Information Network for Animal Productivity and Health (INAPH)

Deployment Guide

NATIONAL DAIRY DEVELOPMENT BOARD, ANAND, GUJARAT
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ABOUT INAPH

INAPH comprises of three core modules- breeding, nutrition and animal health. In addition there are other supporting sub-modules – administration, laboratory and registration, which are by and large common to the core modules. Each of the core modules is described briefly. The general architecture of INAPH module is depicted below.

BREEDING SERVICES

Breeding Services records artificial insemination (Ai), pregnancy diagnosis, calving and, calf registration. In Progeny Testing/ Pedigree Selection areas, the breeding services also captures milk recording at regular intervals to estimate the lactation yield of the animals and help calculate breeding values of the bulls based on the production performance of their daughters. The Ai technicians employed by the identified service providing organizations collect and capture the relevant data at the time of registration of new animals which are uniquely identified with ear tags. This data is transmitted to the central server. The Ai technicians collect relevant data on Ai, pregnancy diagnosis and calving and transmit it to the central database. The milk recorders collect data on individual animal milk yield on a monthly basis and also a milk sample at the time of every milk recording and arrange to send it to the milk component laboratory for milk component analysis – fat, protein, lactose, somatic cell count and milk urea nitrogen.

NUTRITION SERVICES

The Nutrition (Ration Balancing) module of the application provides the least cost balanced ration formulation to the farmers based on the profile of the cattle and available feeds and fodder with the farmer. The system takes into account the various parameters and nutrition requirement of the cattle in formulating the ration. The laboratory module generates data on milk component analysis, proximate analysis of feed and fodder samples. The local resource persons of service organizations provide ration-balancing services to all farmers of the villages covered under the project using the ration balancing module of INAPH.
**ANIMAL HEALTH SERVICES**

The Animal Health module of INAPH is designed to capture entire range of data pertaining to vaccinations, deworming and disease testing for individual animal as well as for a group which can be recorded at the village level.

**Individual services:** can be recorded for vaccination, deworming, laboratory disease testing, fertility management, treatment as well as follow-up which are linked with the ear-tag of the individual animal.

**Group services:** data can be captured pertaining to a group of animals in a particular location (village/hamlet), for species of animal (cattle/buffaloes), without identifying individual animal which is useful for mass vaccination, mass deworming, outbreak reporting etc and, in areas where animals are yet to be uniquely identified.

Animal Health module also equipped with the laboratory disease testing sub-module where laboratory test results for individual animal/bulk testing can be captured which may be useful for sero-surveillance and subsequent traceability.

![General architecture of INAPH module](image)

Note: The green tabs indicate the sub-modules that are presently active in the Android version supported by laboratory and admin sub-modules (blue tabs)
INAPH INSTALLATION AND CONFIGURATION

HARDWARE & SYSTEM REQUIREMENTS:

Windows Platform:
1. Desktop or Netbook or Laptop
2. Operating System: Win XP (SP 2) and Above (32 Bit OS or 64 Bit OS)
3. Broadband / USB Wireless Internet Connection

Android Platform:
1. Android Smartphone or Android Tablet
2. Operating System: Android OS 4.1 and Above
3. Mobile/ Wireless Internet Connection

INAPH CHECK LIST FOR INSTALLATION AND CONFIGURATION ON WINDOWS

1. Ensure Broadband/USB Wireless Prepaid Internet Connection has sufficient Account Balance;
   If Balance is NIL, Device (Desktop/Netbook/Laptop) may be seen connected to Internet but attempting to login into INAPH Application would give a message “Application Error Please Contact Admin”
2. Internet Connectivity is mandatory for Online Mode of Access to INAPH Application
3. Internet Connection Status

Disconnected:

Connected:

4. IE 8 or IE 9 or IE 10 for INAPH Portal/INAPH MIS
   (Note: INAPH Portal and INAPH MIS does not work on IE 11 or may observe browser based incompatibility issues on other Browsers like Google Chrome or Fire Fox etc.)

5. Setting the Device Date & Time
   - Start Menu
     - Control Panel
       - Region & Language
         - Formats
           - Format: English (United States)
         - Location
           - Location: India
       - Configure the Date & Time Format as given in the screenshots below:
Click: Additional Settings…

- Configure the Date & Time Format as given in the screenshots below:
PRE-REQUISITES FOR INAPH
1. Report Viewer 10.0
2. .Net Framework 2.0 and above
   (Mandatory for OS Win XP Service Pack 2 (SP2) and below, available inbuilt for Windows XP SP3, and above)
3. SQL Compact Edition (SQL CE) 32 Bit/64 Bit
   (Systems with 64 Bit OS SQL CE, first install SQL CE 32 Bit (x86) then SQL CE 64 Bit (x64); Systems with 32 Bit OS, install only SQL CE 32 Bit (x86).)
4. WinRAR (32 Bit or 64 Bit depending on OS)

OPTIONAL REQUIREMENTS TO FACILITATE CONTROL/ACCESS SYSTEMS REMOTELY
5. AnyDesk
6. Team Viewer 8 and Above (All users must have common version of Team Viewer installed to avoid issues of Non-Compatibility/Connection between versions)

HOW TO CHECK THE OPERATING SYSTEM PROPERTIES?
1. Right Click on My Computer Icon > Select Properties
2. Verify the Operating System details as given below
   Windows Edition: Win XP SP 2 and above
   System Type: 32 Bit OS or 64 Bit OS
   Or
   1. Click on Start Menu
      a. Control Panel
         i. System & Security
View By: Category
Click on System
View By: Large Icons
Click on System

2. Verify the Operating System details as given below
**Windows Edition**: Win XP SP 2 and above  
**System Type**: 32 Bit OS or 64 Bit OS

**INSTALLATION AND CONFIGURATION OF INAPH APPLICATIONS ON THE PC/LAPTOP/NETBOOK**

**VIA: ONLINE FROM WEB**

**Step 1:**  
Press Ctrl Key + Click Link to Open in Internet Explorer Browser or Copy and Paste Link in Internet Explorer  
**Link**: [http://inaph.nddb.coop](http://inaph.nddb.coop)

**For NDDB Users**: Press Click Here and Proceed using NDDB USER Credentials (Email ID)  
**For EIA Users**: Login using INAPH Credentials
User ID = INAPH ID Password = INAPH Password
INAPH PORTAL HOME

Step 2: Click on any one of the Menu as per the requirement
Click > Downloads Binary in Pop-down Menu for BINARY of INAPH
Click > Pre-Requisites in Pop-down Menu for Pre-Requisite Software required for INAPH
Click > Other-Software in Pop-down Menu for Other Software required for INAPH

The latest Binary (Version) & Pre-Requisites & Software can be downloaded:
Main Application
Admin Application
Lab Application
Android Application
.Net Framework 3.5
Pre-requisites
Other Software

STEPS TO DOWNLOAD THE ABOVE BINARIES / PRE-REQUISITES / SOFTWARE
E.g. Steps to Download Main Application Binary (Latest Binary that has been uploaded)

**Step 2a:**
Select Type of Environment of Main Application to be downloaded.

**Test Environment:** Exclusively for **TRAINING** of Field Users on INAPH.

**Live Environment:** Exclusively for **ACTUAL FIELD ACTIVITIES** being **RECORDED in the FIELD**. Also known as **(LIVE/PRODUCTION SERVER)**
**Step 3:**
Click on Binary to proceed with download and select Save;
The binary will auto download in the downloads folder

![Binary Download Window](image)

**Step 4:**
Move the Binary from Downloads Folder to (D:) Drive Or Manually save the binary in D: drive as below:

![Save As Window](image)

![Download Complete Window](image)

**Step 5:**
Click Open / Open Folder to Open and Unzip the Folder MainApp.rar Or Right Click on the Zipped Folder to Extract

![Extract Files...](image)
Extract Here…
Extract to “Folder Name”/ (e.g. Extract to MainApp\)
Step 6: Open Folder “LiveMainApp”

Step 7: Double Click on File **NDDBFFTPApp.exe**

Step 8: Click **Run**

Step 9: INAPH Main App ready for Use

Step 10: Login using the User ID/Password
Creating INAPH Main App Shortcut Icon on Desktop

**Step 7:** Right Click on File _NDDBFFTPApp.exe_

**Step 8:** Send to > Create Desktop Shortcut

**Step 9:** Double Click Shortcut Icon (on Desktop) to Open MainApp

**Step 10:** Login using the User ID/Password

Similarly follow Steps No. 2 to Step No. 10 for ADMIN and LAB Application.

**INSTALLATION OF REPORT VIEWER**

1. Double Click _ReportViewer_10.0.exe
2. Click **YES** in the **Pop Up Message** to give Permission for Installation/Setup
3. Click **Next**
4. Tick “**I accept the terms of the License Agreement**”
5. Click **Install**
6. Click **Finish**
INSTALLATION OF SQL CE 32 BIT (X86)

1. Double Click **SSCERuntime_x86-ENU.msi**
2. Click **Next**

3. Select “**I accept the terms in the license agreement**”
4. Click **Next**
5. Click **Install**
6. Click **YES** in the **Pop Up Message** to give Permission for Installation/Setup
7. Click **Finish** after completion of Installation

**INSTALLATION OF SQL CE 64 BIT (X64)**

1. Double Click **SSCERuntime_x64-ENU.msi**
2. Click **Next**

3. Select **“I accept the terms in the license agreement”**
4. Click **Next**
5. Click **Install**
6. Click **YES** in the Pop Up Message to give Permission for Installation/Setup
7. Click **Finish** after completion of Installation

SETUP OF WINRAR (32 BIT OS OR 64 BIT OS)
1. Double Click *wrarXXX.exe* (**XXX** will be the Version #)
2. Click **YES** in the **Pop Up Message** to give Permission for Installation/Setup
3. Click **Install**
4. Click **OK** after Installation/Setup process completes
5. Click **Done**

Follow similar Installation/Setup Process for WinRAR for 64 Bit OS.

SETUP OF TEAM VIEWER
1. Double Click File *TeamViewer_Setup_en.exe*
2. Select Options **Run Only** & **Personal/Non Commercial Use**
3. Click **Accept – Run** >> The following Screen of Team Viewer will appear
4. Click **Extras on Menu** >> Select **Options** from Pop-down >> Under **General Options** > **Network Settings** > **Incoming LAN Connections** >> Select **Accept Exclusively** >> Click **OK**
5. Enter **Partner ID** (User ID of the Remote User), the system which you desire to connect.
6. Confirm Connection by entering the Password of Remote User.
7. Connection is established and the Remote System can now be accessed and controlled.

INAPH PORTAL > REPORTS

REPORTS > WEB REPORTS
REPORTS > MIS REPORTS

DB CENSUS 2011 (WEB APPLICATION)
Select **State**: Single/Multiple/All (as required)
Select **District**: Single/Multiple/All for the above selected State(s)
Select **Tehsil**: Single/Multiple/All for the above selected District(s) & State(s)
Select **Village**: Single/Multiple/All for the above selected Tehsil(s), District(s) & State(s)

Click **View Report**
Export Report (in Excel)

Census Information >> Search
AUTO UPDATE (ONLINE) OF INAPH ON THE PC / LAPTOP / NETBOOK

Auto Update of Existing Binary to Latest Binary (Released Version) of INAPH Applications (Main / Lab / Admin) via Online is demonstrated below.

E.g. Auto Update of Existing Binary (Release Version: 4.0.15.5) to Latest Binary (Release Version: 4.0.15.6) of Main Application of INAPH.

Step 1: Log-In with User Name & Password in the Existing Binary

Alert Message: New Version of Application is available. Kindly download the New Application. Click “OK”.

Step 2: Click “Run”

Information of the Latest Release Version is displayed:

E.g. Version Available: 4.0.15.6
Comment: Breeding, PT & RBP Module related Updates
Number of Files: 28
Size: 3.65 MB

Step 3: Click “Update”

Update Starts……...

Depending on the File Size & Internet Connectivity (Type/Speed/Signal Strength etc.), Update Process may take few minutes.

Alert Message: Software Update Successfully. Click “OK”.

