Province Government
Ministry of Agriculture, Land Management & Cooperative
Directorate of Livestock & Fisheries Development
Lumbini Province, Butwal

Terms of Reference
For

Application Development (Animal Vaccination Infomation System-AVIS)

1. Introduction

Directorate of Livestock & Fisheries Development (DoLFD) is a Government organization, with a mandate to formulate, implement, monitor and regulate provincial plans, policies and laws related to livestock & fisheries development. It also holds the responsibility of regulating and directing as well as giving feedback to the nine Veterinary Hospital and Livestock Service Centers (VHLSECs) and 3 Integrated Agriculture and Livestock Development Office (IALDO) under it. It is also dedicated to foster the production & productivity of livestock & fisheries sector, control and prevent epidemic disease outbreaks, conduct livestock extension services, help in implementation of federal policies & programs. Furthermore, it cooperates and coordinates with other stakeholders of livestock and fisheries sector for the development of these sectors and upliftment of farmer's economy.

Disease control is one of the major responsibilities of DoLFD. It conducts vaccination program annually in all the districts of Lumbini Province via. VHLSECs and IALDOs in coordination with Livestock Service Sections (LSSs) of local levels. Vaccination program is conducted against major livestock diseases like FMD, PPR, HS/BQ, LSD and Swine Fever along with ND in backyard poultry and Rabies in dogs & cats. Currently, the details of vaccination work are recorded in paper format, data is entered in a software and payments are made accordingly. There is no provision of offline data entry and location tracking. So a software that is compatible with both web and in smartphone app with feature friendly to vaccinator is needed. Thus, to systematize the vaccination recording system, DoLFD has planned to develop a reliable application/software.

2. About Application Development of DoLFD

2.1 Importance of Application (AVIS)

Data management is quite indispensable for the success of any program or activity. Data entry through both web applications and mobile devices offers flexibility and accessibility, allowing users to input and view data from various platforms. This software must serve as a critical foundation for our vaccination program, optimizing data collection, cross-team collaboration, and executive decision-making. The team must deliver a dedicated mobile app optimized for smartphone and tablet form factors alongside a centralized, highly responsive web application accessible via any modern browser. Both platforms must feature an intuitive, user-friendly interface with standardized data entry forms capable of capturing structured text, numeric variables, and calendar dates seamlessly. Also, build a unified database backend that ensures immediate, bi-directional synchronization and real-time updates between the web and mobile environments. This integration must guarantee that any information input on a mobile device is instantly viewable and editable on the web portal, maintaining strict data consistency and a single source of truth across the entire organization.

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2.2 Project Area

The application (AVIS) developed through this project will be implemented in all the 12 districts and 109 local levels of Lumbini Province via VHLSECs and LSSs.

3. Objective of the Project

The objective of this project/assignment is to develop an application in order to systematize the animal vaccination recording system in Lumbini Province.

4. Scope of the Assignment

The scope of services under this assignment shall include but not limited to the followings:

4.1 Perform of detailed assessment of the livestock vaccination program in Lumbini Province. Based on assessment, the consultant will design, develop and implement the vaccination recording & information application.

4.2 The DoLFD personnel need to be capacitated and backed up frequently to operationalize the application. Frequent onsite coaching to the application users is also essential part of application operation, which need to be ensured by application consulting firm/consultancy. The consultancy will also include implementation, commissioning and maintenance of AVIS software, and all associated services as mentioned in the TOR.

4.3 The scope of work also covers all the necessary activities including handholding and post implementation support, maintenance, and support services etc. for continuous improvement and operationalization of AVIS application. The Consulting firm is also expected to provide manuals and CDs for handholding support.

4.4 All the bugs reported during the handholding phase shall be fixed by the consulting firm. Maintenance, up-gradation of AVIS portal and incorporation of additional user requirements during the handholding phase shall be the responsibility of the consulting firm. Maintenance of the skilled and trained staff for the resolution of any issues and incorporation of changes, shall be done by the consulting firm.

4.5 Provide Operation and Maintenance services of the system up to fiscal year (defective liability period until F.Y. 2083/84) from the completion of proposed task. The Maintenance and Support Services will cover, all product upgrades and modifications. The consultancy will be responsible for technical back stopping, web hosting, data entry supports and follow up support services up to 1 Year.

