervisor (must be a staff member):

Dr. Shukhrat Rakhimjanov, Health Specialist, Health Section

Description of assignment: *(outline the activities and tasks that are to be executed and completed within the estimated timeline. Outline how task/activities that are to be carried out by consultant and are linked to results and overall objectives and goal of the programme)*

Major Tasks and responsibilities:	End production/ deliverable	Time Frame
<i>Trouble shooting and Software Upgradation</i>		15 days
1. Upgrade of DHIS-2 from 2.13 version to latest version for Divisional Server and fix existing bugs of DHIS-2	All divisional server upgraded to 2.19 version (or later), tested and all bugs in central server resolved	5 days
2. Delete unnecessary organization unit and dataset from the DHIS-2 database where some data values already entered	Production Database should be isolated from test dataset, its best practice for DHIS system to segregate production data in order to provide accurate monitoring and reporting data	5 days
3. Data locking mechanism for previous year data and Data archiving from 2009-2014	Data locking mechanism developed and archive previous records – 2009 to 2014	2 days
4. Trouble shooting of DHIS.2 related support requested by the DHIS-2 national team	Major issues affecting productivity should be resolved or a general recommendation should be provided to the local team to solve the problems	3 days
<i>Software redesigning</i>		20 Days
5. Merge all divisional server database into single server. Setup central reporting server synchronizing all data from divisional and central server.	7 divisional individual record server merged on a single central reporting server - developed and functional.	7 days
6. Redesign individual record program in consultation with the national technical advisor and team of GIZ and synchronize existing data	Maternal and Child Health program redesigned and implemented in live server	3 days
7. EPI vaccine, logistics & cold chain integrated to DHIS to get real time data for EPI logistics and vaccine	EPI vaccine, logistics & cold chain tracking system established reporting real time data from sub-district level	4 days

8. Correct and sync metadata of software. (Sync organization unit in DHIS-2 with the national facility registry with organization code)	All DHIS-2 organization unit sync with facility registration unit code	3 days
9. Incorporate union maps in the DHIS-2 and dashboard designing for all district and upazila	Shape file integrated in DHIS-2 to see union wise map and standard dashboard pushed to all level.	4 days
10. Full data backup completed and stored, after bugs/issues are resolved and after development of the new integrated module.	Safe copy for future reference	1 day
11. Provide technical documentation	Required for continuity and future reference	Part of each point
Training and capacity building		10 Days
12. On the job training of DHIS-2 national team for trouble shooting and improving capacity to use web-API and data transferring from DHIS to other system. Dashboard customization	National team having more confident on DHIS application. Transferring data from DHIS to other web portal through API (like in Local Health Bulletin)	5 days
13. Draft national DHIS-2 implementation policy and guideline	Drafted policy paper for DHIS-2 Bangladesh	3 days
<p>Payment schedule: Attached.</p> <p><i>Please attach detailed payment schedule which should include the deadlines for the completion of tasks/activities (deliverables) and related payments at each step of the process.</i></p>		
<p>Qualifications (<i>Education, Work Experience, Special skills and/or knowledge, Competencies required for the assignment</i>):</p> <p>The incumbents should:</p> <ul style="list-style-type: none"> • Have master degree preferably in Software development background. • At least 7 years working experience in software development • Must have solid experience with Java or have experience as a DHIS-2 developer • Have good knowledge in implementing individual record of DHIS-2 • Have good knowledge on DHIS program implementation in large scale • Good knowledge of H2, MySQL, PostGRE databases 		

Prepared by:

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