Main Application of INAPH is updated with the Latest Binary (Release Version: X.XX.XX.X) and ready for use.
Information Network for Animal Productivity and Health (INAPH) Lite for Animal Breeding and Health Services

User Manual

NATIONAL DAIRY DEVELOPMENT BOARD, ANAND, GUJARAT

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INAPH Main Application (Login)

Login Screen is the First Screen that displays when a User starts the INAPH Main Application. Valid **User Name** & **Password** are required to Login into the Main Application (Main App).

![Login Screen](image)

Login using the **INAPH Main App** User Credentials

User Name:
Password:
*You need to fill both the fields for successful login.*

**For Online Users:** Internet Connection is mandatory

**For Offline Users:** CHECK BOX ‘Without Internet Connection’

**Buttons on the Login Screen:**
- Login – Click **Login** to Log into the application. User Name and Password will be validated and the **Main Menu Screen** will be displayed. If validation fails, an **Error Message** will be displayed.
- Cancel – Click **Cancel** to Exit from the Main Application.
- Change Password (Link) – Click Change Password link to change the existing Password. **Change Password Screen** will be displayed.
- Language - Select the desired “Language” from the Drop-down List
- Release Version - Version of INAPH Main App released is displayed at the bottom in the center of the Login Screen.
INAPH Lite Main Menu Screen

The Main Menu Screen shows various Modules and the respective functionalities. The functionalities under each INAPH Lite Module (Highlighted in GREEN Color) those are accessible are enabled and those which are not are disabled. Click on the link to access the particular functionality of a Lite Module.

- Animal Registration Lite
- Owner Registration Lite
- Artificial Insemination Lite (AI)
- Pregnancy Diagnosis Lite (PD)
- Calving Lite
- Vaccination Lite

Access Privileges to the functionalities of a Module are enabled or disabled based on User's Role in an Organization.

Menu Bar

Buttons on the Menu Bar:
1. Main Menu – Click Main Menu to return to the Main Menu Screen.
2. Logout – Click Logout to stop the Main Application. Application will be running; User can be again Login by entering the User Credentials.
3. Help – Click Help for help regarding the Main Application.
4. Exit – Click Exit to stop & close the Main Application.

Labels on the Menu Bar:
1. User ID: Label specifies the ID of the User who has logged in using their credentials
2. Today’s Date & Day: Time & Day displayed, is the System Date & Day on which the Main App is running.
3. INAPH Main App Version: Displays the latest Version of the Main App released.
Animal Identification Registration

Animal Registration Lite

Every Animal receiving service shall be identified with an Ear Tag with a 12 digit unique number and barcode. This number shall enable generation of reports concerned to the individual animal and the associated information through an information system (INAPH).

The Ear Tag shall be applied on the inside of the ear of the animals, in the center of the ear lobe with the female part (Flag shaped with closed head, containing 12 digits number printed in two rows of six digits each) of the tag inside the ear.

Animal Registration is the first and one time mandatory transaction to register a new animal in INAPH.

In the Lite module, all mandatory entries will be appearing by-default. The Animal Registration transaction can be saved by entering these mandatory entries and clicking the “Register” button available.

Further, user may enter other optional entries by clicking More Details.

Before Registering an Animal, Check the Tag Number (Animal) whether the Tag ID is already registered. Enter the 12 digit Tag number in below Box and Click on Search option.

Note:
If TAG ID is NOT VALID, system will give an Alert Message “INVALID TAG ID”
If TAG ID is NOT Registered for an Animal, system will give an Alert Message “ANIMAL NOT REGISTERED”
If TAG ID is registered for an Animal OUTSIDE the Area of Operation of the User, system will give an Alert Message “Searched Animal is not available in your area of Operation”
If TAG ID is registered for an Animal WITHIN the Area of Operation of the User, system will generate the details of the Animal.
Registration of an Animal: ADD an Animal

Define the following **Animal Details** for Animal Registration:

1. Ear Tag Number*: **12 digit Unique Tag Number**
2. Registration Date*: Date on which the Animal is Ear Tagged/Registered.
3. Sex (Gender)*: **MALE** or **FEMALE**
4. Species*: **CATTLE/BUFFALO/YAK/MITHUN/SHEEP/GOAT/PIG**
5. Breed(s)*: Select Breed(s) of the Animal (Species)
   - Click **Get Breed**

Cattle Breeds:

![Select Cattle Breeds](image)

Buffalo Breeds:

![Select Buffalo Breeds](image)
Yak Breeds:

Mithun Breeds:

Sheep Breeds:
Goat Breeds:

Pig Breeds:
Select **Breed(s)**

✓ CHECK BOX against **Breed Name**

(If **Cross-Bred**, select **two Breed Names** as applicable “√” CHECK BOX)

Click **OK**

6. **Age (Years & Months)***: Age of the Animal on the Date/Day of Ear Tagging/Registration

7. **Date of Birth** (System Calculated based on Age defined (Years & Months) above

8. **Blood Level**: (System Calculated based on Breed(s) defines above)

9. **Number of Calving(s)**: No of Lactations completed/No of times the Animal has already calved. **(In case of Heifer, which has not yet calved even once, put value as ZERO)**

10. **Pregnancy Status***: Current Status of Pregnancy at the time of Registration

**Animal Registration transaction can be saved at this stage by clicking “Registration” button, as mandatory attributes captured.**

**Further, user may like to enter other optional entries by clicking More Details. By Default this will be hiding as it is non mandatory. User need to click the downward arrow mark to view details as mentioned below.**

1. **Pregnancy Months***: (Mandatory Field if **Pregnancy Status** above is **YES**)

2. **Last Calving Date**: Date on which the Animal had calved latest. (Mandatory Field if **Number of Calving(s)** have been provided above)

3. **Milking Status***: Current Status of “In-Milk/Dry” at the time of Registration

4. **Immediate Milk Recording?**: Select YES (CHECK BOX “√”) if the Animal is to be considered for Milk Recording immediately after Registration

5. **Registering Organization***: Name of the Organization, of the User who is registering the Animal. **(Default)**

6. **Sire ID**: Ear Tag Number/ID of the Sire of the Animal

7. **Dam ID**: Ear Tag Number of the Dam of the Animal

8. **Sire’s Sire ID**: Ear Tag Number/ID of the Sire of the Sire of the Animal

9. **Dam’s Sire ID**: Ear Tag Number/ID of the Sire of the Dam of the Animal

10. **Receipt number**: If Receipt number provided to Farmer at the time of Registration.

Then Click **Owner Details** to record the details of the Animal’s Owner

**Note**: **Owner Registration** can be done while **Animal Registration** or exclusively (without Registering the Animal)

* **Mandatory Fields**
Owner details Lite

Owner Registration is one time mandatory transaction to register a New Owner/Farmer in the INAPH system.

In the Lite module, all mandatory entries will be appearing by-default. The Owner Registration transaction can be saved by entering these mandatory entries and clicking the “Save” button available.

Further, user may enter other optional entries by clicking More Details.

Owner Registration: SEARCH (Existing) or ADD an Owner

Select Hamlet from Drop-down List
Village Name of the selected Hamlet will be selected by System (Default)
Specify First/Last Name of Owner
Click Search

Note:
Allocated Revenue Villages and the respective Hamlets will appear in the drop-down list.

If Owner exists in the database (registered previously), all the details recorded will be displayed
Click Select to complete Owner selection for the Animal
Click Register to Add & Save the details of Animal
If Owner is Not Registered, provide all the necessary details of the Owner
Define the following **Owner Details** for Animal Registration:

1. Village Name*: Name of the Revenue Village in which the Farmer is Residing
2. Hamlet Name*: Name of the Hamlet/Sub-Village/Para within the Village
3. Owner Type *: Individual/ Institution/ Other
4. Owner’s Name *: As per any valid Identity Document
5. Gender of Owner: Male / Female
6. Mobile Number: (10 Digits) Mobile number of farmer.
7. Aadhaar No. 12 digit Aadhaar Card number of the farmer.

*In the Lite module, all mandatory entries will be appearing by-default. The Owner Registration transaction can be saved by entering these mandatory entries and clicking the “Save” button available.*

Further, user may enter other optional entries by clicking More Details.

1. Social Status: General / SC / OBC / ST
2. Owner Address: Residential Address/Landmark of the Owner
3. Village Institution:
4. Village Institution Type: Default (based on Village Institution above)
5. Affiliated Agency:
6. Number of Milch Animals:
7. Land Holding: Landless / Marginal / Small / Medium / Large Land Holding
8. Date of Birth: As per any valid Identity Document
9. Farmer Association No. (If applicable, as provided by Institution to its Members)
10. Pourer Member: Select **CHECK BOX “✓” (if YES)**
11. Below Poverty Line: Select **CHECK BOX “✓” (if YES)**
12. Landline Number: (STD Code & Phone No)
13. HHID: House Hold ID
14. Longitude: Geographical Position
15. Latitude: Geographical Position
Click **Save** to Add & Save the details of **New Owner Registered**.
Click **Select** to complete Owner selection for the Animal

After Selection of the owner, owner details will reflect in the Owner Details Box of Animal Registration lite screen.

Click **Register** to Add & Save the details of an **Animal**

On Successful Registration of the Animal after Validation, below message will appear. User need to Click YES. Message “Animal Registered Successfully” will appear on the screen. Click OK.
Registration of an Animal: MODIFY details of an Animal Registered

Note:

Modify Functionality in INAPH: Only the Last (Latest) transaction recorded for any activity/service on an Animal can be modified.

Search the Animal Tag ID already registered

Details of the Registered Animal will be displayed

Modify the details of the Animal or Owner wherever applicable/intended.

Click Modify to save the modified details of an ANIMAL
Artificial Insemination Lite (AI)

Artificial Insemination Lite functionality under Breeding Module facilitates recording the details of each and every Insemination in the same or subsequent Heat Cycle of an individual animal for the Lactation.

Search the Tag Number of the Animal for recording the Artificial Insemination transaction, as under.

Note:
If TAG ID is NOT VALID, system will give an Alert Message “INVALID TAG ID”
If Animal is PREGNANT, system will give an Alert Message “Animal is Pregnant”

Artificial Insemination of an Animal: ADD an Artificial Insemination

Define the following details for Artificial Insemination:
1. Insemination Date*: 
2. Semen/Bull ID*: XXX-XXX-XXX
   E.g. SAG-HFS-347, SAG-BM-47,
3. Sex Sorted Semen: Click if YES

In the Lite module, all mandatory entries will be appearing by-default. The Artificial Insemination transaction can be saved by entering these mandatory entries and clicking the “Save” button available.

Further, user may enter other optional entries by clicking More Details.

1. AI center Name: respective AI center will reflect by default. User may change the AI center name from the Drop down List.
2. Semen Batch Number (###-##): ###-##
First ### (Serial Number for **Day of the Year**)
Last ## (Serial Number for **Year**)

3. Number of Wasted Semen Doses:

4. Type of Call: Mobile / Landline / Paper Slip (Mode of Contact of AI Technician by Farmer for Artificial Insemination Service of Animal)

5. Nominated AI: CHECK BOX if the AI on the Animal is a NOMINATED AI. **(NOMINATED AI: Artificial Insemination of an **ELITE ANIMAL** with **Semen** of a NOMINATED BULL).**

6. Amount Received (Rs.): Amount received from/paid by the Farmer for the Artificial Insemination (AI) Services.

7. Receipt Number: Serial Number of Receipt of Payment given to the Farmer against Amount Received for AI Services.

Click **Save** to Add & Save the details of **Artificial Insemination**

* **Mandatory Fields**

On Successful AI entry of the Animal after Validation, “All the Validations have been done. Do you want to continue?” message will appear. User need to Click YES. Message “Animal Registered Successfully” will appear on the screen. Click OK.
Artificial Insemination of an Animal: MODIFY an Artificial Insemination

**Note:**
Modify Functionality in INAPH: Only the Last (Latest) transaction recorded for any activity/service on an Animal can be modified.

**Enter the Tag ID of the Animal and Click on Edit.**
Details of the Artificial Insemination will be displayed:

Modify the details of the Artificial Insemination wherever applicable/intended.

