NITI AAYOG

ADDENDUM NO. 3 TO THE

REQUEST FOR PROPOSALS (RFP)

FOR

DEVELOPMENT AND OPERATION OF

NATIONAL DATA AND ANALYTICS PLATFORM (NADP)

The following is the modification to the RFP for Selection of Consultant for Development and Operation of National Data and Analytics Platform (NADP). The deletions from the earlier text of the RFP are indicated as strikethroughs and additions are underlined.

S. No.	Clause No	Provision of the Request for Proposals
(a)(i)	1.8	The Authority would endeavour to adhere to the following schedule:

	Event Description	Date
1.	Last date for receiving queries/clarifications	May 2, 2018
2.	Pre-Proposal Conference - I	May 8, 2018
3.	Authority response to queries	May 30June 1, 2018
4.	Last date for receiving further queries/ clarifications	June 85, 2018
5.	Pre-Proposal Conference - II	June 118, 2018
6.	Authority response to queries	June 184, 2018
7.	Proposal Due Date or PDD	July 106, 2018
8.	Opening of Proposals	On Proposal Due Date
9.	Presentations for Technical Evaluation	Within 12 days of PDD
10.	Opening of Financial Proposals	Within 21 days of PDD
11.	Letter of Award (LOA)	Within 35 days of PDD
12.	Signing of Agreement	Within 10 days of LOA
13.	Validity of Applications	90 days of Proposal Due Date

(b)(ii)	1.10	**1.10**
		Pre-Proposal Conference - II
		The date, time and venue of Pre-Proposal Conference - II shall be:
		Date: June 11~~8~~, 2018
		Time: 1100 hrs
		Venue: Room - 259, NITI Aayog, Sansad Marg,
		New Delhi 110001
(c)(iii)	2.2.2 (B)	Financial Capacity: The Applicant shall have received a minimum income of Rs.5 (five) crore or US $ 2 (two) million per annum from professional fees during each of the 3 (three) financial years preceding the Proposal Due Date. For the purpose of evaluation, Applicants having comparatively larger revenues from professional fees shall be given added weightage. For the avoidance of doubt, professional fees hereunder refers to fees received by the Applicant for providing advisory or consultancy services, including software development services to its clients.
(d)(iv)	Schedule-1 Terms of Reference	**Note:** *The Terms of Reference have been revised after considering various queries as well as the discussions in the Pre-Proposal Conference. The revised Terms of Reference are attached herewith in substitution of the original Terms of Reference. The Applicants are required to take into account the revised TOR while submitting their Proposals.*
(e)(v)	Schedule-2 Form of Agreement	2.10 Transfer of rights and interest 2.10.1 Prior to or upon Termination, as the case may be, the Consultant shall comply with and conform to the following transfer requirements (the "**Transfer Requirements**"): (a) notify to the Authority forthwith the particulars of all NDAP assets; (b) deliver forthwith the actual or constructive possession of the NDAP Portal to the Authority or its nominee; (c) develop and prepare a transition plan, including risk mitigating measures, in consultation with the Authority, for smooth transition on Termination;

(d)   deliver and transfer all Consultancy Documents specified in Clause 3.9.1, including relevant Portal documentation, Training Document and Training Videos, System Architecture, Database design, Source Code, Taxonomy and meta-data information, Analytical models and their documentation (Natural Language, Information Extraction, etc.), related username and passwords to the system, Maintenance Schedule, Intellectual Property and other licences pertaining to the NDAP, including all programmes and manuals pertaining thereto, as on the Transfer Date. For the avoidance of doubt, the Consultant represents and warrants that the Intellectual Property delivered hereunder shall be adequate and complete for the operation and maintenance of the NDAP and shall be assigned to the Authority free of any Encumbrance;

(e)   transfer and/or deliver all Applicable Permits and licenses to the extent permissible under Applicable Laws;

(f)   provide technical assistance and shadow support to the Authority to facilitate data transition (include the migration of user addresses, user credentials, saved messages, all inbound messages, and any other processes necessary to carry out complete knowledge transfer) to the Authority or its nominee;

(g)   execute such deeds of conveyance, documents and other writings as the Authority may reasonably require for conveying, transferring and assigning all the rights, title and interest of the Consultant in the NDAP, absolutely unto the Authority or its nominee; and

(h)   comply with all other requirements as may be prescribed or required under Applicable Laws for completing the transfer and assignment of all rights, title and interest of the Consultant in the NDAP, free from all Encumbrances, absolutely unto the Authority or to its nominee, as the case may be, so as to ensure that the Authority or its nominee, has exclusive access to and control of the NDAP data in a format that is reasonably acceptable and without any additional cost to the Authority.

2.10.2   Subject to the exercise by the Authority of its rights under this Agreement to perform or procure the performance by a third party of any of the obligations of the Consultant, the Parties shall continue to perform their obligations under this Agreement, notwithstanding the issuance of any Termination Notice, until the Termination of this Agreement becomes effective in accordance with its terms.

2.10.3   Cooperation and assistance on transfer of NDAP

2.10.3.1 The Parties shall cooperate on a best effort basis and take all necessary measures, in good faith, to achieve a smooth transfer of the NDAP in

accordance with the provisions of this Agreement so as to ensure and procure the continuity, safety and security of NDAP.

2.10.3.2 The Parties shall provide to each other, 6 (six) months prior to the Transfer Date in the event of Termination by efflux of time and immediately in the event of either Party conveying to the other Party its intent to issue a Termination Notice, as the case may be, as much information and advice as is reasonably practicable regarding the proposed arrangements for operation of the NDAP following the Transfer Date. The Consultant shall further provide such reasonable advice and assistance as the Authority, its consultants or agents may reasonably require for operation of the NDAP until the expiry of 6 (six) months after the Transfer Date.

2.10.4 Vesting Certificate

The transfer of all rights, title and interest in the NDAP shall be deemed to be complete on the date when all of the Transfer Requirements have been fulfilled, and the Authority shall, without unreasonable delay, thereupon issue a certificate (the "**Transfer Certificate**"), which will have the effect of constituting evidence of transfer by the Consultant of all of its rights, title and interest in the NDAP, and their vesting in the Authority pursuant hereto. It is expressly agreed that any defect or deficiency in the Transfer Requirements shall not in any manner be construed or interpreted as restricting the exercise of any rights by the Authority or its nominee on, or in respect of, the NDAP on the footing that all Transfer Requirements have been complied with by the Consultant.

