TERMS OF REFERENCE
FOR RSBY DASHBOARD AND MIS

1. ABOUT GIZ

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH is a federal enterprise owned by the Government of Germany. For over 60 years, GIZ has been working jointly with partners in India for sustainable economic, ecological, and social development. The Indo-German Social Security Programme (IGSSP) is part of GIZ. IGSSP supports the Ministry of Health and Family Welfare (MoHFW), Government of India, and state governments to design and implement social security programmes in line with the Unorganised Workers' Social Security Act (UWSSA).

2. Rationale for the proposed assignment

An important scheme in this regard is the national health insurance scheme called Rashtriya Swasthya Bima Yojana (RSBY). Currently MoHFW is responsible for the design, management and monitoring of RSBY. IGSSP supports MoHFW in this regard by providing technical assistance for RSBY.

RSBY was launched in 2008 and is India's largest social health insurance scheme. Based on smart cards it provides a cashless health insurance coverage of Rs. 30,000/- per annum on a family floater basis, for below-poverty-line (BPL) families, and 11 other defined categories of unorganised workers. The IT platform in RSBY provides the insurance companies a powerful tool to confirm and validate claims as well as ensure the adherence to accepted processes by the empanelled hospitals. At the same time, it provides opportunity to the government at various levels to monitor the performance of the scheme on a near real time basis.

The enrolment and claims information in Management Information System (MIS) (aggregated) format and disaggregated beneficiary-wise format is collected at central level by the MoHFW. This data is currently housed at separate servers and analysed (after collation) by the technical team of MoHFW on an ad-hoc need based manner.

To further streamline the MIS and monitoring of the scheme, a Dashboard and Management Information System is planned to be designed that will allow for a systematic and regular analysis of the available data. This will not only help in better monitoring of the performance of RSBY but also in generating triggers for fraud / abuse control and suggest mid-course improvements in the scheme. In addition it will facilitate the convergence of RSBY with various Central and State schemes by sharing requisite data between the RSBY platform and the platform of other schemes. Thus, there is an urgent need to analyse this data for ascertaining and improving the quality of data, generating reports for learning and standardising data collection and its usage.

3. DESCRIPTION OF THE ASSIGNEMENT

During the initial phase of RSBY, data quality assessment and analysis of both aggregated and disaggregated data collected by the Government till then was done in 2013-14. This analysis helped in further improving the data quality and performance of the scheme. Some of the issues (such as data inconsistencies, data quality issues and their root causes) were corrected by implementing one time solution whereas others were dealt as recurring solutions for their temporary or permanent correction in the system.

Extensive data cleaning on static data was carried out, post which reports analysing RSBY enrolment and claims data, including disease profiling and clinical analysis, were developed. A sample excel based dashboard design was developed as well.

As a next step, it is required to analyse the data collected from 2014 till now for inconsistencies, issues and their root causes for relevant solutions to be put in place. It is imperative that such one-time and recurring solutions, that are technology driven, are implemented in an automated manner through an appropriate platform. Thus, a Management Information System, comprising of automated data cleaning followed by generation of standard reports and configurable data analysis tools including trigger based fraud detection mechanism is needed. In addition, following the convergence goal of the Government, data of State Schemes that is to be converged with RSBY may reach the Central Server of Government through State Servers, instead of Insurance Companies and Hospitals as it is the case now.

The selected agency will be required to develop data quality rectification concepts, standard monitoring report designs, configurable dashboard and trigger based fraud detection systems using MS-SQL. They will also be required to submit a report on how data of State Schemes is to be converged with RSBY data by studying database management and data sharing process of 2 State Schemes. This report shall also provide suggestions/learnings for improving the existing RSBY database in terms of data warehousing, maintenance and analysis carried out by these States.

Objectives of the assignment:

A. Improving the overall RSBY data quality

a. Automated collation of data from various sources at a single place as a pre-cursor for further data analysis.