Click **Modify** to save the modified details of Artificial Insemination.
Pregnancy Diagnosis Lite (PD)

Pregnancy Diagnosis Lite functionality under Breeding Module facilitates recording the Pregnancy Result (details) of each and every Insemination in the same or subsequent Heat Cycle of an individual animal for the Lactation.

Search the Tag Number of the Animal for recording the Pregnancy Diagnosis transaction, as under.

Note:
If TAG ID is NOT VALID, system will give an Alert Message “INVALID TAG ID”
If Animal is NOT INSEMINATED or Pregnancy Diagnosis has been done, system will give an Alert Message “Pregnancy diagnosis has already been done or Animal has not been inseminated”

Pregnancy Diagnosis in an Animal: ADD Pregnancy Diagnosis

Define the following details for Pregnancy Diagnosis:
1. Date of Pregnancy Diagnosis*:
2. Pregnancy Diagnosis Result*: Pregnant or Non-Pregnant

Click Save to Add & Save the details of Pregnancy Diagnosis
* Mandatory Fields

On Successful PD entry of the Animal after Validation, “All the Validations have been done. Do you want to continue?” message will appear. User need to Click YES. Message “Animal Registered Successfully” will appear on the screen. Click OK.
Pregnancy Diagnosis in an Animal: MODIFY Pregnancy Diagnosis

**Note:**
Modify Functionality in INAPH: Only the Last (Latest) transaction recorded for any activity/service on an Animal can be modified.

Enter the Tag ID of the Animal and Click on Edit. Message “Pregnancy Diagnosis has already been done or animal has not been inseminated” Click OK.
Details of the Last Pregnancy Diagnosis will be displayed

![Pregnancy Diagnosis Lite Interface](image)

Modify the details of the Pregnancy Diagnosis wherever applicable/intended.

Click **Modify** to save the modified details of Pregnancy Diagnosis
Calving Lite

Calving functionality under Breeding Module facilitates recording the details of Calving for latest conception insemination of a pregnant animal for the Lactation.

Search the Tag Number of the Animal for recording the Calving transaction, as under.

Note:
If TAG ID is NOT VALID, system will give an Alert Message “INVALID TAG ID”
If Animal is NON PREGNANT or has CALVED, system will give an Alert Message “ANIMAL NOT PREGNANT”

Calving in an Animal: ADD a Calving

Define the following details for Calving:
1. Date of Calving*
2. Calving Type*: Abortion / Single Female / Single Male / Still Birth / Twins
3. Ease of Calving*: Dystokia / Normal
   Click Save to Add & Save the details of Calving if Registration of Calf is NOT TO BE DONE
   Else
   Click Register to proceed with Registration of Calf
Registration of Calf1 or/and Calf2 (Calving/Birth)

4. Tag Number*: 12 digit Tag ID
5. Sex (Gender)*: Male or Female

Click on Register Tab to enable the Cell to enter Tag Number.

Click Save to Add & Save the details of Calving & Registration of Calf

Note:

Calving Type: Twins
Registration of Calf: Registration of Calf1 and Calf2 can be done similarly as described above.
* Mandatory Fields
Calving in an Animal: MODIFY of Calving Lite

**Note:**
Modify Functionality in INAPH: Only the Last (Latest) transaction recorded for any activity/service on an Animal can be modified.

Enter the Tag ID of the Animal and Click on Edit. Message “Animal is not Pregnant” Click OK.
Details of the Last Calving will be displayed

Modify the details of the Calving wherever applicable/intended.

Click **Modify** to save the modified details of Calving if Registration of Calf is **NOT DONE**
Else
Click **Register** to proceed with Registration of Calf1. Modify the details of the Calf1 wherever applicable/intended.
Click **Modify** to save the modified details of Calving and Calf1 Registration

**Note:**
Calving Type: Twins
Modify details of Calf2 similarly as described for Calf1 above.

* Mandatory Fields
Animal Management (AM) Report

Animal Management Report the details of all the historical interventions/services related to Animal Breeding, Health and Nutrition provided to the Animal from the Date of Registration to As on Date.

Click on Animal Status (Hyperlink)

Enter the Tag ID (12 digit unique Tag Number) of the Animal for which the Report is to be generated.

Click Generate
In animal status report, Individual animal wise activities entered in INAPH in chronological order with owner details will be generated in a single report which is helpful to know the animal past history at a glance.

<table>
<thead>
<tr>
<th>Date</th>
<th>Transaction</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-Oct-2011</td>
<td>Registration</td>
<td>User.bngmven</td>
</tr>
<tr>
<td>02-Jun-2013</td>
<td>AI</td>
<td>Lactation 1 - AIType Test - BuIID KMF-549 - User.bngmven</td>
</tr>
<tr>
<td>13-Sep-2013</td>
<td>PD</td>
<td>PDStatus;Y - User.bngmven</td>
</tr>
<tr>
<td>06-Dec-2013</td>
<td>Calving</td>
<td>Lactation 1 - Type: Abortion - Ease: Normal - CalfM - User.bngmven</td>
</tr>
<tr>
<td>24-Dec-2013</td>
<td>MR</td>
<td>Lactation 1 - RecordNo.1 - DayYield 9.67, SampleBoxNo.: SampleBottleNo.: - User.bngmven</td>
</tr>
<tr>
<td>24-Jan-2014</td>
<td>MR</td>
<td>Lactation 1 - RecordNo.2 - DayYield 8.54, SampleBoxNo.: SampleBottleNo.: - User.bngmven</td>
</tr>
<tr>
<td>24-Feb-2014</td>
<td>MR</td>
<td>Lactation 1 - RecordNo.3 - DayYield 7.10, SampleBoxNo.: SampleBottleNo.: - User.bngmven</td>
</tr>
<tr>
<td>24-Mar-2014</td>
<td>MR</td>
<td>Lactation 1 - RecordNo.4 - DayYield 4.62, SampleBoxNo.: SampleBottleNo.: - User.bngmven</td>
</tr>
<tr>
<td>26-Mar-2014</td>
<td>AI</td>
<td>Lactation 2 - AIType Test - BuIID KMF-545 - User.bngmven</td>
</tr>
<tr>
<td>24-Apr-2014</td>
<td>MR</td>
<td>Lactation 2 - RecordNo.5 - DayYield 4.22, SampleBoxNo.: SampleBottleNo.: - User.bngmven</td>
</tr>
<tr>
<td>09-May-2014</td>
<td>AI</td>
<td>Lactation 2 - AIType Test - BuIID SSC-2316 - User.bngmven</td>
</tr>
<tr>
<td>24-May-2014</td>
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<tr>
<td>30-May-2014</td>
<td>Dry-Off</td>
<td>Lactation 1 - User.bngmven</td>
</tr>
<tr>
<td>11-Aug-2014</td>
<td>PD</td>
<td>PDStatus;Y - User.bngmven</td>
</tr>
<tr>
<td>03-Feb-2015</td>
<td>Calving</td>
<td>Lactation 2 - Type: Single Female - Ease: Normal - Calff: 3900018884108 - User.bngmven</td>
</tr>
<tr>
<td>17-Feb-2015</td>
<td>MR</td>
<td>Lactation 2 - RecordNo.1 - DayYield 18.43, SampleBoxNo.: SampleBottleNo.: - User.bngmven</td>
</tr>
<tr>
<td>17-Mar-2015</td>
<td>MR</td>
<td>Lactation 2 - RecordNo.2 - DayYield 13.49, SampleBoxNo.: SampleBottleNo.: - User.bngmven</td>
</tr>
</tbody>
</table>
Vaccination Lite

A. Vaccination data entry

The vaccination Lite module is to be used for entering vaccination data for FMD, HS, BQ, Theileria, Brucella and IBR vaccinations. All the fields marked "*" are mandatory. More details can be entered by clicking the "More details" arrow if required. The followings steps may be followed for vaccination data entry:

**Step 1:** Enter the 12 digit valid tag number of the animal

**Validations:**

1. Animal has to be registered in INAPH if not, “sought animal not in your area” message appears (Fig 1).
   **Action:** Go to “Animal Registration Lite” and register the animal before proceeding.
2. The 12 digit tag number is to be a valid number, if not “Invalid Tag ID” message appears (Fig 2).
   **Action:** Enter the correct Tag No.

**Fig 1. Animal not registered**

**Fig 2. Invalid Tag ID**
Step 2: Enter the vaccination date – the default date will be the date of the system.

Validations:

1. The date of vaccination cannot be before the date of registration, if so “Vaccination of an animal cannot be done before the Registration Date of Animal” message appears (Fig 3).

Fig 3. Vaccination date prior to registration date

Step 3: Select the disease from the “Vaccination for” from the drop down list. Any one of the following diseases can be selected: FMD, HS, BQ, Theileria, Brucella and IBR.

Step 4: Enter the manufacturer details.

Step 5: Enter the batch number of the vaccine.

Step 6: Enter the dose.

Validations (Step 4 to 6): Free text is allowed with a limit of 20 characters.

Step 7: Click Save button, if all entries are correct “All validations have been done. Do you want to save transaction?” message appears (Fig 4).

Step 8: Click “Yes” on the message box, the message “Details saved successfully” appears (Fig 5).

Step 9: Click “OK” and continue in the same fashion for the next entry.
B. Editing the vaccination data entered (without altering the “vaccination for” field)

The data regarding vaccination that has been entered and saved in the system can be edited through the following steps:

**Step 1:** Enter the 12 digit tag number of the animal whose vaccination data needs to be edited and click the **“Edit”** button, the details of the previous vaccination done will appear in the “Vaccination Details” area (Fig 6).

**Fig 6. Previous vaccination details**

**Step 2:** Carry out the necessary modifications with regard to “Vaccination Date”, “Manufacturer”, “Batch Number” and “Dosage”.
Step 3: Click the “Modify” button. If all entries are correct “All validations have been done. Do you want to save transaction?” message appears (Fig 7).

Step 4: Click “Yes” on the message box, the message “Details saved successfully” appears (Fig 8).

Fig 7. Successful validation of modification

Fig 8. Successful saving of modified data

Step 5: Click “OK” and continue in the same fashion for the next modification.

C. Editing the vaccination data entered (including the “vaccination for” field)

Step 1: Enter the 12 digit tag number of the animal whose vaccination data needs to be edited and click the “Edit” button, the details of the previous vaccination done will appear in the “Vaccination Details” area (Fig 9).

Step 2: Carry out the necessary modifications with regard to “Vaccination Date”, “Manufacturer”, “Batch Number” and “Dosage”.
**Step 3:** Select the “Vaccination For” drop down list and select the disease for which the vaccination is done.

**Step 4:** Click the arrow near the “More details” to expand the field.

**Step 5:** Select the appropriate “Vaccine Type” and “Vaccine Sub-Type” from the drop down list (Fig 10).

**Step 6:** Select the appropriate “Form” and “Route” from the drop down list if any changes are required. “Injection” and “Intra-muscular” will appear as default in the “Form” and “Route” drop downs.

**Fig 9. Modification of vaccination details including “vaccination for”**

**Fig 10. Filling up the “more details” drop down list.**

**Step 7:** Click the “Modify” button. If all entries are correct “All validations have been done. Do you want to save transaction?” message appears (Fig 11).

**Step 8:** Click “Yes” on the message box, the message “Details saved successfully” appears (Fig 12).

**Step 9:** Click “OK” and continue in the same fashion for the next modification.
**Fig 11. Successful validation of modification**

**Fig 12. Successful saving of modified data**
Information Network for Animal Productivity and Health (INAPH)
Android application for Animal Breeding and Health services

User Manual

NATIONAL DAIRY DEVELOPMENT BOARD, ANAND, GUJARAT

November 2019
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About the INAPH Android Application

INAPH Android Application User Manual is a comprehensive guide for the end users/field users (AI Technicians, Milk Recorders, Local Resource Personnel (LRPs), Veterinarians, Animal Typer etc.) of the application.

Getting Started with INAPH Android Application

Compatible Devices

Smartphones and Tablets

It supports any Android device with Operating System (OS) is Android Lollipop 5.1 and higher versions. For detailed Hardware & Software requirements, refer to the Specifications of Tablet/Phone.
https://www.nddb.coop/ndpi/resources/procurement/revised-technical-specifications-ict-items
Installation of INAPH Android App

From INAPH Portal (Via: Online from Web Browser)

**Step 1:**
Open the following URL: http://inaph.nddb.coop in Internet Explorer or any suitable web browser (Chrome, Mozilla, Firefox etc.)