2.10.5 Transfer costs etc.

2.10.5.1 The Consultant shall bear and pay all costs incidental to transfer of all of the rights, title and interest of the Consultant in the NDAP in favour of the Authority upon Termination, save and except that all stamp duties payable on any deeds or Documents executed by the Consultant in connection with such transfer shall be borne by the Authority, save and except as provided in Clause 2.9.5.

2.10.5.2 In the event of any Dispute relating to matters covered by and under the Transfer Requirements, the procedure specified in Clause 9 shall apply.

(f)(vi)	Schedule-2 Form of Agreement	**3.13 Intellectual property**
		(a) The Consultant shall, at its own cost, ensure that it has all necessary rights (including licences) in and to the intellectual property subsisting in the drawings, designs, softwares and all other Deliverables forming part of the NDAP and all matters, things or processes (including documentation, drawings and software) used or to be used by or on behalf of the Consultant in connection with the Consultancy and/or this

			Agreement. The Consultant shall not incorporate any materials, technology or any item or thing that involves the use of intellectual property rights or proprietary rights that the Consultant does not have the right to use or license to the Authority or that may result in claims or suits against the Authority or the Consultant arising out of claims of infringement of any intellectual property rights or other proprietary rights.
			(b) The Consultant shall perform all acts necessary to obtain and continue to have all necessary licenses, approvals, consents of third parties free from any encumbrances and all necessary technology, hardware and software to enable it to perform the Consultancy and all its obligations under this Agreement. If license agreements are necessary or appropriate between the Consultant and third parties for purposes of enabling, enforcing or implementing the provisions hereinabove, the Consultant shall be under an obligation to enter into such agreements at its own sole cost, expense and risk.
~~(g)~~(vii)	Schedule-2 Form of Agreement	**3.14 Indemnity** (a) The Consultant shall indemnify, save, hold harmless and defend the Authority and its officers, servants, employees and agents promptly upon demand and at its expense, any time and from time to time, from and against any and all suits, proceedings, actions, demands, losses, claims, damages, liabilities, costs (including reasonable attorney's fees and disbursements) and expenses (collectively, "**Losses**") to which the Authority may become subject, insofar as such Losses arise out of, in any way relate to, arise or result from (i) claims by third Parties that the Consultancy or any equipment, software, information, methods of operation or other intellectual property (or the access, use or other rights thereto) used, created etc. by the Consultant pursuant to this Agreement or incorporated in or related to the Consultancy infringes any intellectual property right of any third party. In addition to the foregoing indemnity obligations, if any of the Deliverables is or likely to be held to be infringing, the Consultant shall at its expense and option either (i) procure the right for the Authority to continue using it, (ii) replace it with a non-infringing equivalent, or (iii) modify it to make it non-infringing, and the Consultant agrees and confirms that any such action shall not constitute a change of scope under this Agreement. (ii) any compensation/ claim or proceeding by any third party against the Authority arising out of any act, deed or omission by the Consultant;

			(iii) claim filed by a workman or employee engaged by the Consultant for carrying out work related to this Agreement;
			(iv) any breach by the Consultant of any of its obligations under this Agreement or from any negligence under the Agreement, including any errors or deficiencies in the design documents, or tort or on any other ground whatsoever;
			(v) failure of the Consultant to comply with Applicable Laws and applicable permits;
			(vi) payment of taxes required to be made by the Consultant in respect of the income or other taxes of its employees and representatives; or
			(vii) non-payment of amounts due as a result of goods, materials or Consultancy furnished to the Consultant which are payable by the Consultant.
			(b) The Consultant shall keep the Authority and its officers, servants and agents indemnified from and against all suits, proceedings, actions, demands, losses, claims, damages, compensation, litigation etc. including attorney's fees and damages on account of bodily injury, death or damage to tangible personal property arising in favour or any person, corporation or other entity (including the Authority) attributable to the Consultant's performance or non-performance under this Agreement or Consultant's negligence, wilful default, lack of due care or breach of terms of this Agreement or failure to comply with Applicable Laws.
			(c) The Consultant's obligation to indemnify under this Clause 3.14 shall be limited to an amount not exceeding the Agreement Value.
(h)(viii)	Schedule-2 Form of Agreement Annex-6 Payment Schedule		**Note:** *Annex-6 of Schedule-2 comprising the Payment Schedule shall be substituted by the Payment Schedule specified in Paragraph 5.1 of the revised Terms of Reference at Schedule-1.*
(i)(ix)	Schedule-2 Form of Agreement Annex-8		**3. Damages for shortfalls in Service Levels** 3.7 The PMU may undertake inspection of the data extracted by the Consultant from various government websites and reports. If the deficiencies or errors in uploading such data or reports exceed 10 in any month, Damages may be levied at the rate of 2% of the pro-rata monthly payment due to the Consultant.

	Service Level Agreement	3.8 An average monthly rating below 3 stars, based on valid user feedback, shall constitute a Service Level Default for which Damages may be levied at the rate of 2% of the pro-rata monthly payment due to the Consultant. 3.9 If the number of one or two star valid user feedbacks associated with incorrect search results, in-appropriate visualization or in-appropriate analysis exceeds 10 in any month, Damages may be levied at the rate of 2% of pro-rata monthly payment due to the Consultant.

Terms of Reference (TOR)

1.   GENERAL

1.1   The Authority seeks the services of qualified firms for developing, operating and maintaining the National Data and Analytics Platform (NDAP). The Terms of Reference (the "**TOR**") for development and operation of the NDAP are specified below. The assignment will be guided by the provisions of this TOR, Consultancy and Service Agreement, Good Industry Practice and Applicable Laws.

2.   OBJECTIVE AND SCOPE OF SERVICES

2.1   The objective of this Consultancy is to undertake the development, operation and maintenance of a web portal that will serve as a single point for accessing data across all Ministry(ies) of Government of India combined with intuitive visualization and self-service analytics. The portal would provide natural language understanding based advanced search features to find the appropriate data set across a huge variety of data spread across different areas.