Various types of data, aggregated and disaggregated, are generated under RSBY, like pre-enrolment data (data for target families), post-enrolment data (data for families enrolled under RSBY and issued smart cards), transaction data (data on hospitalisation of beneficiaries), hospital empanelment data (details of hospitals empanelled under RSBY), policy related data (start and end dates of insurance policy in each district implementing RSBY), etc.

This data is generated at various sources and reaches MoHFW through different mechanisms. The data also resides on different servers, some are connected with the RSBY

web-portal while others are not connected. Thus, before any other activity is carried out with respect to data, the agency is required to carry out the following:

i. A study is be carried out with respect to defining what data is needed for MIS, reports and dashboard generation. The selecting and sourcing of the required data will be supported by GIZ (this is an extension of the work already done by previous agency and not a fresh start)
ii. Design a mechanism as to how this data will be collated from various sources on a regular and automatic basis
iii. Support the implementation of the design by helping the IT agency (separately hired by GIZ) in integration of the design with the RSBY web-portal.

b. Design an automated mechanism for cleaning of the collated RSBY data

This phase involves scrutinizing the collated data streaming in from various points of services, insurers and other stakeholders' installations, for its authenticity and accuracy. The selected agency will undertake data cleaning, data enhancement / filling and analysis using intelligent logics and information from other related fields.

To determine how the data quality can subsequently be improved, the selected agency will be provided with a set of data by MoHFW with support of GIZ. The selected agency will analyse this data for outliers and missing data in order to identify the gaps in data integrity and data fixes required.

Cleaning of entire static data-set until March 2014 was undertaken by the previous agency hired by GIZ. The new agency under this contract will be expected to study the logics designed by the previous agency and build additional logics, wherever required, and put in place a mechanism including tools, if any needed, that such cleaning is carried out regularly and automatically. Specifically, the agency is expected to do the following (this is an extension to work already done by previous agency and not a fresh start):

i. Study and understand data generation and transmission under RSBY
ii. Study and add to the primary and secondary checklist for data cleaning available
iii. Design processes required to clean the RSBY data by implementing logic based cleaning algorithms.
iv. Propose fixes to the existing system for handling recurring errors in incoming data.
v. Support the implementation of the design by helping the IT agency (separately hired by GIZ) in the integration of the design with RSBY web-portal.

c. Improving the quality of data to be collected in future

i. Study the process and fields of data being collected by various software and personnel for enrolment and transaction, used in the field by RSBY and
    - Study how data travels through the RSBY system
    - Suggest data collection standards and parameters

- Suggest mechanisms / logic / codes to be implemented in the existing software for correction / improvement of data

ii. Prepare a report on improvements that could be considered in the short term and long term for data quality within the existing framework.

iii. The above report shall include important data fields that should be captured in the long run in order to gauge the performance of the scheme as well as the output which benefits different stakeholders.

B. MIS and Data analysis

a. Develop standard reporting and MIS templates for data analysis

As per the current process followed for RSBY, the district wise individual level data gets added to the central server on a regular basis for enrolment and transactions. District wise aggregated data summary is submitted by States separately. Important task of the selected agency is to carry out the following (this is an extension to the work already done by previous agency and not a fresh start):

i. Identify various analysis that can be performed on the existing data at both aggregated and disaggregated level on the dynamic data that gets added, to be generated as per a pre-decided frequency per district, State and nationally.

ii. Analyse the sample data

iii. Design and create standard report templates and automate processes such that standard reports and MIS get generated easily or by making minimal effort for a quick real time view

iv. Prepare guides to perform various analyses

v. Support the IT agency (hired separately by GIZ) in integration of these reports and templates with the RSBY web-portal.

b. Develop a role defined Map-based Dashboard, including triggers for fraud and abuse control, that is accessible by various stakeholders at different levels in the government, i.e. high level officers in charge of policy designing and course correction decisions, implementing officers in charge of monitoring, operational team for day to day reporting, etc.