**Step 2:**
Login using the **INAPH** User Credentials (Figure 1)
User Name:
Password:
You need to fill both the fields for successful login.

**Step 3:**
Click on icon on the top right corner of the screen, a drop-down menu is displayed (Figure 2)

**Step 4:**
Select **Download Binary**

**Step 5:**
Select **Android Application** (Figure 3)

**Step 6:**

---

*Figure 1: INAPH Portal (Home Page)*

*Figure 2: INAPH Portal (Drop-down Menu)*

*Figure 3: Download Binary (Android App)*
On selecting Android Application the following sub-menu of Android App is displayed (Figure 4). Select the appropriate Option as desired.

**Option1:** Android Application in Training Environment  
**Option2:** Android Application in Live Environment

![Android APK (Environment Option)](image1)

**Step 7:** Pop-Up Menu will be displayed, Click Download (Figure 5)

![Android APK (Download)](image2)

**Step 8:** Android INAPH APK file download completed, thereafter INSTALL the APK file. (Figure 8)

![Android APK (Install)](image3)

**Step 9:** Select OPEN after Android APK Installation is completed. (Figure 7)

![Android APK Installation (In Progress)](image4)

![Android App (Open)](image5)

**Step 10:**
**Step 11:**
Log-Out of the INAPH Portal (Figure 9)
Access to the INAPH Android App

Eligible Users

Authorized Users of Organizations (AITs, Milk Recorders, LRPs and Veterinarians etc.)

General Check List and Instructions for the Users’ Device.

1. Date, Time and Time Zone of the Handset (Smartphone/Tablet) must be as per Service Provider (Use Network provided Time & Date)
2. Time Format Setting on the Handset preferably 24 Hours
3. Mobile Network (Internet Connectivity (2G/3G/4G GPRS/CDMA) must preferably be kept SWITCHED ON (whenever available) to enable Auto Sync of information (field activities) being captured on INAPH. Best performance with 4G connectivity. (Tablet must have internet connectivity option through SIM card or Data card). It support Hotspot/Wi-Fi too.
4. Ensure to Sync the information from Handset to Server (Sent to Server) and Server to Handset (Received from Server) on daily basis.
5. Each Transaction recorded on the Handset by the User is LOGGED. It can be seen in the Sent to Server Log File (irrespective of whether the Sync Successful/Failure).
6. Information Received from the Server to the User’s Handset can be seen in the Received from Server Log File.
7. Mandatory Sync interval limit is currently 48 Hrs. It means the User has to perform Incremental Sync mandatorily once on or before 48 hours of the previous Incremental Sync done to prevent loss/failure of information stored on the local database on the Handset.
8. One User One Device Rule: Users granted Android Application access, have to ensure that ONE USER works on ONE HANDSET. If the User changes the handset and installs and login on second handset, the account created on the former handset gets deactivated.
**Master Sync (Synchronize) of the Handset**

Master Sync is performed as and when the following changes or updates are made effective to/by the User.

1. Whenever the User’s Login and INAPH Local database is created for the first time. Database (of all Animals of the allocated villages) will be prepared and downloaded on the User’s Handset.
2. Allocation/De-allocation of Villages to the User
3. Change in Access Rights to the User
4. Change in the applicable Test Dose Distribution Plans (applicable only to Progeny Testing Programs)

**Incremental Sync (Synchronize) of the Handset**

**Sent To Server:** Data entered through Offline INAPH Android App lands in ‘Sent to Server’ Log.

**Received From Server:** Data from Server to Offline INAPH Android App lands to ‘Received from Server’ Log.

Incremental Sync follows the following Path & Validation Mechanism for each and every transaction recorded by the User.

- **Master Sync**
  - **Data Recording/Entry by the User**
    - **Data Validation** (Validation on User’s local database) and Saved
    - **Incremental Sync** (Sent to Server)
    - **Data Validation** (Validation at Central Server database) and Saved
  - **Failed/Errors** deletion
    Transactions with errors or conflicts rejected and deleted from the User’s local database and the Central Server database

**Sync Status & Meaning**

- **Not Transferred:** Data has not reached the Server after Sync
- **Transferred:** Data transferred from User’s local database (handset) to Server but not acknowledged at the Server end.
- **Sync Not Done:** Data sent to Server and acknowledgement received from Server that the data is invalid and Not Synced to Server
- **Sync Done:** Data sent to Server and acknowledgement received from Server that the data is valid and Synced and saved on Server.
**Login Screen**

Login Screen is the First Screen that displays when a User starts the INAPH Android Application. Valid **User Name & Password** are required to Login into the Android Application (Android App).

**Buttons on the Login Screen:**

1. **Login**
   
   Click **Login** to enter into the application. User Name and Password will be validated and the **Main Menu Screen** will be displayed. If validation fails, an **Error Message** will be displayed.

2. **Change Password (Link)**
   
   Click Change Password link to change the existing Password. **Change Password Screen** will be displayed (Figure 12)

3. **Remember Me**
   
   Tick Box to save the User Credentials.

4. **Language (अ A)** Select the desired “Language” (English/Hindi/Gujarati)

5. **Environment to which the Android Application is linked** check at the Bottom Right Corner of the LOGIN SCREEN.
   
   **LIVE App:** Live Environment
   **TRAINING App:** Training Environment
   **DEVELOPER App:** Development Environment
The Main Menu Screen (Figure 13) shows various Modules and the respective functionalities.

The functionalities under each Module which are accessible are enabled and those which are not are disabled.

Click on the link to access the particular functionality of a Module.

Access Privileges to the functionalities of a Module are enabled or disabled based on User's Role in an Organization.

**Menu Bar**

**Buttons on the Menu Bar:**

1. Click to open the Additional Options.
2. Received from Server
3. Sent to Server
4. Dashboard
5. Purge Database
6. Alert
7. Visit Booking
8. Check for Update
9. Send Device Database
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<td><strong>AM Report</strong></td>
<td><strong>Reports</strong></td>
<td></td>
<td><strong>Nutrition Masters View</strong></td>
<td><strong>Disease Testing</strong></td>
</tr>
<tr>
<td><strong>Feed Sample Collection</strong></td>
<td><strong>New/Edit Sample</strong></td>
<td></td>
<td><strong>Animal Treatment</strong></td>
<td><strong>Parentage Verification</strong></td>
</tr>
<tr>
<td></td>
<td><strong>Reports</strong></td>
<td></td>
<td><strong>Follow Up Treatment</strong></td>
<td><strong>Male Calf Procurement</strong></td>
</tr>
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<td><strong>Typing</strong></td>
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<tr>
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<td></td>
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<td><strong>Mass Vaccination</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>Reports</strong></td>
</tr>
<tr>
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<td></td>
<td></td>
<td><strong>Mass Deworming</strong></td>
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<td><strong>Village Infertility Camps</strong></td>
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<td></td>
<td></td>
<td><strong>Group Disease Testing</strong></td>
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<td></td>
<td></td>
<td><strong>First Information Report</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>Report Outbreak</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>Follow Up Outbreaks</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>Reports</strong></td>
</tr>
</tbody>
</table>
### General Module: Animal Identification Registration

**Animal Identification Registration Module: User’s Access Privileges**

<table>
<thead>
<tr>
<th>Animal Identification &amp; Registration</th>
<th>View (Read Only)</th>
<th>Add</th>
<th>Modify</th>
<th>Delete</th>
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</thead>
<tbody>
<tr>
<td>Animal Registration</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>X</td>
</tr>
<tr>
<td>Owner Registration</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>X</td>
</tr>
<tr>
<td>Animal Movement (Sale, Cull, Death)</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>X</td>
</tr>
<tr>
<td>Ear Tag Change</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>X</td>
</tr>
<tr>
<td>Animal Re-Registration</td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
<td>X</td>
</tr>
<tr>
<td>AM Report</td>
<td>✔</td>
<td>✔</td>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>
Animal Identification Registration

Every Animal receiving Breeding Services shall be identified with an Ear Tag with a 12 digit unique number and barcode. This number shall enable generation of reports concerned to the individual animal and the associated information through an information system (INAPH).

The Ear Tag shall be applied on the inside of the ear of the animals, in the center of the ear lobe with the female part (Flag shaped with closed head, containing 12 digits number printed in two rows of six digits each) of the tag inside the ear.

Animal Registration is the first and one time mandatory transaction to register a new animal in INAPH.

SEARCH (existing) or ADD an Animal

Before Registering an Animal,

**Step 1:**
Search the Tag Number (Animal) to check whether the Animal is already registered.

Tag Number: 

Note:
If **TAG ID** is **NOT VALID**, system will give an Alert Message “**INVALID TAG ID**”.
If **TAG ID** is **NOT Registered** for an Animal, system will give an Alert Message “**ANIMAL NOT REGISTERED**”
If **TAG ID** is **Registered** for an Animal **OUTSIDE** the Area of Operation of the User, system will give an Alert Message “**Searched Animal is not available in your area of Operation**”.

*Figure 14: Animal Registration*

*Figure 15: Search for an Animal. If registered, it is listed on the Screen.*
**Step 2:**

Click on the + to REGISTER an Animal (Figure 16)

**Details for Animal Registration:**
1. Ear Tag Number*: **12 digit Unique Tag Number**
2. Registration Date*: Date on which the Animal is Ear Tagged/Registered.
3. Sex (Gender)*: **MALE** or **FEMALE**
4. Species*: **CATTLE** or **BUFFALO**
5. Breed(s)*: Select Breed(s) of the Animal (Species)
   - Click Get Breed
   - Select Breed(s) (If Cross-Bred, select two Breed Names as applicable)
6. Age (Years & Months)*: Age of the Animal on the Date/Day of Ear Tagging/Registration
7. Date of Birth (System Calculated based on Age defined (Years & Months) above)
8. Blood Level: (System Calculated based on Breed(s) defines above)
9. Sire ID: Ear Tag Number/ID of the Sire of the Animal
10. Dam ID: Ear Tag Number of the Dam of the Animal
11. Sire’s Sire ID: Ear Tag Number/ID of the Sire of the Sire of the Animal
12. Dam’s Sire ID: Ear Tag Number/ID of the Sire of the Dam of the Animal
13. Number of Calving(s): No of Lactations completed/No of times the Animal has already calved. (In case of Heifer, which has not yet calved even once, put value as ZERO)
14. Last Calving Date: Date on which the Animal had calved latest. (Mandatory Field if Number of Calving(s) have been provided above)
15. Pregnancy Status*: Current Status of Pregnancy at the time of Registration
16. Pregnancy Months*: (Mandatory Field if Pregnancy Status above is YES)
17. Milking Status*: Current Status of “In-Milk/Dry” at the time of Registration
18. Immediate Milk Recording? : Select YES (CHECK BOX “√”) if the Animal is to be considered for Milk Recording immediately after Registration. This is usually done for recently calved Dam(s) (usually Dam(s) which have calved during the last 3 weeks) which is required to be subjected to Milk Recording If NO (CHECK BOX not “√”), Milk Recording of the Animal will not be permitted.
19. Registering Organization*: Name of the Organization, of the User who is registering the Animal. (Default)
   - Click Owner Details to record the details of the Animal’s Owner

**Note:** Owner Registration can be done while Animal Registration or exclusively (without Registering the Animal)

* Mandatory Fields

**Step 3:**

Click Owner Registration
**Owner Registration:**

Owner Registration is one time mandatory transaction to register a New Owner/ Farmer in the INAPH system.

**SEARCH (existing) or ADD an Owner**

![Figure 17: Registered Owner (Search)](image)

**Step 1:**
Select **Village** from Drop-down List

**Step 2:**
**Hamlet Name** of the selected **Village** will be selected by System (**Default**)  

**Step 3:**
Specify **First/Last Name of Owner**

![Figure 18: Animal's Owner Registration](image)
Step 4:
Click Search

Note: Allocated Revenue Villages and the respective Hamlets will appear in the drop-down list.

If Owner exists in the database (registered previously), all the details recorded will be displayed.