2.2   The scope of services shall comprise:

(i)   Development of the data portal for launch on a designated date upon the fulfilment of the go-live criteria specified in Section 3 during the Development Phase; and

(ii)   Operation and maintenance of the portal during the Operations Phase.

These services are briefly explained hereunder:

3.   DEVELOPMENT PHASE

3.1   Features and Functionality of NDAP

3.1.1   The NDAP would be developed in accordance with global best practices in line with similar initiatives internationally in order to achieve the above objectives. The following minimum features shall be complied with:

Category	Features
Non Functional Requirements	(a) Reliable 24/7 hosting with automated website backup. (b) Cross-browser compatibility. (c) Responsive web design across web interfaces, mobiles, and tablets (e.g. disabled images, various resolutions/font sizes).

	(d)	Fast-loading pages (page load time involving less than 10 indicators should be less than 3 seconds for bandwidth of 512 kbps).
	(e)	Should be compliant with the Guidelines for Indian Government Websites (GIGW) and Interoperability Framework for E-Governance in India issued by Ministry of Electronics and Information Technology (MeitY).
User Sensitive Access Requirements	(a)	Data catalogue for users to browse and access all available datasets.
	(b)	Based on the past history of search by user, display dynamic dashboards at any specified granularity of time and location by collating data in various pre-defined categories.
	(c)	User profiling and personalization based on user's previous visits for registered and logged in users. Some of the features of the portal will only be available to registered users. Display of generic content for anonymous user.
	(d)	Registered users can receive automated reports based on analysis performed directly at their inbox at scheduled intervals – snapshot of the report would be attached with the email and linked to the detailed report on the NDAP portal. For the same, NIC email server can be used.
	(e)	Displays trending/recently viewed/most popular segments and datasets of site.
	(f)	Provision of site map, listing all the contents of the website including static content, training materials, etc.
	(g)	Collects data on user searches, eventual datasets that users view, and user profiles to learn over time to produce more relevant searches.
Search Requirements	(a)	The NDAP shall be designed and operated such that it functions as a search engine for retrieving the data hosted on it. The retrieval and display of data shall be in accordance with good industry practices followed by other eminent websites operating in India and abroad.
	(b)	Allows users to search content across a variety of criteria (sector, indicator, location) from search bar, through map-based search, and from data catalog.
	(c)	Provides context and/or query-based suggested/related/recommended links and

	understanding of synonyms. Multiple options based on the query can be presented to the user if there is no single query interpretation.
	(d) Approximate string matching while the user types in the query keywords.
	(e) Employs natural language understanding of search query (not token keyword search) to provide:
	    ~~o~~(i) Simple and intuitive *Input Interpretations* of the textual query; and
	    ~~o~~(ii) *Suggested Alternatives* for each query subcomponent based on function of user's profile and previous similar searches;
	    ~~o~~(iii) *Relevant Representations* of results (e.g. time series graphs, comparative graphs/tables) based on query of user.

Data Requirements	The data requirements are categorised into:
	(1) Coverage of Data Sources and Formats
	(2) Data Aggregation
	(3) Data Analysis
	
	   ~~1.~~**(1)** **Coverage of Data Sources and Formats**
	(a) Integrates Application Programming Interfaces (APIs) provided by the Authority to read data into the platform.
	(b) Integrates initial corpus of data into website from the following sources:
	    ~~1.~~(i) Website: data.gov.in;
	    ~~2.~~(ii) Websites of 50+ Ministries and Departments of Central Government;
	    ~~3.~~(iii) Websites of all departments and Ministries of State Governments;
	    ~~4.~~(iv) Autonomous and affiliated bodies of the following Ministries - Agriculture, Education, Finance, and Health; and
	    ~~5.~~(v) Reports for key sectors as shown in the indicative list at Attachment-I.
	(c) Have an automated system for alerts on addition of new datasets for any of the above sources, necessary for updating of NDAP.
	(d) Fetch data in structured and semi-structured format from all the Government websites (both State and Central) and reports (indicative list is at Attachment-I)

(e) Regularly visit the websites of the Ministry(ies) and States to identify new data uploads. Fetch any new data that has been uploaded on the websites.

(f) The Authority may include more data sources and reports over time.

6.(2)   **Data Aggregation**

(a) Extraction of accurate data from the various Government websites.

(b) Conversion of reports into machine readable format and extraction of the numeric information into machine readable format.

(c) All data points ingested into NDAP should have backend dataset mapping through location, time, and sector.

(d) Automatic Extract, Transform, Load (ETL) process to map incoming data to designed data model.

(e) Metadata management tool to track ETLs, transformations and changes made to data.

(f) Ability to process data from national to village/town level resolution (based on various codes like LGD codes, PIN codes, Census codes, etc.).

(g) Ability to aggregate information from individual data sets to higher aggregation levels based on location (e.g. village/ district/ city/ state) or time (daily/ weekly/ monthly/ quarterly/ yearly).

(h) Ability to input structured and semi-structured (e.g. XML, JSON) data formats.

(i) Seamlessly integrate an initial data capacity of 1 TB scalable up to 10 TB.

(j) Ensure quarterly incorporation of all non-API data within one week of publishing on the parent website of the data sources.

(k) System should be able to handle 2,000 concurrent users with on demand scalability to 10000 sessions.

(l) System should be able to give a response to any search query involving ten or less indicators (including their analysis and visualization) in 3 seconds or less.