In addition to standard report and MIS, there is a need to design a configurable role defined Map-based Dashboard for the analysis of data on a regular basis. This dashboard has to support the generation of triggers and alerts for fraud and abuse control. The following will be expected to be carried out by the agency (this is more of an extension to the work already done by previous agency and not a fresh start):

i. Introduce mechanisms / logic / codes to be implemented in the existing software for generating standard reports, MIS, dashboard and triggers for fraud and abuse control

ii. Design and create a configurable role defined Map-based Dashboard for stakeholders at various levels, analysing dynamic data which also throws triggers and alerts for fraud and abuse control.

- Process for feeding data into the dashboard shall be automated (as far as possible) such that the same gets updated regularly and automatically at pre-defined time intervals for a quick real time view
- Trigger and alerts for Fraud and Abuse control on dynamic data
- Application of statistical tools to predict future course of trends
- Dashboard shall also be supported by an interactive Map based analysis
  - Arrange GIS data of villages and link with URN
  - Arrange GIS data for hospitals
  - Analyse patterns of utilisation and enrolment with the help of GIS data of villages and hospitals

iii. Prepare guides to perform various configurable analyses

iv. Support the IT agency (hired separately by GIZ) in the integration of the Dashboard with the RSBY web-portal.

Some examples of analysis to be incorporated in MIS and dashboard (this is to be done by the agency. Additional analysis that needs to be incorporated shall be discussed with GIZ):

- Time series analysis
- Analysis and reports by region and by insurer (utilization, membership, demographics, scheme performance etc.)
- Analysis by insurer (loss ratio, claim segmentation, rejections etc.)
- More granular and disaggregated reports for identified user groups (seasonality, population ageing impact etc.)
- Advanced clinical and other analysis as per the recognized needs of the stakeholders (cost and utilization trends, reserving, population disease profiling, geography or occupation related peculiarities, scenario testing, provider profiling etc.)
- Triggers for fraud and abuse control

C. Furnish a report on the convergence of RSBY with State Schemes like Vajpayee Aarogyashree, Karnataka & Mahatma Jyotibha Phule Jan Arogya Yojana, Maharashtra by carrying out desk research, consultations and visits.

Many States in India have developed their own IT and data management systems for their own schemes which are implemented either alongwith RSBY or as standalone schemes. Government of India intends to develop RSBY as a core health insurance/assurance scheme which offers feasible convergence with other National and State level health schemes in order to optimally utilise the resources in the country and to extend maximum benefit to the target beneficiary without multiplicity of channels of delivery of services. Thus, a report on how data of State Schemes is to be converged with RSBY data for the delivery of services, by studying database management and data sharing process of 2 State Schemes (like Vajpayee Aarogyashree, Karnataka & Mahatma Phule Jeevandayee Arogya Yojana, Maharashtra) shall be furnished. This report shall also provide suggestions/learnings for improving existing RSBY database in terms of data warehousing, maintenance and analysis carried out by these States.

In addition, many States implementing RSBY have developed their own MIS and data analysis mechanisms including Dashboards and triggers for fraud and abuse control like Chhattisgarh and West Bengal. The agency is expected to conduct a study which will serve as learning for development of data management and analysis under RSBY. The States and Schemes shall be chosen after discussion and agreement with MoHFW and/or GIZ.

D. Involvement in other activities such as process improvement, capacity development, training and other related day-to-day activities

i. Involvement in various training and capacity development initiatives related to data analysis
ii. Participate in various meetings of RSBY and share analysis as and when needed
iii. Occasional travel to states for training and other related meetings as per the need
iv. Documentation related to the scope of data management
v. Providing inputs on RSBY publications

4. DELIVERABLES

The selected agency shall prepare outlines and draft of each report/deliverable and share the details with GIZ. The reports/deliverables will only be considered final once the comments and feedback provided by GIZ is incorporated and the final version is approved by GIZ.

Final deliverable/documents will be submitted to GIZ in electronic versions and shall include all assigned tasks as agreed with the Coordinating GIZ Officer. All reports shall be written in English.

Usually several activities will have to be carried out simultaneously. All deliverables shall be achieved and finalized until the end of the contract.