Step 5:
Choose the Owner from the list

Step 6:
Click Save to Link the Owner to the Animal

Step 7:
Click to get drop-down options (Reset/Save/Modify)

Step 8:
Click to Register to Add & Save the details of Animal

If Owner is Not Registered (Follow Step 9 to Step 12), provide necessary details of the Owner.

Step 9:
Details for Owner Registration:
20. Hamlet Name*: Hamlet/Sub-Village/Para within the Village
21. Village Name*: Revenue Village in which the Farmer is residing
22. Owner’s Name along with Father’s Name*: As per any valid Identity Document
23. Social Status: General / SC / OBC / ST
24. Owner Address: Residential Address/Landmark of the Owner
25. Village Institution:
26. Village Institution Type: Default (based on Village Institution above)
27. Affiliated Agency:
28. Number of Milch Animals:
29. Gender of Owner: Male / Female
30. Land Holding: Landless / Marginal / Small / Medium / Large Land Holding
31. Date of Birth: As per any valid Identity Document
32. Farmer Association No. (If applicable, as provided by Village Institution to its Members)
33. Pourer Member: Select **CHECK BOX “✓” (if YES)**
34. Below Poverty Line: Select **CHECK BOX “✓” (if YES)**
35. Mobile Number: (10 Digits)
36. Landline Number: (STD Code & Phone No)
37. UID: Unique ID (Aadhaar ID)
38. HHID: House Hold ID
39. Longitude: Geographical Position
40. Latitude: Geographical Position

**Step 10:**
Click **Save** to Add & Save the details of **New Owner Registered**.

**Step 11:**
Click **Select** to complete **Owner** selection for the Animal

**Step 12:**
Click **Register** to Add & Save the details of an **Animal**

* Mandatory Fields
**MODIFY details of a Registered Animal**

**Note:**

Modify Functionality in INAPH: Only the Last (Latest) transaction recorded for any activity/service on an Animal can be modified.

**Step 1:**
Search the Tag Number of already Registered Animal

Tag Number: [Input field]

E.g.

![Animal Tag Search](image)

**Step 2:**
Details of the Registered Animal will be displayed

**Step 3:**
Modify the details of the Animal (Points 2 to 19) wherever applicable/intended.

**Step 4:**
Click ![Dropdown Options](image) to get drop-down options (Reset/Modify)

**Step 5:**
Modify ![Modify Button](image) to update the modified details of an **ANIMAL**.
Figure 20: Registered Animal Information
**MODIFY details of a Registered Owner**

**Note:** Modify Functionality in INAPH: Only the Last (Latest) transaction recorded for any activity/service on an Animal can be modified.

**Step 1:**
Select **Village** from Drop-down List

**Step 2:**
**Hamlet Name** of the selected **Village** will be displayed by System *(Default)*

**Note:** Allocated **Revenue Villages** and the respective **Hamlets** will appear in the drop-down list.

**Step 3:**
Specify **First/Last Name of Owner**
E.g. Patel

If there exists (if any) Farmer/Owner(s) with the searched Name in the selected Village & Hamlet will be displayed.

**Step 4:**
Select the Owner from the list *(Figure 21)*

**Step 5:**
Modify the details of the **Owner (Point 20 to 40)** wherever applicable/intended. *(Figure 22)*

**Step 6:**
Click **Modify** to save the modified details of an **OWNER**.
Figure 22: Modify the Information of a Registered Owner
**Animal Movement (Sale, Cull, Death)**

Animal Movement involves either of the following: Culling, Death and Sale (Change of Ownership). Sale could be within the internal (Within the Village) or external (Outside the Village/Block/Tehsil/District/State).

Tracking of Animal Movement is important and mandatory.

*Search (existing) or ADD an Animal Movement (Sale, Cull, Death)*

**Step 1:**
**Search** the **Tag Number** of already **Registered Animal** *(Figure 23)*

Tag Number:  

![Figure 23: Movement of an Animal (Search)](image)

Displays the Current Owner & Location details *(Figure 24)*

**Step 2:**
Define the following details for **Animal Movement:**

1. Movement Date*: Date on which the Animal has moved from the Current Location (Sale/Death/Cull)

![Sold, Died, Cull](image)

2. Movement Type*: Nature of Movement from the Current Location

   a. Sale (If Animal has been SOLD)
   b. Cull (If Animal has been sent to ABBATOIR/SLAUGHTER HOUSE for Culling)
   c. Death

3. Amount (Rs): Value of Animal
4. To Owner Details:
New Owner (after Animal Movement) to whom the Animal is transferred (Figure 25)
   a. Owner Name*
   b. State*
   c. District*
   d. Tehsil*
   e. Village*
   f. Hamlet
   g. Remarks

Step 3:
Click **Save** to Add & Save the details of Animal Movement.
**Note:** Movement Type: DEATH (Point 3 & 4 disabled)
* Mandatory Fields

*Figure 25: Animal Movement (New Owner & Location)*
Modify an Animal Movement (Sale, Cull, Death) record

**Step 1:**
Search the **Tag Number** of already **Registered Animal**
(Previously Animal Movement transaction recorded)

Tag Number: 

**Latest Movement** Details for the Animal will be displayed (if any)

**Step 2:**
Modify the details of **Animal Movement (Point 1 to 4)** wherever applicable/intended.

**Step 3:**
Click **Modify** to save the modified details of **Animal Movement**.

Figure 26: Animal Movement (Modify Information)
**Ear Tag Change**

Ear Tag Change transaction is recorded against an already Registered Animal. Whenever the existing 12 digit unique Ear Tag of the Animal is damaged due to wear & tear or has been lost/fallen off the Ear, a new 12 digit unique Ear Tag is applied as a replacement to the OLD/PREVIOUS Tag. This enables to safeguard the Historical information of the animal and link the same to the new Ear Tag.

*Search (existing) or ADD an Ear Tag Change Record*

![Image: Ear Tag Change of an Animal](image)

**Step 1:**
Enter the Old Ear Tag Number of the Animal

**Step 2:**
Click **Search**
The details of the searched animal will be displayed as in

![Image: Ear Tag Change](image)

**Step 3:**
Select the Animal for **Ear Tag Change** (Go to Step 6)
How to search the Animal if Old Tag Number (NOT KNOWN)?

**Step 1:**
Select Village & Hamlet

**Step 2:**
Owner Name: Type **First Name** or **BLANK**

**Step 3:**
Click **Search**
Owner(s) of the Village/Hamlet (based on search criteria) will be displayed.

**Step 4:**
Select the **Owner** from the list of Owners displayed to identify the Animal for which **Ear Tag Change** is to be recorded.

Detailed List of all Animals of the selected Owner is displayed in Search Results.

**Step 5:**
Select the Animal for **Ear Tag Change**

**Step 6:**
Define the following details for **Ear Tag Change**:

1. New Tag Number*: 12 digit unique Ear Tag
2. Ear Tag Change Date*: Date of Change of Ear Tag

*Figure 28: Ear Tag Change (Search Tag ID based on Owner Name)*

*Figure 29: List of Owners (based on Search criteria)*
Step 7:

Click **Save** to Add & Save details of Ear Tag Change.

*Mandatory Fields*
**MODIFY an Ear Tag Change record**

**Step 1:**
Search the Old Tag Number (KNOWN/UNKNOWN) as explained above

Details of Animal & Owner will be displayed in Search Results.

**Step 2:**
Select the Animal for **Ear Tag Change**

**Last Change Ear Tag Details** for Animal will be displayed.

<table>
<thead>
<tr>
<th>Last Animal Tag ID (Previous Tag ID)</th>
<th>Animal Tag ID (Latest Tag ID)</th>
<th>Tag ID Change Date</th>
</tr>
</thead>
</table>

**Step 3:**
Click **Edit** to re-open the Last Change Ear Tag Details

**Step 4:**
Modify the details of **Ear Tag Change (Point 1 & 2)** wherever applicable/intended.

**Step 5:**
Click **Modify** to save the modified details of **Ear Tag Change**.
**Animal Re-Registration**

Subject to Sale of Animals (could be internal within the village or external (Outside the Village/Block/Tehsil/District/State). Tracking of Animal Movement is important and mandatory.

Re-Registration of an Animal which is already Registered (in INAPH) at the current location (village) with the existing Owner.

Before Registering an Animal, Check the Tag Number (Animal) whether the Tag ID is already registered.

Tag Number: 

Note:
If **TAG ID** is **NOT VALID**, system will give an Alert Message **“INVALID TAG ID”**
If **TAG ID** is **NOT Registered** for an Animal, system will give an Alert Message **“ANIMAL NOT REGISTERED”**
If **TAG ID** is **Registered** for an Animal **OUTSIDE** the Area of Operation of the User, system will give an Alert Message **“Searched Animal is not available in your area of Operation”**
If **TAG ID** is **Registered** for an Animal **WITHIN** the Area of Operation of the User, system will generate the details of the Animal.

Last Movement Transaction (if any) recorded previously of the Animal being Re-Registered will be displayed as below:
1. Movement Type:
2. From Owner: Previous Owner Name
3. From Location: Previous Location of the Owner (Above)
4. To Owner: Sold to Owner Name
5. To Location: Sold to Owners’ Location

**Details** of the Animal being Re-Registered are disabled and cannot be changed:
1. Ear Tag Number*: **12 digit Unique Tag Number**
2. Registration Date*: Date on which the Animal was previously Registered
3. Sex (Gender)*: **MALE** or **FEMALE**
4. Species*: **CATTLE** or **BUFFALO**
5. Breed(s)*: Select Breed(s) of the Animal (Species)
6. Age (Years & Months)*: Current Age of the Animal
7. Date of Birth (System Calculated based on Age defined (Years & Months) above
8. Blood Level: (System Calculated based on Breed(s) defines above)
9. Sire ID: Ear Tag Number/ID of the Sire of the Animal
10. Dam ID: Ear Tag Number of the Dam of the Animal
11. Sire’s Sire ID: Ear Tag Number/ID of the Sire of the Sire of the Animal
12. Dam’s Sire ID: Ear Tag Number/ID of the Sire of the Dam of the Animal
13. Number of Calving(s): No of Lactations completed/No of times the Animal has already calved. **(In case of Heifer, which has not yet calved even once, value is displayed as ZERO)**
14. Last Calving Date: Date on which the Animal had calved latest.
15. Pregnancy Status*: Current Status of Pregnancy
16. Pregnancy Months*: Number of Months Pregnant (Currently) if Pregnancy Status above is YES
17. Milking Status*: Current Status of “In-Milk/Dry”
18. Immediate Milk Recording?:
19. Registering Organization*: Name of the Organization, of the User who is registering the Animal. (Default)

Click **New Owner Details** to record the details of the Animal’s New Owner (Current Owner)

**SEARCH (existing) or ADD an New Owner for Re-Registered Animal**

Select **Hamlet** from Drop-down List
**Village Name** of the selected **Hamlet** will be selected by System (Default)
Specify **First/Last Name of Owner**
Click **Search**

**Note:**
Allocated **Revenue Villages** and the respective **Hamlets** will appear in the drop-down list.

If Owner exists in the database (registered previously), all the details recorded will be displayed
Click **Select** to complete Owner selection for the Animal
Click **Re-Register** to Re-Register & Save the details of Animal

If Owner is Not Registered, provide all the necessary details of the Owner
Define the following **New Owner Details** for Animal Re-Registration:

20. **Hamlet Name***: Name of the Hamlet/Sub-Village/Para within the Village
21. **Village Name***: Name of the Revenue Village in which the Farmer is Residing
22. **Owner’s Name along with Father’s Name***: As per any valid Identity Document
23. **Social Status**: General / SC / OBC / ST
24. **Owner Address**: Residential Address/Landmark of the Owner
25. **Village Institution**:
26. **Village Institution Type**: Default (based on Village Institution above)
27. **Affiliated Agency**:
28. **Number of Milch Animals**:
29. **Gender of Owner**: Male / Female
30. **Land Holding**: Landless / Marginal / Small / Medium / Large Land Holding
31. **Date of Birth**: As per any valid Identity Document
32. **Farmer Association No.** (If applicable, as provided by Village Institution to its Members)
33. **Pourer Member**: Select **CHECK BOX** “✓” (if YES)
34. **Below Poverty Line**: Select **CHECK BOX** “✓” (if YES)
35. **Mobile Number**: (10 Digits)
36. Landline Number: (STD Code & Phone No)
37. UID: Unique ID (Adhaar ID)
38. HHID: House Hold ID
39. Longitude: Geographical Position
40. Latitude: Geographical Position

Click **Save** to Add & Save the details of **New Owner Registered**.
Click **Select** to complete **Owner** selection for the Animal
Click **Re-Register** to Re-Register & Save the details of an **Animal**

* **Mandatory Fields**

**MODIFY details of an Animal Re-Registered**

**Note:**
Modify Functionality in INAPH: Only the Last (Latest) transaction recorded for any activity/service on an Animal can be modified.