(m) Portal to be procured and hosted on a Government of India Cloud (MeghRaj) or on a Ministry of Electronics and Information Technology (MeitY) empanelled cloud Consultant. Details about the cloud can be found on http://meity.gov.in/content/gi-cloud-

	meghraj
	(n) For the purpose of traceability, all downloaded reports from other Ministries and State Governments websites would be saved in the database along with the date and time of the fetch activity.
	7.(3) Data Analysis
	a.(a) Inbuilt visualization of data from datasets (e.g. bar chart, pie chart, bubble chart, donut chart, area chart, cartogram, info-graphics, 3D visualizations, radar chart, geo-mapping) with customizable data ranges and properties.
	b.(b) Inbuilt analytics (e.g. correlations, multivariable plotting) with drag and drop customization functionality/the ability to choose suitable graphs intelligently.
	c.(c) Animated visualizations on variable factors, including dynamic visualization with drill-down and drill-up features at all applicable granularity.
	d.(d) Ability to compare, analyse and reason data across datasets using spatial (location), temporal (time period), domain (sector) and measurement indicators.
	e.(e) Ability to generate customizable reports by cross-linking datasets.
	f.(f) Downloadable/shareable datasets at a customizable resolution, range, time interval, etc. in standard formats (e.g., xml, json, csv, etc.).
	g.(g) All visualizations exportable in formats as customized by user (e.g., jpeg, png, pdf, etc.).
	h.(h) Ability to share visualizations/data on third party websites while keeping the metadata, including the source attribution, traceable.
	i.(i) Provides metadata information (source, year, methodology, etc.) for datasets.
Interactivity and Accessibility	3.3.1(a) Built-in terminals and software for blind/visually impaired users. The navigation and usability aspects of the site should be friendly to blind/visually impaired people.
	3.3.2(b) English/Hindi language translations for audio/video tutorials with speech. The tutorials should have content in both English and Hindi, both as speech and written sub-titles.

	~~3.3.3~~(c) Multi-lingual website covering all 22 major Indian languages. Only the static navigation content needs to be made available in the major Indian languages.
	~~3.3.4~~(d) Context sensitive 'Help' feature.
	~~3.3.5~~(e) Integrated social media/share content function (email, Facebook, Twitter, etc.) as embedded graphics and embeddable code.
	~~3.3.6~~(f) Platform tutorial videos and media.
	~~3.3.7~~(g) Optional user registration for personalized features like "follow" datasets, sector, location and receive automated email/mobile alerts and notifications.
Site Analytics & Feedback	**Site Analytics**
	(a) Tracks site traffic (page views, visits, pages per visit, bounce rate, new visits, and average time on site, most popular datasets, most downloaded datasets, etc.).
	(b) Tracks user demographics (access browser, operating systems used, languages, state/country of access).
	(c) Tracks cookies and IP addresses.
	(d) Tracks which parts of the backend database are accessed and at what frequency to understand dataset relevance.
	(e) Site statistics are displayed on the website with the user having options to filter the statistics on simple parameters like location, date, sector, data source, etc.
	Feedback
	~~1.~~(a) Every page of the Portal would have an option for user Feedback as a floating icon on the page.
	~~2.~~(b) This floating icon for user feedback would be accessible while browsing various pages of the entire Portal.
	~~3.~~(c) Once clicked, pop-up window opens up.
	~~4.~~(d) There is a 5-Star rating of the site that the user can provide as feedback.
	~~5.~~(e) The pop-up window would have drop-down option on the reason for the feedback like: Incorrect search results, Data not available, In-appropriate visualization, In-appropriate analysis, data error, Other etc. Other opens up a blank box to enter the reason for the feedback.

	6.(f) Feedback details are compulsory to be entered by the user, including the Ministries who might have the missing data. 7.(g) User name, email and mobile number can be collected as optional fields for unregistered users. 8.(h) The captured feedback details along with the automatically generated screenshot (with details of the page, query and response) of the content currently displayed on the Portal is mailed to the admin of both the Vendor and NITI Aayog PMU along with being stored in the database as feedback logs. 9.(i) The list of new data items missing from the site along with number of requests would be made available on the NDAP portal on a monthly basis and also reach out to the Ministries and State Governments requesting that data.
Security	Produce an "Application Security Audit Clearance Certificate" for the solution to be deployed and should ensure adherence to approved security guidelines published by the Indian Computer Emergency Response Team (CERT-In), the Standardization, Testing and Quality Certification (STQC) by MeitY, or any other guideline issued by a Government of India agency. The Consultant should ensure the appropriate risk and contingency planning for project. Vendor is responsible for ensuring the timely completion of these activities in co-ordination with the certified vendors. Details of the same can be found on the following website: http://www.cert-in.org.in/.
Disaster Recovery and Business Continuity	3(a) The Consultant shall ensure that the NDAP system is protected against natural disasters, software failures, human error, and other contingencies that could interrupt services. 4(b) The Consultant shall establish and maintain a disaster recovery environment suitable to enable business continuity in the event of a disaster that affects the operational environment. 5(c) The Consultant shall forthwith create a Business Continuity Plan (BCP) that shall include a Disaster Recovery Plan as well as security policies and procedures. The BCP shall contain information regarding how the NDAP systems and data will be protected, what steps would be taken to replicate/restore/recover any lost data and the

	timeframes involved, frequency of maintenance procedures/hardware and software upgrades and their impact on system performance, capacity and/or uptime.
	~~6~~(d) The Consultant shall conduct an exercise to test the BCP twice a year and meet Recovery Time Objectives (RTO) of 8 Hours and Recovery Point Objectives (RPO) of 2 Hours for NDAP applications. Test results shall be compiled by the Consultant in a report to be shared with the Authority. In addition, emergency drills shall be conducted once a year.

3.1.2   The Authority shall have the right to add or edit the features specified above. If significant costs are associated with any additional features, then the manday rates for same, as specified by the Consultant in its Bid, shall be used for making additional payments to the Consultant.

3.1.3   The Authority may, in its discretion, undertake a third party audit of the aforesaid software at its own cost and expense.

3.2   User Acceptance Test

3.2.1   The Consultant shall prepare a list of user acceptance criteria as part of a Test Plan prior to commencing the development of NDAP and submit to the Authority for approval.

3.2.2   Prior to go-live, Consultant will demonstrate and ensure that the system meets all functional and technical requirements as specified in this TOR.

3.2.3   The Test Plan should support function/system integration/stress and load/User Acceptance Test (UAT) to ensure that the software is comprehensive, auditable, and complete with test cases.

3.2.4   As part of system integration testing, the Consultant should test data conversion and migration to the new Data Warehouse ecosystem and ensure transaction data flows accurately.

3.2.5   Test procedures shall be carried out by the Consultant to assess the following:

   (a)   conformity with the functional requirements and require process operations;

   (b)   performance of the system with reference to response time and accuracy;

   (c)   integrity of the software after installation;

   (d)   user friendliness; and

   ~~7~~(e)   other parameters as determined by the Authority.