The duration of the assignment will be for 8 months. The agency shall be responsible for providing the following deliverables to GIZ:

No.	Deliverable	To be delivered until:
1)	- A report on convergence of RSBY with State Schemes like Vajpayee Aarogyashree, Karnataka & Mahatma Jyotibha Phule Jan Arogya Yojana, Maharashtra by carrying out desk research, consultations and visits. - Design a mechanism as to how data has to be collated from various sources regularly and automatically. - Primary and secondary checklist for data cleaning	Within 2 months from the start of the contract

	- Identification of various analysis that can be performed on the existing data at both aggregated and disaggregated level on the dynamic data that gets added, to be generated as per a pre-decided frequency per district, State and nationally. **A report summarising all the above shall also be submitted for purposes of documentation.**	
2)	- Design of processes required to clean the RSBY data by implementing logic based cleaning algorithms on the data set provided. - Proposed fixes to existing system for handling recurring errors in incoming data. - Analysis of the sample data - Design and creation of standard report templates and automate process such that standard reports and MIS get generated easily or by making minimal effort for a quick real time view - Mechanisms / logic / codes to be implemented in the existing software for generating standard reports, MIS, dashboard and triggers for fraud and abuse control - Report on possible implementation of logics and tools in the existing software/web-portal for quality improvement and automation of MIS reports, Dashboard, Interactive Map and triggers/alerts for fraud and abuse control **A report summarizing all the above shall also be submitted for purposes of documentation.**	Within 4 months from the start of the contract
3)	- Implementation of logics and tools in the existing software/ integration with RSBY web-portal for quality improvement and automation of MIS reports, Dashboard, Interactive Map and triggers/alerts for fraud and abuse control - Design and creation of a configurable role defined Map-based Dashboard for stakeholders at various levels, analysing dynamic data which also throws triggers and alerts for fraud and abuse control. • Process for feeding data into the dashboard shall be automated (as far as possible) such that the same gets updated regularly at pre-defined time intervals for a quick real time view	Within 6-8 months from the start of the contract

	• Trigger and alerts for Fraud and Abuse control on dynamic data • Application of statistical tools to predict future course of trends • Dashboard shall also be supported by an interactive Map based analysis - Guides to perform various analyses - Final report on data analysis of the aggregated data including a PowerPoint presentation - Report on improvements that could be considered in the short term and long term for data quality within the existing framework including challenges and solutions in data cleaning, analysis and improvement. - A report on various logics, software code etc. used in the work for all reports, dashboard and any other logic or code used, which is included in any of the deliverable - All process (data collation, cleaning, standard reports, dashboard) are integrated with RSBY web-portal. **A report summarizing all the above shall also be submitted for purposes of documentation.**	

5. REPORTING:

The agency shall report to the Programme Director, IGSSP. On day to day basis the agency will coordinate with the Coordinating GIZ Officer. The agency may also be required coordinate with the MoHFW and attend meetings.

The deliverables as per the TOR shall be submitted to the Programme Director, IGSSP within the respective timelines.

6. TRAVEL:

The designated project head and/or a another team member will be required to travel to 4 States (tentatively – Karnataka, Maharashtra, Chhattisgarh, West Bengal – the selection of states will be done in consultation with the agency and GIZ subject to final approval by the Ministry) for possible convergence with the State Schemes and learning from best practices in place.

The agency has to seek prior written approval from GIZ before undertaking any travel to the assigned states. The agency may travel to other states/cities that are not specified above in

the contract only after seeking prior written approval from GIZ. GIZ may also assign a task to the agency that requires travel within or outside the designated state. The costs incurred in the travel thus undertaken will be reimbursed by GIZ against actuals, once the agency produces valid receipts for transport and accommodation.

7. PROFILE OF THE AGENCY:

The Qualifying Criteria for the agencies applying for this is given as follows:

i. The Agency should have been operational under the current identity for atleast 3 years
ii. The Agency should be a company incorporated to do business in India and have a minimum of 15 fulltime employees, with relevant experience preferably in government domain and relevant data quality and BI tools.
iii. The Agency should have a minimum average annual turnover of Rs.5 Crore over each of the last 3 financial years including FY 2016-17.
iv. Atleast 2 reference projects in the last 3 years.
v. Consortium or sub-contracting of any kind is not permitted.