**Search the Animal Tag ID already registered**
Tag Number: 

Details of the Last Re-Registration Transaction of the Animal will be displayed

Details of the Animal (Points 2 to 19) cannot not be modified (These details are disabled); only Owner Details (Point 20 to 40) can be modified wherever applicable/intended.

Click **Modify** to save the modified details of an **ANIMAL** being Re-Registered.
**Registration and Identification Reports**

**Animal Status Report**

Animal Status Report displays the details of all the historical interventions/services related to Animal Breeding, Health and Nutrition provided to the Animal from Registration to as on date.

**Step 1:**
Search the Registered Animal for which the Report is to be generated

**Step 2:**
Click **Search**

![Figure 32: Animal Status Report (Search)](image)

![Figure 31: Animal Status Report (Pedigree Sheet)](image)
## Domain Specific Module: Animal Breeding

### Breeding Module: User’s Access Privileges

<table>
<thead>
<tr>
<th>Breeding</th>
<th>View (Read Only)</th>
<th>Add</th>
<th>Modify</th>
<th>Delete</th>
</tr>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>X</td>
</tr>
<tr>
<td>Pregnancy Diagnosis</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>X</td>
</tr>
<tr>
<td>Calving</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>X</td>
</tr>
<tr>
<td>Forced Pregnancy Termination</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Operational Reports</td>
<td>✓</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Performance Review Reports</td>
<td>✓</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
</tbody>
</table>
**Artificial Insemination**

Artificial Insemination functionality under Breeding Module facilitates recording the details of each and every Insemination in the same or subsequent Heat Cycle of an individual animal for the Lactation.

*Search (existing) or ADD an Artificial Insemination record*

**Step 1:**
Search the Tag Number of the Animal for Latest Breeding Status before Artificial Insemination.

![Image](image)

**Note:**
- If **TAG ID** is **NOT VALID**, system will give an Alert Message “INVALID TAG ID”
- If **Animal** is **PREGNANT**, system will give an Alert Message “Animal is Pregnant”

**Figure 33: Artificial Insemination of an Animal (Search)**

**LATEST AI STATUS OF ANIMAL**
The following details (if any) of an Animal for Current Lactation will be displayed (Scroll Left to Right on the Screen)

<table>
<thead>
<tr>
<th>Village</th>
<th>Owner</th>
<th>Species</th>
<th>Breed</th>
<th>Last AI Date</th>
<th>Bull ID</th>
<th>Last PD Date</th>
<th>Current Lact. No</th>
<th>No of Actual AI</th>
<th>No of Total AI</th>
</tr>
</thead>
</table>

**Step 2:**
Define the following details for **Artificial Insemination:**

1. Insemination Date*:
2. Semen/Bull ID*: **XXX-XXX-XXX** or **XXX-XX-XX**  
   First **XXX** (SEMIN STATION CODE)  
   Middle **XXX** (BREED CODE)  
   Last **XXX** (BULL NUMBER)  
   E.g. SAG-HFS-347, SAG-BM-47,  
3. Semen Batch Number (**###-##**): ###-##  
   First ### (Serial Number for Day of the Year)  
   Last ## (Serial Number for Year)  
4. Number of Wasted Semen Doses:  
5. AI Centre Name: Allocated AI Centre (Displayed by default); if User is assigned more than one (2 or more) AI Centre (displayed in list box), User can change AI Centre Name accordingly.  
6. Type of Call: Mobile / Landline / Paper Slip  
   (Mode of Contact of AI Technician by Farmer for Artificial Insemination Service of Animal)  
7. Nominated AI: By default the check-box is DIABLED;  
   Applicable for Bull Production Programs like PT/PS. Elite Female Animals when Inseminated with Semen of Nominated Bull, the AI is a NOMINATED AI.
8. Sex Sorted Semen AI: By default the check-box is DIABLED; Applicable when a female animal is inseminated with Sexed Semen or Sex Sorted Semen of a Bull, the AI is a Sexed Sorted Semen AI.

9. Amount Received (Rs.): Amount received from/paid by the Farmer for the Artificial Insemination (AI) Services.

10. Receipt Number: Serial Number of Receipt of Payment given to the Farmer against Amount Received for AI Services.

**Step 3:**

Click **Save** to Add & Save the details of Artificial Insemination
* Mandatory Fields

**MODIFY an Artificial Insemination record**

**Note:**

Modify Functionality in INAPH: Only the Last (Latest) transaction recorded for any activity/service on an Animal can be modified.

**Step 1:**

Search the Animal Tag ID

Tag Number:  

**Step 2:**

Click **Edit** to re-open the details of the Artificial Insemination
Details of the Artificial Insemination will be displayed

**Step 3:**

Modify the details of the Artificial Insemination (Points 1 to 10) wherever applicable/intended.

**Step 4:**

Click **Modify** to save the modified details of Artificial Insemination.
**Pregnancy Diagnosis**

Pregnancy Diagnosis functionality under Breeding Module facilitates recording the Pregnancy Result (details) of each and every Insemination in the same or subsequent Heat Cycle of an individual animal for the Lactation.

*Search (existing) or ADD a Pregnancy Diagnosis record*

**Step 1:**
Search the Tag Number for Latest Breeding Status of the Animal before Pregnancy Diagnosis

Note:
- If **TAG ID** is NOT VALID, system will give an Alert Message “INVALID TAG ID”
- If Animal is NOT INSEMINATED or Pregnancy Diagnosis has been done, system will give an Alert Message “Pregnancy diagnosis has already been done or Animal has not been inseminated”

**AI STATUS OF THE ANIMAL**
Latest Artificial Insemination details of an Animal for Current Lactation will be displayed (Scroll Left to Right on the Screen) for which Pregnancy Diagnosis is to be recorded

<table>
<thead>
<tr>
<th>Bull ID</th>
<th>Village</th>
<th>Owner</th>
<th>Species</th>
<th>Last AI Date</th>
<th>No of Days after Last AI</th>
<th>Current Lact. No</th>
<th>No of Actual Al</th>
<th>AI Type</th>
</tr>
</thead>
</table>

**LAST PREGNANCY DIAGNOSIS DETAILS**
Last Pregnancy Diagnosis details (if any) for the Current Lactation of an Animal will be displayed (Scroll Left to Right on the Screen).

<table>
<thead>
<tr>
<th>PD Date</th>
<th>PD Status</th>
<th>Natural Service</th>
<th>Other Service Provider</th>
</tr>
</thead>
</table>

**Step 2:**
Fill the following details for **Pregnancy Diagnosis:**
1. Date of Pregnancy Diagnosis*:
2. Pregnancy Diagnosis Result*: Pregnant or Non-Pregnant
3. Natural Service: YES or NO
   - Select YES if the Animal has been bred through Natural Service by another BULL after the Last Artificial Insemination.
4. Other Service Provider: YES or NO
   - Select YES if the Animal has been bred through Artificial Insemination by another Service Provider after the Last AI.
   - Record SERVICE PROVIDER NAME (if known)

**Step 3:**
Click Save to Add & Save the details of **Pregnancy Diagnosis**

* Mandatory Fields
**MODIFY a Pregnancy Diagnosis record**

**Note:**
Modify Functionality in INAPH: Only the Last (Latest) transaction recorded for any activity/service on an Animal can be modified.

**Step 1:** Search the Animal Tag ID  
Tag Number: 

AI STATUS OF THE ANIMAL and LAST PREGNANCY DIAGNOSIS DETAILS will be displayed

**Step 2:**  
Click **Edit** to re-open the details of the Last Pregnancy Diagnosis Details

Details of the Last Pregnancy Diagnosis will be displayed

**Step 3:**  
Modify the details of the Pregnancy Diagnosis (Points 1 to 4) wherever applicable/intended.

**Step 4:**  
Click **Modify** to save the modified details of Pregnancy Diagnosis

---

*Figure 36: Recording of Pregnancy Diagnosis of an Animal*
Calving

Calving functionality under Breeding Module facilitates recording the details of Calving for latest Insemination in an individual animal for the Lactation.

Search (existing) or ADD a Calving

**Step 1:**

Search the Tag Number of the Animal for Latest Breeding Status of the Animal before Calving

Note:
- If **TAG ID** is **NOT VALID**, system will give an Alert Message **“INVALID TAG ID”**
- If **Animal** is **NON PREGNANT** or has **CALVED**, system will give an Alert Message **“ANIMAL NOT PREGNANT”**

**RELATED ANIMAL DETAILS FOR LAST ARTIFICAL INSEMINATION**

Artificial Insemination details of Current Lactation will be displayed (Scroll Left to Right on the Screen) for an Animal confirmed Pregnant.

<table>
<thead>
<tr>
<th>Bull ID</th>
<th>Village</th>
<th>Owner</th>
<th>Species</th>
<th>Last AI Date</th>
<th>Gestation Days</th>
<th>Current Lactation No</th>
<th>No of Abortions</th>
</tr>
</thead>
</table>

**RELATED ANIMAL DETAILS FOR LAST CALVING**

Last Calving details (if any) for the Current Lactation of an Animal will be displayed (Scroll Left to Right on the Screen).

<table>
<thead>
<tr>
<th>Animal Tag ID</th>
<th>Insemination Date</th>
<th>Calving Date</th>
<th>Calving Type</th>
<th>Ease of Calving</th>
</tr>
</thead>
</table>

**Step 2:**

Define the following details for **Calving**:

1. Date of Calving*
2. Calving Type*: Abortion / Single Female / Single Male / Still Birth / Twins
3. Ease of Calving*: Dystokia / Heavy Pull / Normal / Slight Pull

If **Registration of Calf** is **REQUIRED (Skip Step 3)**

**Step 3:**

Click **Save** to Add & Save the details of Calving

**Step 4:**

Click **Register** to proceed with **Registration of Calf1**

**Step 5:**

**Registration of Calf1 or/and Calf2 (Calving/Birth)**

4. Tag Number*
5. Sex (Gender)*
6. Weight (Kg):

7. Genetic Defects: Select appropriate Genetic Defect Noted (if any) **ELSE SKIP** and proceed further.

8. Calf1’s Organization*: (By Default) Organization Name of the User Registering the Calf.

**Step 6:**

Click **Save** to Add & Save the details of **Calving & Registration of Calf**

**Note:**
Calving Type: Twins
Registration of Calf
Registration of Calf1 and Calf2 can be done similarly as described above.

* **Mandatory Fields**

**MODIFY a Calving record**

**Note:**
Modify Functionality in INAPH: Only the **Last (Latest)** transaction recorded for any activity/service on an Animal can be modified.

**Step 1:**

Search the Animal Tag ID
Tag Number: 

**RELATED ANIMAL DETAILS FOR LAST CALVING** will be displayed

**Step 2:**

Click **Edit** to re-open the details of the **Last Calving Details**
Details of the Last Calving will be displayed

**Step 3:**

Modify the details of the Calving **(Points 1 to 3)** wherever applicable/intended.

---

**Figure 38: Recording of Calving of an Animal**

**Step 4:**
Click **Modify** to save the modified details of **Calving** if **Registration of Calf** is **NOT DONE**

Else

**Step 5:**
Click **Register** to proceed with **Registration of Calf**
Details of Calf1 will be displayed

**Step 6:**
Modify the details of the **Calf1** (**Points 4 to 8**) wherever applicable/intended.

**Step 7:**
Click **Modify** to save the modified details of **Calving** and **Calf1 Registration**

**Note:** **Calving Type:** **Twins**
Modify details of **Calf2** similarly as described for **Calf1** above.

* **Mandatory Fields**
**Forced Pregnancy Termination**

**Search** the **Tag Number** for **Latest Breeding Status of the Animal** before **Forced Pregnancy Termination**

**Note:**
If **TAG ID** is **NOT VALID**, system will give an Alert Message “INVALID TAG ID”

**LAST ARTIFICIAL INSEMINATION DETAILS**

Last Artificial Insemination details will be displayed in the box above for an Animal confirmed Pregnant.