3.2.6   The Consultant must eliminate any operational bugs that arise from testing and fine tune the software as needed.

3.2.7   On the basis of these tests, a report would be submitted by the Consultant for review and approval by the Authority. The test results and response times should be demonstrated by the Consultant in an environment and infrastructure as mutually agreed upon by the the Authority and the Consultant.

3.3   Testing and Go-Live

(a)3.3.1   The Consultant shall prepare a Test Plan after the development and customization/ configuration of the NDAP to demonstrate and ensure that the system meets all functional and technical requirements as brought out in this RFP and the detailed Work Plan prior to Go-Live.

(b)3.3.2   The Test Plan should support function/system integration/stress and load/User Acceptance Test (UAT) to ensure that the software is comprehensive, auditable, and complete with test cases.

(c)3.3.3   As part of system integration testing, the Consultant should test data conversion and migration to the new Data Warehouse ecosystem and ensure transaction data flows accurately.

(d)3.3.4   Test procedures shall be carried out by the Consultant to assess the following:

   (a) conformity with the functional requirements and required process operations;
   (b) performance of the system with reference to response time and accuracy;
   (c) integrity of the software after installation;
   (d) user friendliness; and
   (e) other parameters as determined by the Authority.

(e)3.3.5   The Consultant must eliminate any operational bugs that arise from testing and fine-tune the software as needed.

(f)3.3.6On the basis of these tests, a report would be submitted by the Consultant for review and approval by the Authority. The test results and response times should be demonstrated by the Consultant in an environment and infrastructure as mutually agreed upon by the Authority and the Consultant.

3.4   Security Testing and Audit

3.4.1   The NDAP should be compliant with the guidelines of GIGW and be functional and load tested and consequently certified by the STQC Directorate.

3.4.2   The NDAP should be security audited by a reputed CERT-In empanelled testing firm (to be nominated by the Authority) prior to deployment into production server or before Go-Live of the Project.

i.3.4.3 The Consultant shall bear all expenses relating to security testing and audit. As such, payment to the auditing agency shall be made by the Consultant.

ii.3.4.4 The NDAP shall be regularly audited from the CERT-In empanelled agency. The frequency of auditing shall be six-monthly or earlier in case of a major change in any application or module.

3.4.5 The NDAP solution will be considered Go-Live (implemented) when all the above conditions are satisfied.

3.5 Documentation

3.5.1 The following Deliverables would be provided as part of the final documentation:

    (a) Training Document;

    (b) Portal documentation;

    (c) Training videos showing step-wise flows;

    (d) System Architecture;

    (e) Database design;

    (f) Source code;

    (g) Taxonomy and meta-data information;

    (h) Analytical models and their documentation (Natural Language, Information Extraction, etc.);

    (i) Related username and passwords to the system; and

    (j) Maintenance Schedule.

3.6 Training of the Authority staff

3.6.1 The Consultant shall provide trainings and tutorials of the NDAP for the Authority staff, including development, rollout and management of a standard staff training plan, creation of the necessary training material/resource documents.

3.6.2 Training may be offered as online support, phone and email support, on-site training, or any combination thereof as determined by the Authority from time to time.

3.6.3 At a minimum, the training topics shall include:

    (a) Solution architecture and design;

    (b) Technical operations;

    (c) Data migration, including data integration and uploading;

    (d) Analytics, visualization, and reporting tools;

    (e) Terminology services support; and

(f)   Resolving user queries.

3.6.4   The Consultant shall provide the following documents:

(a)   Hard copy and electronic versions of training materials;

(b)   a training approach that will support initial training requirements;

(c)   a training approach that will support ongoing training requirements;

(d)   proposal that includes web-based training modules;

(e)   proposal for in-person training; and

(f)   staff education to maintain the confidentiality of sensitive information.

3.7   Data Transition

3.7.1   Following the expiry or termination of the Agreement for any reason, the Consultant shall ensure that the Authority has exclusive access to and control of the NDAP data in a format that is reasonably acceptable and without any additional cost to the Authority.

3.7.2   In the event that the Authority transfers the NDAP data to a new or replacement system and/or grants a designated agency access to the NDAP data, the Consultant shall provide technical assistance to the Authority to facilitate data transition.

3.7.3   Data transition shall include the migration of user addresses, user credentials, saved messages, all inbound messages, and any other processes necessary to carry out complete knowledge transfer.

3.7.4   The Consultant shall provide shadow support through the completion of data transition.

4.   OPERATIONS PHASE

4.1   Deliverables

4.1.1   The Consultant shall deliver the following deliverables (the "**Deliverables**") during the Operations Phase of this Consultancy:

~~1.~~(a)   Maintenance of NDAP;

~~2.~~(b)   Monitoring;

~~3.~~(c)   Software Upgrades; and

~~4.~~(d)   Change Request.

4.1.2   The aforesaid Deliverables are briefly described in Paragraphs 4.2 to 4.5 below.

4.2   MAINTENANCE OF NDAP

4.2.1   The Consultant shall provide a schedule for regular maintenance of the portal during the Project period. The Consultant shall ensure that there is no fall in service quality during maintenance. Routine maintenance shall include server upgrades, software upgrades, solution stability monitoring, annual technical support, troubleshooting and addressing the functionality, availability and performance issues.

4.2.2   The Consultant shall discharge the following obligations during the Operations Phase:

(a)   Provide online support based on the timelines defined in the SLA;

(b)   Re-train and update any and all models used in the platform (e.g. natural language processing, user profiling, search suggestion optimization), at least every three months for the duration of the Project;

(c)   ensure necessary infrastructure uptime of the NDAP in accordance with the Consultancy and Service Agreement;

(d)   ensure that the environment is bug and error free, running smoothly, and simultaneously incorporating necessary configuration changes in the software stack;

(e)   implement code change requests made by the Authority in deployed custom coding;

(f)   ensure that all modifications and enhancements suggested by the Authority are duly sized and resolved as per mutually agreed timeframes;

(g)   provide warranty support and up-to-date annual maintenance of components of the NDAP including software;

(h)   stay up-to-date with the production environment and new releases and technology advancements through Original Equipment Manufacturer (OEM) patches;

(i)   provide a comprehensive content management system for the platform to track progress and current status as data is added automatically from source Ministry(ies) with live feeds, highlights and updates, along with periodic archiving of old content;

(j)   provide full support and maintenance related to the software coming from third-party Original Equipment Manufacturer (OEM); and

(k)   ensure availability of all dependent systems like ticketing, repository and other related services.