4.6 Organize a training to the DoLFD staff (at least 3 numbers) for general Operation and Management of the system.

4.7 The developed web-based software's system should be mobile responsive and compliance with Web Content Accessibility Guidelines.

4.8 The application (AVIS) should include both English and Nepali language.

4.9 The consultant will be responsible to communicate with National Information Technology Center (NITC) regarding any technical issues on development, operation and maintenance of the web-based system with database management system.

4.10 The Application shall be in the latest upgraded version and shall be user friendly and interactive.

4.11 Document management system with easy access search system on web system.

5. Project Duration

The total duration of the project/ assignment will be **maximum 60 days** from the date of agreement – for the development, deployment and testing services.

6. Development of System & Process

The proposed system/application should have following features:

- ✓ The system should have provision of data entry on both web/or app, either offline or online, with automatic updating.
- ✓ The offline data should be synchronized with the system once it receives online access.
- ✓ The system should have the provisions of recording for all types of vaccines of livestock viz. FMD, HS/BQ, LSD, PPR, CSF including Rabies in dogs/cats.
- ✓ The system should enter complete information of a farmer/farm where vaccination is conducted by the vaccinators like name of farmer, address, and contact number. On the other hand, details of the number of different species of animals present on the farm/household and number of animals vaccinated, date of vaccination should also be entered. These details should be entered separately for each types of vaccines given.
- ✓ Every farmer/farm entry should be accompanied by GPS location of the site.
- ✓ The reports for each types of vaccination program generated by the system/app should be as per the Annex 1 to Annex 5.
- ✓ There should be provision of reports being generated in English language too.
- ✓ Access to vaccination data & reports should be in following order:
    - Ward level data/reports should be accessed by concerned local level authorities or Livestock Service Section.
    - Local levels data/reports should be accessed by concerned district Veterinary Hospital & Livestock Service Centers.
    - District levels data/reports should be accessed by DoLFD, Butwal and Ministry of Agriculture Land Management and Cooperatives.

7. Team Composition

This assignment is expected to be undertaken by the team of different experts with their qualifications and experience as follows:

SN	Position	Human Resources	Qualification / Experience
1	Team leader	1	• Master's degree in computer science or Computer Application or IT or Information System or Information Management or in any other relevant field of study; • At least 5 years of experience; • Proven track record in system analysis and design • Strong experience in leading software projects with quality maintenance; • Excellent human relations, coordination, planning and team work; • Good presentation, communication and report writing skills

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SN	Position	Human Resources	Qualification / Experience
2	Backend Developer	1	• Bachelor's degree in ICT, information management, computer science and information technology, computer engineering, electronics and computer engineering, digital communications or other relevant fields; • At least 2 years of experience in Backend development. • Excellent programming skills; • Good presentation and communication skills.
3	Frontend Developer	1	• Bachelor's degree in Information Technology or computer engineering or other relevant fields; • At least 2 years of experience in frontend developing applications.
4	Support Staff (for Maintenance & Training)	1	• Bachelor's in IT or relevant field. • At least two years of experience in system maintenance, support, and user training.

8. Expected Features/Functionalities of the Application Development

- The application developed (AVIS) should be user friendly.
- The application should be able to generate all the required reports as in the annexes.
- Users should be able to download a mobile app compatible with iOS and Android devices.
- Responsive layout and dynamic system.
- Customizable forms should allow users to capture specific data points relevant to their tasks or workflows.
- A web-based dashboard that provides a centralized view of the data collected from mobile devices.
- Real-time data synchronization should ensure that updates made on the mobile app are immediately reflected in the web application.
- Data be filtered, sorted, and exported for further analysis or reporting purposes.
- Two-way synchronization should ensure that data entered through the mobile app is synchronized with the central database, and vice versa.
- Access controls and permissions should restrict user access to sensitive data, maintaining data security and compliance with regulations.
- User management features should allow administrators to create and manage user accounts, roles, and permissions.
- Collaborative features should enable multiple users to collaborate on data entry tasks or projects in real-time.

9. Qualification Requirement of Consulting Firm

- Minimum 2 years of experience and expertise in web portal/platform and/or application development.
- Preferable working experience in developing application of agriculture, livestock or social sector.
- Demonstrated experience in designing, visualizing, developing, launching, and managing such web portal/platforms and/or application.
- Ability to provide post implementation support.
- Clearly demonstrated ability to work on time and deliver high-quality outputs.