**LAST PREGNANCY TERMINATION DETAILS**

Last Pregnancy Termination details (if any) of an Animal will be displayed in the box above.

**Search (existing) or ADD a Forced Pregnancy Termination**

Define the following details for **Forced Pregnancy Termination:**
1. Date of Termination*: 
2. Termination Type*: False Diagnosis / Missed Calving

Click **Save** to Add & Save details of **Forced Pregnancy Termination**
* **Mandatory Fields**
**Breeding Operational Reports**

Brief about the Breeding Reports

![AIMS Reports](image)

**Non Pregnant Animals (Open Period > N Days)**

**Report Generation Criteria**

1. Village Selection:
   - a. One, Multiple or All Villages
2. Report Criteria
   - a. Not Inseminated after Calving
   - b. Inseminated but Non Pregnant
3. Open Period:
   - a. > N Days
4. Animal Type:
   - a. Elite Dam/Dam/Daughter/ All

![Non Pregnant Animals (Open Period)](image)
Non Pregnant Animals (No of Services > N; Last AI Date > N Days)

Report Generation Criteria
1. Village Selection:
   a. One, Multiple or All Villages
2. Report Criteria
   a. No of Services (Nos)
   b. No of Days after Last AI (Days)
3. Animal Type:
   a. Elite Dam/Dam/Daughter/ All

Heifers Non Pregnant and Age > N Months

Report Generation Criteria
1. Village Selection:
   a. One, Multiple or All Villages
2. Report Criteria
   a. No of Services (Nos)
   b. No of Days after Last AI (Days)
3. Animal Type:
   a. Elite Dam/Dam/Daughter/ All

Pregnant Animal Services

Report Generation Criteria
1. Village Selection:
   a. One, Multiple or All Villages
2. Report Criteria
   a. Pregnant with No of AI > N
   b. Pregnancy Period > N
   c. Pregnant with No of > N
   d. Pregnancy Period > N Days
3. Report Filter
   a. Pregnant with No of AI
   b. Pregnancy Period > N Days
4. Animal Type:
Calves born during the given Period

Report Generation Criteria
1. Village Selection:
   a. One, Multiple or All Villages
2. From Date and To Date:
3. Animal Type:

Animals to be Dried-Off/Expected to Calve during the given Period

Report Generation Criteria
1. Village Selection:
   a. One, Multiple or All Villages
2. Report Parameters
   a. Required to be Dried Off
   b. Expected to Calve
3. From Date and To Date
4. Type of Animal
   a. Elite Dam/Dam/Daughter/All

Figure 43: Pregnant Animal Services

Figure 44: Calves born during the Period

Figure 45: Animals required to be Dried Off or Expected to Calve
Domain Specific Module: Animal Health

The Foot and Mouth Disease Control Programme (FMD-CP) and Brucellosis Control Programme (BCP) is being implemented in the entire country. There is a need to generate reliable animal wise data on a range of activities related to animal health including disease control so that a national database is created and traceability is maintained which would help Department of Animal Husbandry and Dairying (DAHD) take important decisions in a well-informed manner. National dairy Development Board (NDDB) has developed an information system called Information Network for Animal Productivity and Health (INAPH) which covers all areas of productivity enhancement namely breeding, nutrition and health. The animal breeding module includes data capture on artificial insemination, milk recording and progeny testing. Similarly, the nutrition module includes ration balancing and the animal health module-treatment, diagnosis, testing, vaccination and outbreak management.

Given the comprehensive coverage of the INAPH, the DAHD is contemplating its use to capture animal wise data being generated in its disease control programmes, especially FMDCP and Brucella Control Programme (BCP). The NDDB has already developed an Android version of the AH module covering vaccination and sero-monitoring for use in the field during vaccination and sera sample collection during the FMDCP and BCP vaccination campaigns which would go a long way in helping the States to achieve disease freedom.
**Functionalities of Android Vaccination Module**

The functionalities available in the Android module presently are registration, vaccination and disease testing (used for sero-monitoring).

**Registration**

An animal has to be ear-tagged animal and registered in the INAPH system in order to perform any transactions on it. This is a pre-requisite. The average time required to register an animal would be around 1-3 minutes based on the fields being entered. Only a few fields are mandatory. Moreover, it is a one-time activity. The screenshot of the one of the registration frames is shown below.

![Animal registration frame](image)
**Vaccination**

The vaccinator only needs to scan the ear-tag of the animal using the android phone or tablet to populate all the information on the screen. The personnel then only has to press the save button. The total time taken is around 5-10 seconds.

**Vaccination data capture**

![Vaccination data capture screenshot]

**Disease testing**

The personnel need to enter the tag number of the selected animal for blood collection. The day of collection (0 or 30 day post vaccination) and the type of
test(s) to be conducted need to be selected (eg. ELISA for O, A, Asia 1 or NSP). Use of serum separator vacutainers would be a practical method to collect blood and separate serum since it can be then directly shipped to the laboratory after centrifugation without transferring the serum to another vial. The animal details are linked directly to the sample through a bar code which is available in duplicate on the vacutainer. One bar code is retained by the personnel on a sheet of paper against the tag number of the animal from which sample was collected for record purposes. Some of the frames for sero-monitoring are shown below

**Sero-monitoring data capture**

The animal tag number is linked to the bar code on the sample to ensure traceability
Workflow for implementation of the Vaccination module

The workflow for implementation of the vaccination module would involve 2 phases, (i) preparatory phase and, (ii) field phase wherein in the actual process of data capture would take place.

Preparatory phase

This phase would involve more time and efforts during the initial stages of implementation, the activities that would need to be carried out are listed below:

1. Identification of Nodal officers at the State and District level (2 each).
2. Training of trainers (State and District Nodal officers)
3. Creation of masters, user ids and allocation of villages (each user to be assigned a maximum of 10 villages)
4. Training of field taluka level officers
5. Training of trainers and lab personnel
6. Field personnel training (after creation of masters)
7. Ear tagging and registration of animals
8. Creation of a vaccination campaign at the back-end in the INAPH system by entering the details in the administration module so that all the details required are auto-populated on the android device.
9. Creation of a physical sampling plan through randomization and identification of villages from where the specified number of cattle and
buffalo samples will be collected on the day of vaccination (0 day) and 30 days post vaccination.

10. Arranging purchase of serum separator vacutainers and bar codes strips (in duplicate).

**Field phase**

1. Providing serum separator vacutainers, serum vials, bar codes strips (in duplicate) at required locations well in advance.

2. Scanning of the bar code on the ear tag on the animal before vaccination. If registered in the INPAH system, the details of the animal and the vaccination details will automatically get populated on the screen.

3. In case the ear tags do not have a bar code, the last four digits of the tag number are to be entered to retrieve the details of the animal if registered in INAPH.

4. In case of 2 or more batches/vaccines from different manufacturers are being used for a vaccination campaign, the one being used in the particular village need to be selected before saving the transaction.

5. Perform the actual vaccination. It is preferred to perform the vaccination after saving the transaction, since after vaccination, most animals may be reluctant for further restraint. The bar code scanning on the ear tag requires a few seconds of stability for which holding the ear would be required to steady it.

6. Registration of un-registered animals in INAPH in case some have been left out during the registration during the preparatory phase. These numbers should not be large since it will hamper the momentum of the vaccination campaign.

7. Collection of “0 Day” and “30 day” sera samples from designated villages as per the sampling plan from specified number of cattle and buffaloes.

8. Here too data capture on the animal details for the sera sampling may be done before the actual sample collection.

9. In the event of certain animals not being vaccinated, the reasons for the same need to be captured. This would appear once the “Eligible for vaccine” tick mark is deactivated on the vaccination screen.
10. The tag numbers of the animals from which sero-monitoring is being carried out should be maintained in a register against which one copy of the bar code strip from the corresponding serum separator vacutainer may be pasted to maintain a record of samples collected, linking it to the specific animal to maintain traceability.

**Pre-requisites**

**Activities**

1. All animals will have to be ear tagged (bar coded ear tags preferable for ease of scanning) and registered in INAPH software before carrying out any transaction.
2. Both animal details and owner details to be provided during registration.
3. AH personnel to be provided individual log-in ids.
4. Each AH personnel will be assigned a specific number (10) of villages.
5. Both ear tagging and registration in INAPH are one-time activities.

**Tagging material**

1. Bar coded ear tags : Specifications provided in Annex-1
2. Ear tag applicators : Specifications provided in Annex-1
3. Applicator pins.

**Hardware and other requirements**

**Field recording**

1. Android phone or tablet (one for each user assigned to an average of 10 villages): Specifications provided in Annex-2 and 3
2. Bar code printer (district level) : General specifications provided in Annex-4
3. Bar code scanner (district level): General specifications provided in Annex-4
4. Labels for bar code printing : General specifications provided in Annex-4
5. Internet connectivity
Centralized recording

1. Desktop/Laptop (district level) : Specifications provided in Annex-5
2. Printer
3. UPS
4. Internet connectivity
5. Data collection formats (if animal registration is being done through online INAPH application)
6. Data entry operator (s) (if animal registration is being done through online INAPH application)

Note: In case the animal registrations are being done through the online INAPH application, extra care will be required to ensure that the tag numbers are being entered without any errors.

Roles and responsibilities

The roles and responsibilities of NDDB, DAHD and State Animal Husbandry departments have been outlined in below Table.

<table>
<thead>
<tr>
<th>S.no</th>
<th>Description</th>
<th>NDDB</th>
<th>State AHD &amp; DAHD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Identification State and District Nodal officers</td>
<td>-</td>
<td>The respective State AHDs</td>
</tr>
<tr>
<td>2</td>
<td>Orientation of State and district level Nodal officers</td>
<td>Will carry out the Training</td>
<td></td>
</tr>
<tr>
<td></td>
<td>( Trainer’s Training )</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Training of other District officers</td>
<td></td>
<td>To be carried out by the Nodal Officers.</td>
</tr>
<tr>
<td>4</td>
<td>Field personnel training (Vaccinator’s Training)</td>
<td></td>
<td>To be carried out by the District level officers.</td>
</tr>
<tr>
<td>5</td>
<td>Procurement of hardware and providing internet facility</td>
<td>Technical support on the specifications on all hardware and equipments.</td>
<td>Purchase of ear tags, applicators, printers, desktops, bar code printer, bar code scanner, labels, vacutainers, tablet or android phone &amp; providing internet connectivity</td>
</tr>
<tr>
<td>6</td>
<td>User ids and allocation of villages to each user</td>
<td>INAPH Helpdesk support</td>
<td>Creation of user ids and allocation of villages (10 villages per user)</td>
</tr>
<tr>
<td></td>
<td>Topic</td>
<td>Support</td>
<td>Description</td>
</tr>
<tr>
<td>---</td>
<td>--------------------------------</td>
<td>-------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>7</td>
<td>Ear tagging and registration</td>
<td>INAPH Helpdesk support</td>
<td>All cattle and buffalo in the district to be ear tagged and registered in INAPH</td>
</tr>
<tr>
<td>8</td>
<td>Vaccination and sero-monitoring</td>
<td>INAPH Helpdesk support</td>
<td>Creation of vaccination campaign, physical sampling plan for sero-monitoring. Actual data capture during vaccination and sero-monitoring.</td>
</tr>
</tbody>
</table>
### Expected outcomes from vaccination module deployment

<table>
<thead>
<tr>
<th>Traceability ensured</th>
<th>High data reliability</th>
<th>Efficient data capture</th>
<th>Efficient reporting and monitoring</th>
</tr>
</thead>
</table>
| • All the animals in the project area are identified uniquely by ear-tagging.  
• All animals are registered in the INAPH database. | • The field personnel (vaccinator) has to go near the animal to scan the bar code on the ear tag.  
• The geo-location of the personnel is also recorded while saving the data confirming that he was actually at the location. | • Minimal time required since all data are auto-populated if the animal is registered in INAPH once the ear tag of the animal is scanned.  
• The user has to click only the “save” button to record the vaccination transaction against the uniquely identified animal. | • Data can be generated at any level (user/village/taluk/district and State)  
• Performance for each field functionary can be monitored and reviewed.  
• Vaccination coverage can be calculated  
• Species, age, sex wise data on vaccination and protection can be generated  
• Animal wise FMD sero-conversion for both Structural Protein and Non-structural protein (SP & NSP) can be generated.  
• Manufacturer and batch wise sero-conversion can be calculated. |
Annexures

Annex 1: Specification of ear tag and ear tag applicators

1. **Description**: The ear tag composed of two parts (male + female). The male part is a button with a diameter of 27 mm (± 2mm). The male part should have a metal point. The size of the female piece should be comprised between 55 x 65 mm and 58 x 69 mm with a closed head.