4.3   Monitoring

4.3.1.   The Consultant shall monitor the service levels as defined in Annex-8 of the Service & Consultancy Agreement.

4.3.2   The Consultant shall provide monitoring tools to maintain the service levels specified in the Consultancy and Service Agreement for all features mentioned in the 'Features and Functionality' section.

4.3.3   The Consultant shall integrate and capture website analytics to track traffic of users based on multiple filters such as demographics, areas accessed, browser types and time spent on the Platform. Reports on these parameters shall be provided to the Authority on monthly basis.

4.3.4   The solutions provided by the Consultant shall have an integrated management tool to monitor the hardware, OS, software, administration and management.

4.3.5   The Consultant shall monitor the servers for performance utilization measures, response, memory, disk space, bandwidth and uptime.

4.3.6   The Consultant shall document and demonstrate measurement of system performance benchmarks against similar systems.

4.3.7   The Consultant shall monitor network connections, devices, activity, database sizing, system response times, availability, utilization, and memory, and defect tracking.

4.3.8   The Consultant shall provide documentation describing performance utilization measurement capabilities and monitoring capabilities.

4.4   Software Upgrades

4.4.1   The Consultant shall be responsible for all software upgrades, including identification, timing, testing and implementation.

4.4.2   New versions of the technology solution components that are issued by the Consultant during the period of the Agreement shall be implemented by the Consultant as part of the NDAP project within 60 days of release of upgrades at no additional cost to the Authority.

4.5   Change Request

4.5.1   During the Operations phase, the Authority can come up with additional new features to be implemented. The Consultant shall provide the man-hour costs for such activity which can be taken up with mutual agreement.

5.   TIME AND PAYMENT SCHEDULE

5.1   Time schedule for important Deliverables (the "**Key Dates**" or "**KD**") of the Consultancy and the payment schedule linked to the specified Deliverables is given below:

Development Phase

Key Date No.	Description of Deliverables	Week No.	Payment

KD0	**Project Kick Off**		
(a)	Delivery of Project Plan, Software Requirements Specification (SRS), Inception reports and Project organization	3	0%
(b)	Development Strategy document, Kick-Off Presentation document and Sign-Off document		
KD1	**Project Design Phase**	6	5%
(a)	Presentation and approval of design mock-ups		
(b)	User Interface designs based on approved mock-ups		
(c)	Development and presentation of Proof of Concept of the entire portal with all functionality with mock data		
KD 2	**Data Visualization**	12	10%
(a)	Completion of the Data Features – Front end (including development and testing of all the required visualization)		
(b)	Demonstration of the Data visualization features		
KD 3	**Data Requirements**	16	7.5%
(a)	Completion of the features in 'Data – Aggregation'		
(b)	Completion of features in 'Coverage of data sources and features' related to API integration and fetch from other sources		
(c)	Demonstration of the 'Data aggregation' features through appropriate use-cases and examples		
(d)	Incorporation of feedback received in 'Data Front-end' features on previous Deliverables		
KD4	**Search Requirements (Basic)**	20	7.5%
(a)	Development and presentation of the search feature, including natural language understanding		
(b)	Incorporation of feedback received on any of the previous Deliverables		
KD 5	**Search Functionality (Complete)**	24	7.5%
(a)	Development and presentation of all the features mentioned under 'Search		

	Capability' functionality – including input interpretation and display of results		
(b)	Incorporation of feedback received on any of the previous Deliverables		
KD 6	**Additional Features**	28	7.5%
(a)	Completion of features in 'Interactivity and Accessibility'		
(b)	Completion of features in 'Site Analytics'		
(c)	Completion of features in 'Security' & 'User Feedback'		
(d)	Incorporation of feedback received on any of the previous Deliverables		
(e)	Completion of features in 'Functionality'		
(f)	Completion of features in 'Organizational Logic'		
(g)	Provisioning for 'Disaster Recovery & Business Continuity'		
KD 7	**User Acceptance Test (UAT)**	36	7.5%
(a)	UAT, load testing and profiling of the entire portal with all the features		
(b)	Submission of complete test report along with criteria, issues and logs		
(c)	Incorporation of feedback received on any of the previous milestones		
KD 8	**Further Data Integration**	40	7.5%
(a)	Fine tuning the learning models, taxonomy and natural language understanding based on the updated datasets		
(b)	Incorporation of feedback received on any of the previous Deliverables		
KD 9	**Acceptance Testing and Go-Live**	48	10%
(a)	Completion of entire testing and sign-off from the project team on the go-live across all features and functionalities		
(b)	Obtaining Acceptance Test clearance and Achieving Go-Live		
KD 10	**Training and Documentation**	52	10%
(a)	Submission of all documentation and training material (mentioned below)		
(b)	Resolution of all issues and complaints received within one month of go-live		
KD 11	Completion of Services during the first two years	104	10%
KD 12	Completion of all Services	260	10%
	Total		100

5.2   Payments to be made to the Consultant shall be in accordance with the payment schedule provided in this Paragraph 5 and shall be divided into two stages:

   1.(a)   Development Phase - 60% of Agreement Value

   2.(b)   Operations Phase - 40% of Agreement Value

5.3   Payment to be made for and in respect of the Operations Phase commencing from the 1st (first) anniversary of the Effective Date shall be equal to 40% (forty per cent) of the Agreement Value. The payment during Operations Phase shall be released on a quarterly basis for Services rendered during any preceding quarter of the Operations Phase and shall be equal to 2.5% (two point five per cent) of the Agreement Value.

5.4   The Authority shall have the right to withhold any payment due to the Consultant in case of delays or defaults in the work undertaken by the Consultant. Such withholding of payment shall not amount to a default on the part of the Authority.