The agency has to provide an in-house team of qualified experts as per the following:

- The **team must be stationed in Delhi/ National Capital Region (NCR)** for the duration of the contract with all the required resources available to them to be able to carry out the tasks mentioned in this ToR.
- The team must have detailed understanding of the government funded health insurance schemes in India.
- The team must have a recorded expertise about the health insurance sector in India and in-depth knowledge about RSBY.
- The team must be well versed with SQL, MS Access and Excel
- Previous experience in working with the central and/ or state social health insurance schemes and other health related macroeconomic indicators is an added advantage.
- International experience in the health insurance domain is desirable.
- Proficiency in written and spoken English is expected for all members of the team.

Experts	**Qualifications**
1 Project Head No of working days: 50.	Holding a PhD/Masters/PG diploma/degree in statistics / economics / health economics/ public health/ management from an Indian / international institute and 12-15 years' experience in project management and consulting, having adequate national / international experience in social health insurance sector, health data analytics and designing business intelligence tools.

1 Project Manager No of working days: 80.	Holding a PhD/Masters/PG diploma/degree in statistics / economics / health economics/ public health/ management from an Indian / international institute and 8-10 years' experience in project management and consulting, having adequate national / international experience in social health insurance sector, health data analytics and designing business intelligence tools.
2 Junior Experts No of working days: 120 each.	Holding a PG degree in statistics or IT, from an Indian / international institute and at least 5 years' experience having adequate exposure to social health insurance sector/public health with excellent data analytics skills in MS-SQL.

8. ADDITIONAL INFORMATION AND REQUIREMENTS:

- **The agency needs to provide an Undertaking to agree to station the team (for the contract duration) in Delhi/NCR with all the required resources available to them to be able to carry out the tasks mentioned in this ToR. This will be mandatory to be able to qualify for technical and financial assessment (Format provided at Annexure1 of this document)**
- The agency will sign a Non-Disclosure Agreement with respect to data and reports generated thereof at the time of signing the contract with GIZ.
- Regular review meetings will be held with GIZ and MoHFW for getting updates on the activities.
- As and when required GIZ may facilitate the meetings of the agency with different stakeholders, if needed.
- GIZ in consultation with MoHFW will provide necessary coordination arrangements for the interaction of the agency and any of its staff with the required central and state governmental departments and ministries.
- The ownership of the data analysis report will be of GIZ and data ownership shall lie with the MoHFW, Government of India. The agency will not be allowed to use report or data for any purposes other than specified in the contract. Before using data for any public use, the agency will need to take prior approval from GIZ and MoHFW.

ANNEXURE 1 – FORMAT OF UNDERTAKING FOR TEAM TO BE STATIONED IN DELHI/ National Capital Region (NCR)

[On letterhead of the Bidder]

From
[Name of Bidder]
[Address of Bidder]

Date: [insert date], 2017

To
_____
_____
_____
_____
_____

Dear Sir,

Sub: Undertaking for Team to be stationed in Delhi/NCR

I, [insert name] designated as [insert title] at [insert location] of [insert name of Bidder] and being the authorized signatory of the Bidder, do hereby declare and undertake that we have read the Terms of Reference for award of Contract(s) to design the Dashboard and Management Information System (MIS) to support the Rashtriya Swasthya Bima Yojana (RSBY) scheme, published by Indo-German Social Security Programme of GIZ, India.

We hereby undertake and explicitly agree that if we are selected as the Successful Bidder, we shall ensure that the Team, whose details are provided with the bid, **will be stationed in Delhi/NCR** for the duration of the contract with all the required resources available to them to be able to carry out the tasks mentioned in this Terms of Reference.

Dated this ___ day of _____, 2017

_____

[signature]

In the capacity of ___
[position]

Duly authorized to sign this Bid for and on behalf of ____
[name of Bidder]