- Experience in working with Nepal Government or Provincial Government and or donor funded projects is preferable.

10. Deliverables

- Functional codebase
- Proper System architecture design and Documentation
- User manual
- Security Audit Report

10. Client's Input and Counterpart Personnel

- The Client will own the codebase after the handover.
- The Consultant shall work under the general guidance and supervision of Director or Senior Livestock Development Officer of DoLFD.
- The Consultant shall be responsible for all necessary logistics support and whatever support and service they need during contract implementation. i.e. DoLFD will not provide any logistic support to the Consultant during execution of consultancy service.
- DoLFD shall provide relevant reports and documents to the Consultant on return basis and facilitate coordination between the consultant and concerned stakeholders/institutions as and when necessary.
- Client will host and operate on province government cloud consultant will support and deploy.

11. Selection Procedure

- The consultant shall be selected as per the provisions of Public Procurement Act, 2063 and Public Procurement Rules, 2064.

12. Mode of payment

- 100% of total agreement amount will be paid after acceptance of final report and all required deliverables.

13. Taxes and deductibles

- Taxes should be as per the rule of Government of Nepal

महानिर्देशक

Annex-1

खोरेत खोप अभिलेख फारम/खोप विवरण

(FMD Vaccination Record)

आ.व.२०...../.....

स्थानीय तहको नामः ..... स्थानीय तह कोडः ..... जिल्लाः ..... जिल्ला कोडः .....

भ्याक्सिनेशन अवधिः.....देखि.....सम्म

क्र.सं.	कृषकको नाम	ठेगाना	कृषकसंग भएको पशु संख्या						खोप लगाईएको पशु संख्या						कृषकको सम्पर्क नं.	कैफियत
		वडा नं.	गाई जाति	भैंसी जाति	बाखा जाति	भेंडा जाति	बङ्गुर जाति	जम्मा	गाई जाति	भैंसी जाति	बाखा जाति	भेंडा जाति	बङ्गुर जाति	जम्मा		
	कूल जम्मा															

भ्याक्सिनेसन गरेको व्यहोरा ठीक साँचो हो भनी प्रमाणित गर्ने स्थानीय तह/वडाको प्रतिनिधिकोः

दस्तखतः

नामः

पदः

कार्यालयको छापः

भ्याक्सिनेटर/खोपकर्ताकोः

दस्तखतः

नामः

ठेगानाः

सम्पर्क नं.-

महानिर्देशक

Annex-II

पि.पि.आर. खोप अभिलेख फारम/खोप विवरण

(PPR Vaccination Record)

आ.व.२०...../.....

स्थानीय तहको नामः ..... स्थानीय तह कोडः ..... जिल्लाः ..... जिल्ला कोडः .....

भ्याक्सिनेशन अवधिः.....देखि.....सम्म

क्र.सं.	कृषकको नाम	ठेगाना	कृषकसंग भएको पशु (भेंडा/बाख्रा) संख्या				खोप लगाईएको पशु (भेंडा/बाख्रा) संख्या				कृषकको सम्पर्क नं.	कैफियत
		वडा नं.	पाठापाठी	पठेंग्रा पठेंग्री/छतौरा छतौरी	व्यस्क	जम्मा	पाठापाठी	पठेंग्रा पठेंग्री/छतौरा छतौरी	व्यस्क	जम्मा		
	कूल जम्मा											

भ्याक्सिनेसन गरेको व्यहोरा ठीक साँचो हो भनी प्रमाणित गर्ने स्थानीय तह/वडाको प्रतिनिधिकोः
दस्तखतः
नामः
पदः
कार्यालयको छापः

भ्याक्सिनेटर/खोपकर्ताकोः
दस्तखतः
नामः
ठेगानाः
सम्पर्क नं.-

महानिर्देशक

Annex-III

क्लासिकल स्वाइन फिवर खोप अभिलेख फारम/खोप विवरण

(CSF Vaccination Record)

आ.व.२०...../.....

स्थानीय तहको नामः ..... स्थानीय तह कोडः ..... जिल्लाः ..... जिल्ला कोडः .....