5.5   The phase wise payment shall be made upon receipt of confirmation of satisfactory delivery, (re-)installation, live running, and service report of Deliverables.

5.6   The Authority shall have the right to add/edit the features listed in Paragraph 2.3 to be designed and developed by the Consultant. If significant additional costs are associated with any additional features, then the man day rates specified in the Agreement shall be used to make additional payments to the Consultant.

5.7   The Additional Costs specified in Annex-V of the Agreement shall be due and payable in addition to the payments specified in Paragraph 5.2.

6.   MEETINGS

Regular review meetings with the Consultant shall be conducted at the Authority office on a fortnightly basis. The expenses towards attending such meetings during the period of Consultancy shall be borne by the Consultant. At least one of the Key Personnel shall participate in every such meeting.

7.   CONSULTANCY TEAM

7.1   The Consultant shall form a multi-disciplinary team (the "**Consultancy Team**") for undertaking this assignment. The following Key Personnel whose experience and responsibilities are briefly described herein would be considered for evaluation of the Technical Proposal. Other expertise required shall be included in the Team either through the Key Personnel specified below or through other Professional Personnel, as necessary.

(a)   Project Director &Team Leader

Educational Qualifications	B. Tech or equivalent

Essential Experience	10 (ten) years
Job responsibilities	He/she will lead, co-ordinate and supervise the Project. He/she will also be the nodal person responsible for dealing with the Authority.
Minimum time required on the Project	He/she will spend at least 10 (ten) mandays per month on the Project until KD10 and 4 (four) mandays per month thereafter until KD12.

(b)   System Architect

Educational Qualifications	B. Tech or equivalent
Essential Experience	7 (seven) years
Job responsibilities	He/she will be responsible for developing and designing the overall project, including aspects of data feasibility, system design, database design and technical components. He/she will also be responsible for unit testing, scenario testing and load testing of the overall application
Minimum time required on the Project	He/she will spend at least 10 (ten) mandays per month on the Project until KD10 and 3 (three) mandays per month thereafter until KD12.

(c)   Data & Analytics Lead

Educational Qualifications	B. Tech or equivalent
Essential Experience	7 (seven) years' experience
Job responsibilities	He/she will be responsible for the overall functioning of various analytical aspects of the Project.
Minimum time required on the Project	He/she will spend at least 10 (ten) mandays per month on the Project until KD10 and 3 (three) mandays per month thereafter until KD12.

(d)   Usability Lead

Educational Qualifications	B. Tech or equivalent
Essential Experience	7 (seven) years' experience
Job responsibilities	He/she will be responsible for delivering an easy to use and intuitive portal for the users.

Minimum time required on the Project	He/she will spend at least 10 (ten) mandays per month on the Project until KD5 and 3 (three) mandays per month thereafter until KD10.

(e) **Natural Language Processing (NLP) Lead**

Educational Qualifications	B. Tech or equivalent.
Essential Experience	7 (seven) years' experience
Job responsibilities	He/she will develop the NLP algorithms for advanced search and also the Machine Learning (ML) algorithms for other advanced features.
Minimum time required on the Project	He/she will spend at least 10 (ten) mandays per month on the Project until KD6 and 3 (three) mandays per month thereafter until KD10.

7.2 The Consultant shall establish a Project Office at a suitable location in the National Capital Region, for efficient and coordinated performance of its Services. The authorised officials of the Authority may visit the Consultant's Project Office any time during office hours for inspection and interaction with the Consultant's Personnel. It is not expected of the Consultant to carry out the operations from the Head/Home Office.

7.3 The Consultant shall mobilise and demobilise its Professional Personnel and Support Personnel with the concurrence of the Authority and shall maintain the time sheet/ attendance sheet of the working of all Personnel in the Project Office. These time sheets/ attendance sheets shall be made available to the Authority as and when asked for and a copy of such record shall be submitted to the Authority at the end of each calendar month.

8. REPORTING

8.1 The Consultant will work closely with the Authority. The Authority has established a Project Management Unit (the "**PMU**") to enable conduct of this assignment. A designated Project Director of the Authority will be responsible for the overall coordination and project development. He will play a coordinating role in dissemination of the Consultant's outputs, facilitating discussions, and ensuring required reactions and responses to the Consultant.

8.2 The Consultant may prepare Issue Papers highlighting issues that could become critical for the timely completion of the Project and that require attention from the Authority.

8.3 The Consultant will make a presentation on the Inception Report for discussion with the PMU at a meeting. This will be a working document. The Consultant is required to prepare and submit a monthly report that includes and describes, *inter alia*, general progress to date; data and reports obtained and reviewed, conclusions to date, if any; concerns about availability of, or access to, data, analyses, reports; questions regarding the TOR or any other matters regarding work scope and related issues; and so on. The Consultants' work

on the TOR tasks should continue while the report is under consideration and is being discussed.

8.4   Regular communication with the PMU and the Project Director is required in addition to all key communications. This may take the form of telephone/ teleconferencing, emails, faxes, and occasional meetings.

8.5   The Deliverables will be submitted as per schedule provided in this RFP.

9.   DATA TO BE MADE AVAILABLE BY THE AUTHORITY

The Authority shall provide to the Consultant the following:

1.(a)   Link to API's from where data needs to be fetched.

2.(b)   List of priority sector reports for domains like agriculture, HRD, Healthcare and Finance, which may be changed by the Authority from time to time.

(c)   Link and names of portals from where data need to be fetched by writing code.

(d)   Existing data in machine readable format that can be directly ingested.

(e)   Names of various indicators for which data needs to be collected.

(f)   LGD (Local Government Directory) Codes for locations across India.

10.   COMPLETION OF SERVICES

10.1   All the outputs including primary data shall be compiled, classified and submitted by the Consultant to the Authority in soft form apart from the reports indicated in the Deliverables (Paragraph 4.1 and 5.1). The outputs shall remain the property of the Authority and shall not be used for any purpose other than that intended under these Terms of Reference without the permission of the Authority. The Consultancy shall stand completed on (a) acceptance by the Authority of all the Deliverables of the Consultant and completion of all Services or (b) 312 (three hundred and twelve) weeks from the Effective Date, whichever is earlier. The Authority shall issue a certificate to that effect. The Consultancy shall in any case be deemed to be completed upon expiry of 6 (six) years from the Effective Date, unless extended by mutual consent of the Authority and the Consultant.

Attachment-I

Indicative List of Reports

Associated Ministries/Departments/ affiliated bodies	Details of Key Reports/Databases/Surveys	Frequency
Agriculture		
Department of Agriculture & Farmers' Welfare	(1)1. Agricultural Situation in India Report	Annually
		Monthly
	(2)2. Agricultural Statistics at a Glance Report	Annually
		Annually
	(3)3. Horticultural Statistics at a Glance Report	
		Daily/Weekly/
	(4)4. State of Indian Agriculture Report	Monthly/Annually
	(5)5. Annual Report	Monthly
	(6)6. Horticulture Information Service Statistics	Once in Five Years
		Annually
	(7)7. Facts & Figures (Indian F & V) Report	Annually
		Annually
	(8)8. Agriculture Census in India Report	
	(9)9. Agricultural Prices in India Report	Annually
	(10)10. Land Use Statistics at a Glance Report	Annually
	(11)11. Farm Harvest Prices of Principal Crops in India Report	Annually
	(12)12. Reports of CACP and Cost of Cultivation of Principal Crops in India	
	(13)13. District-wise Area & Production of Principal Crops in India	
	(14)14. Agricultural Wages in India Report	
Department of Animal Husbandry, Dairying & Fisheries	(i)1. Livestock Census Report	Once in Five Years
	(ii)2. Basic Animal Husbandry & Fisheries Statistics Report	Annually
	(iii)3. Annual Report	Annually
Department of Agricultural Research & Education	1. Indian Journal of Animal Sciences	Annually
	2. Indian Journal of Agricultural Sciences	Annually
	3. ICAR Data-book	Annually
	4. Annual Report of ICAR/DARE	Annually

Agricultural and Processed Food Products Export Development Authority	1. APEDA Annual Book 2. MPEDA Monthly Publication 3. Annual Report	Annually Monthly Annually
Finance		
Ministry of Finance	1. Union Budget	Annually
Department of Expenditure	1. Outcome Budget 2. Report on Pay and Allowances	Annually Annually
Department of Revenue	1. Details on expenditure statements 2. Daily Customs Revenue Report	Annually Daily Updated
Department of Financial Services	1. Progress Reports of Pradhan Mantri Jan Dhan Yojana 2. Annual Report of Pradhan Mantri Mudra Yojana	Monthly Annually
Department of Economic Affairs	1. Economic Survey 2. Public Finance Statistics Report 3. National Summary Data Page (period not mentioned) 4. Public Debt Management report and statistics 5. External Debt Report 6. Debt statistics 7. Outcome Budget 8. Central Government Borrowings Report 9. Overseas Direct Investments Report	Annually Annually Period not mentioned Quarterly Bi-annually Annually Annually Quarterly Monthly
Reserve Bank of India	1. RBI's database on Indian economy 2. Report on Trend and Progress in Banking in India 3. Financial Stability Report 4. Monetary Policy Report 5. Foreign Exchange Reserves Report 6. Legal News and Views Report 7. Macroeconomic and Monetary Developments Report 8. Occasional Papers 9. Quarterly Statistics on Deposits and Credit of Scheduled Commercial Banks Report 10. Survey of Professional Forecasters - Results 11. Quarterly Order Books, Inventories and Capacity Utilisation Survey 12. Quarterly Industrial Outlook Survey 13. Consumer Confidence Survey 14. Variation to Foreign Exchange Reserves in India Report	Weekly/monthly/quarterly/ Annually Annually Bi-annually Bi-annually Bi-annually Quarterly Quarterly Quarterly Quarterly Quarterly Quarterly Quarterly Quarterly Quarterly Quarterly

	15. Inflation Expectations Survey of Households Report 16. Survey of Professional Forecasters 17. Monetary and Credit Information Review 18. Weekly Statistical Supplement	Bi-monthly Monthly Weekly
Securities & Exchange Board of India	1. SEBI's handbook of statistics 2. SEBI's handbook of statistics on Indian Securities Market 3. SEBI's data related to Alternate Investment Funds, Corporate Bonds, Venture Capital Funds, Foreign Capital Investors, Assets managed by portfolio managers, corporate filings 4. Annual Report	Annually Annually Annually Annually

	Health	
Department of Health and Family Welfare	1. National Family Health Survey 2. Rural Health Statistics Report 3. National health accounts 4. Annual Reports of NVBDCP/NC DC 5. Drugs Survey Report 6. Health Sector Financing report 7. Annual Reports 8. Outcome Budget 9. HMIS Database	Once in 3 years Annually Annually Annually Biennially (o) Annually Annually Annually Annually
Department of Health Research	1. Annual Reports 2. Outcome Budget	Annually Annually
Indian Council of Medical Research	1. ICMR Publications and Annual Reports	Annually
Integrated Disease Surveillance Program	1. Annual Report	Annually
Central Bureau of Health Intelligence	1. National Health Profile	Annually
Census India	1. SRS Statistical Profile	Annually
Ministry of Statistics and Programme Implementation	1. National Sample Survey – Health Round	As determined by the authority
Autonomous medical institutes and bodies	1. Annual Reports	Annually

	Human Resource Development	
School Education and Literacy (Department and Autonomous bodies)	1. Educational Statistics at a Glance 2. NAS data from NCERT 3. Annual Reports by Kendriya Vidyalayas, NVS	Annually Biennially Annually

	4. Shaalakosh Annual Report	Annually
	5. SSA Annual Report	Annually
	6. DIKSHA Annual Report	Annually
	7. Outcome Budget	Annually
Higher Education	1. All India Survey on Higher Education	Annually
	2. Swayam Annual Report from AICTE	Annually
	3. Annual Reports of Autonomous bodies and Institutions	Annually
	4. Outcome Budget	Annually
U-DISE	1. Student Data Capture report	Annually
	2. State-wise, District wise Report Cards	Annually
	3. Analytical Reports	Annually
	4. Flash Statistics Report	Annually
	5. Elementary Education in Rural and Urban India Report	Annually
National Institutional Ranking Framework	1. Ranking Reports	Annually