भ्याक्सिनेशन अवधिः.....देखि.....सम्म

क्र.सं.	कृषकको नाम	ठेगाना	कृषकसंग भएको पशु संख्या				खोप लगाईएको पशु संख्या				कृषकको सम्पर्क नं.	कैफियत
		वडा नं.	पाठापाठी	बीर	भुनी	जम्मा	पाठापाठी	बीर	भुनी	जम्मा		
	कूल जम्मा											

भ्याक्सिनेसन गरेको व्यहोरा ठीक साँचो हो भनी प्रमाणित गर्ने स्थानीय तह/वडाको प्रतिनिधिकोः
दस्तखतः
नामः
पदः
कार्यालयको छापः

भ्याक्सिनेटर/खोपकर्ताकोः
दस्तखतः
नामः
ठेगानाः
सम्पर्क नं.-

महानिर्देशक

Annex-IV

भ्यागुते र चरचरे खोप अभिलेख फारम/खोप विवरण

(HS & BQ Vaccination Record)

आ.व.२०...../.....

स्थानीय तहको नामः ..... स्थानीय तह कोडः ..... जिल्लाः ..... जिल्ला कोडः .....

भ्याक्सिनेशन अवधिः.....देखि.....सम्म

क्र.सं.	कृषकको नाम	ठेगाना	कृषकसंग भएको पशु संख्या				खोप लगाईएको पशु संख्या				कृषकको सम्पर्क नं.	कैफियत
		वडा नं.	गाई जाति	भैंसी जाति	बाखा जाति	जम्मा	गाई जाति	भैंसी जाति	बाखा जाति	जम्मा		
	कूल जम्मा											

भ्याक्सिनेसन गरेको व्यहोरा ठीक साँचो हो भनी प्रमाणित गर्ने स्थानीय तह/वडाको प्रतिनिधिकोः
दस्तखतः
नामः
पदः
कार्यालयको छापः

भ्याक्सिनेटर/खोपकर्ताकोः
दस्तखतः
नामः
ठेगानाः
सम्पर्क नं.-

महानिर्देशक

Annex-V

रेविज खोप अभिलेख फारम/खोप विवरण

(Rabies Vaccination Record)

आ.व.२०...../.....

स्थानीय तहको नामः ..... स्थानीय तह कोडः ..... जिल्लाः ..... जिल्ला कोडः .....

भ्याक्सिनेशन अवधिः.....देखि.....सम्म

क्र.सं.	कृषकको नाम	ठेगाना	कृषकसंग भएको पशु संख्या				खोप लगाईएको पशु संख्या				कृषकको सम्पर्क नं.	कैफियत
		वडा नं.	कुकुर	बिरालो	अन्य	जम्मा	कुकुर	बिरालो	अन्य	जम्मा		
	कूल जम्मा											

भ्याक्सिनेसन गरेको व्यहोरा ठीक साँचो हो भनी प्रमाणित गर्ने स्थानीय तह/वडाको प्रतिनिधिकोः
दस्तखतः
नामः
पदः
कार्यालयको छापः

भ्याक्सिनेटर/खोपकर्ताकोः
दस्तखतः
नामः
ठेगानाः
सम्पर्क नं.-

महानिर्देशक

Annex-VI

लम्पि स्किन रोग खोप अभिलेख फारम/खोप विवरण

(LSD Vaccination Record)

आ.व.२०...../.....

स्थानीय तहको नामः ..... स्थानीय तह कोडः ..... जिल्लाः ..... जिल्ला कोडः .....

भ्याक्सिनेशन अवधिः.....देखि.....सम्म

क्र.सं.	कृषकको नाम	ठेगाना	कृषकसंग भएको पशु संख्या			खोप लगाईएको पशु संख्या			कृषकको सम्पर्क नं.	कैफियत
		वडा नं.	गाई जाति	भैंसी जाति	जम्मा	गाई जाति	भैंसी जाति	जम्मा		
	कूल जम्मा									

भ्याक्सिनेसन गरेको व्यहोरा ठीक साँचो हो भनी प्रमाणित गर्ने स्थानीय तह/वडाको प्रतिनिधिकोः

दस्तखतः

नामः

पदः

कार्यालयको छापः

भ्याक्सिनेटर/खोपकर्ताकोः

दस्तखतः

नामः

ठेगानाः

सम्पर्क नं.-

महानिर्देशक