2. **Raw Material**: The tag should be made from Thermoplastic Polyurethane Elastomer (Ether Grade) material that should be resistant to ultraviolet light, high and low temperature, impossible to reopen by wrench and should be tamperproof. The manufacturer should provide documentation from independent and recognized sources to demonstrate the non-resolvability of its tags.

3. **Weight**: The weight of the ear tag (male+female) should be 8 grams (±10%).

4. **Printing (Laser)**:
   - 1st Line : Project Initial (6 mm high)
   - 2nd Line : A row of 6 digits, 9 mm high (± 1mm).
   - 3rd Line : One dimensional Barcode with encoding 128, 9 mm high (±1mm).
   - 4th Line : A row of 6 digits, 17 mm high (± 1mm).

   Numbers and bar code should be covering full size of the female tag and leaving 2 mm margin on all sides. The printing must be as dark as possible to ensure the readability of the bar code over the years. The manufacturer should provide documentation to demonstrate the readability of its tags over the years. NDDB will send the list of twelve-digit numbers to be laser printed on ear tags.

5. **Colour**: The colour of the tag should be lemon yellow.

6. **Packing**: In order to manage the tag inventory the eartag should be packed in batches of 100 pieces in a good quality polyethylene bags indicating beginning and ending numbers and further packed in a corrugated box containing 500 pieces of ear tags i.e. 5 polyethylene bags each containing 100 pieces of ear tags.

7. **Ear Tag-Test Report**: a) Ether Grade Test Report is required to be provided at the time of supply (finished goods) b) Manufacturer’ test certificate should be attached with the proposal (raw material)
8. **Ear tag applicator**: Should be a compatible Universal applicator with 1 extra pin along with the ear tags should also be supplied.

### Annex 2: Specification of Android phone

<table>
<thead>
<tr>
<th>Item</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU</td>
<td>Octa-core 1.4 GHz or equivalent or more.</td>
</tr>
<tr>
<td>Internal Memory</td>
<td>Minimum 8 GB</td>
</tr>
<tr>
<td>External Memory</td>
<td>microSD, minimum expandable up to 32 GB</td>
</tr>
<tr>
<td>RAM</td>
<td>Minimum 2 GB RAM</td>
</tr>
<tr>
<td>Display</td>
<td>Multitouch, 5.0 inches or Larger, capacitive touchscreen, 16M colors with 1024 x 800 pixels resolution or higher, IPS LCD/LED display</td>
</tr>
<tr>
<td>Network</td>
<td>4G LTE, 3G, 2G (Optional VOLTE Support)</td>
</tr>
<tr>
<td>SIM</td>
<td>Single SIM (optional Dual SIM)</td>
</tr>
<tr>
<td>Internet Connectivity</td>
<td>4G, 3G, Wi-Fi, GPRS, EDGE</td>
</tr>
<tr>
<td>Wireless Connectivity</td>
<td>802.11 b/g/n or 802.11 a/b/g/n Minimum Bluetooth v4.2, Wi-Fi Direct, Hotspot</td>
</tr>
<tr>
<td>Location Service</td>
<td>GPS</td>
</tr>
<tr>
<td>Battery</td>
<td>Minimum 2500 mAh</td>
</tr>
<tr>
<td>Camera</td>
<td>Minimum 8.0 MP Camera with Geo Tagging</td>
</tr>
<tr>
<td>OS</td>
<td>Android Marshmallow 6.0 or higher version</td>
</tr>
<tr>
<td>Team Viewer</td>
<td>Should support the Team Viewer Quick Support installation with available add-ons of TeamViewer on google play store.</td>
</tr>
<tr>
<td>Weight</td>
<td>175 gm. (Max.)</td>
</tr>
<tr>
<td>Warrantee</td>
<td>Minimum 1 Year</td>
</tr>
<tr>
<td>Accessories</td>
<td>Battery, charger, USB Cable</td>
</tr>
</tbody>
</table>

### Optional

<table>
<thead>
<tr>
<th>Other Features</th>
<th>Accelerometer, Gyroscope, Magnetometer, Proximity, OTG Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cover Case</td>
<td>Leather Case Cover, Optional solar charging</td>
</tr>
<tr>
<td>Anti Virus</td>
<td>Norton/Symantec, eTrust, MacAfee, Trend Micro, Quick Heal latest version with two years license</td>
</tr>
</tbody>
</table>

Vendor should provide the specification strictly in the above format adding 3rd column mentioning the specification of each and every item listed in the above sheet. Any additional information may be provided separately.
### Annex 3: Specification of Android tablet

<table>
<thead>
<tr>
<th>Item</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU</td>
<td>Quad-core 1.3 GHz or equivalent or more.</td>
</tr>
<tr>
<td>Internal Memory</td>
<td>Minimum 8 GB</td>
</tr>
<tr>
<td>External Memory</td>
<td>microSD, minimum expandable up to 32 GB</td>
</tr>
<tr>
<td>RAM</td>
<td>Minimum 1.5 GB RAM</td>
</tr>
<tr>
<td>Display</td>
<td>Multitouch, 7.0 inches or Larger, capacitive touchscreen, 16M colors with 1024 x 800 pixels resolution or higher, IPS LCD/LED display</td>
</tr>
<tr>
<td>Network</td>
<td>4G LTE, 3G, 2G (Optional VOLTE Support)</td>
</tr>
<tr>
<td>SIM</td>
<td>Single SIM(optional Dual SIM)</td>
</tr>
<tr>
<td>Internet Connectivity</td>
<td>4G, 3G, Wi-Fi, GPRS, EDGE</td>
</tr>
<tr>
<td>Wireless Connectivity</td>
<td>802.11 b/g/n or 802.11 a/b/g/n or 802.11 a/b/g/n/ac Minimum Bluetooth v4.0, Wi-Fi Direct, Hotspot</td>
</tr>
<tr>
<td>Location Service</td>
<td>GPS</td>
</tr>
<tr>
<td>Battery</td>
<td>Minimum 3000 mAh</td>
</tr>
<tr>
<td>Camera</td>
<td>Minimum 8.0 MP Camera with Geo Tagging</td>
</tr>
<tr>
<td>OS</td>
<td>Android Lollipop 5.1 or higher version</td>
</tr>
<tr>
<td>Team Viewer</td>
<td>Should support the Team Viewer Quick Support installation with available add-ons of TeamViewer on google play store.</td>
</tr>
<tr>
<td>Weight</td>
<td>Maximum 450 gm</td>
</tr>
<tr>
<td>Warrantee</td>
<td>Minimum 1 Year</td>
</tr>
<tr>
<td>Accessories</td>
<td>Battery, charger, USB Cable</td>
</tr>
<tr>
<td><strong>Optional</strong></td>
<td></td>
</tr>
<tr>
<td>Other Features</td>
<td>Accelerometer,Gyroscope,Magnetometer, Proximity,OTG Support</td>
</tr>
<tr>
<td>Cover Case</td>
<td>Leather Case Cover, Optional solar charging</td>
</tr>
<tr>
<td>Anti Virus</td>
<td>Norton/Symantec, eTrust, MacAfee, Trend Micro, Quick Heal latest version with two years license</td>
</tr>
</tbody>
</table>

**Vendor should provide the specification strictly in the above format adding 3rd column mentioning the specification of each and every item listed in the above sheet. Any additional information may be provided separately**
Annex 4: General specifications bar code printer, scanner and labels

1. Bar code printer
   - Print Method: Direct Thermal/Thermal Transfer
   - Print Width: 4.1"
   - Media Width: 1" to 4.3"
   - Print Speed: 4 inch per second (ips)
   - Resolution: Minimum 200 dots per inch (dpi)
   - 32 bit Microprocessor
   - 8MB DRAM
   - 4MB Flash ROM
   - Universal Switching Power Supply AC

2. Bar code label
   - Printed by heat transfer or laser.
   - Barcode details to be accurately captured, even for small bottles and test tubes.
   - Secure fixation on containers with diameters of less than 15 mm (on test tubes, vials etc)
   - Can be directly immersed in liquid nitrogen at -196 °C without risk of delamination.

3. Barcode scanner
   - Handheld multi-interphase scanner.
### Annex 5: Specifications desktop computer

<table>
<thead>
<tr>
<th>Item</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor</td>
<td>7th Generation Intel Core i5 Processor, 6 MB Cache OR higher</td>
</tr>
<tr>
<td>Form Factor</td>
<td>Tower Model</td>
</tr>
<tr>
<td>Chipset</td>
<td>Intel Chipset supporting the above processor</td>
</tr>
<tr>
<td>Memory</td>
<td>4 GB DDR3 1333 MHz SDRAM expandable to 8 GB</td>
</tr>
<tr>
<td>Internal Storage</td>
<td>1 TB SATA II Hard Disk Drive</td>
</tr>
<tr>
<td>Removable</td>
<td>DVD+-/RW Writer.</td>
</tr>
<tr>
<td>Graphics</td>
<td>Integrated Intel HD Graphics supporting 1600x1200 resolutions</td>
</tr>
<tr>
<td>Audio</td>
<td>Integrated high definition audio</td>
</tr>
<tr>
<td>Network</td>
<td>10/100/1000 Mbps Gigabit Ethernet</td>
</tr>
<tr>
<td>Display Monitor</td>
<td>18.5&quot; wide screen LCD/LED Backlit TFT Color HD Monitor with 1366 x 768 native resolutions.</td>
</tr>
<tr>
<td>Input Devices</td>
<td>USB standard Keyboard and USB Optical 2 button Scroll Mouse</td>
</tr>
<tr>
<td>Ports &amp; Connectors</td>
<td>1 Serial Port, 1 Parallel Port, 1 VGA Port, 1 Microphone/Headphone jack, 1 RJ45 Port</td>
</tr>
<tr>
<td>USB Ports</td>
<td>6 USB 2.0 Ports (Min. two on front and two on rear)</td>
</tr>
<tr>
<td>PCI Slots</td>
<td>Minimum 2 free PCI Slots.</td>
</tr>
<tr>
<td>Compatibility</td>
<td>Windows 10/ Windows 8/ Windows 7/2008 /2012, Linux Compliant</td>
</tr>
<tr>
<td>Operating System</td>
<td>Licensed Windows 10 Professional / Windows 8.1 Professional 64 bit Preloaded with OS Recovery</td>
</tr>
<tr>
<td>Anti Virus</td>
<td>Norton/Symantec, eTrust, MacAfee, Trend Micro, Quick Heal latest version with three years license</td>
</tr>
<tr>
<td>Warrantee</td>
<td>3 Years comprehensive onsite warranteen with the following SLA:</td>
</tr>
<tr>
<td></td>
<td>- call should be attended on next business day</td>
</tr>
<tr>
<td></td>
<td>- problem resolution within 24 hours of attending the</td>
</tr>
<tr>
<td>Scope of work</td>
<td>Supply, Installation and configuration</td>
</tr>
</tbody>
</table>

*Note: Desktop with better specification can be accepted.*
Management Information System (MIS) Reports for Animal Breeding and Health Services

User Manual

NATIONAL DAIRY DEVELOPMENT BOARD, ANAND, GUJARAT

November 2019
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Overview

- INAPH MIS Tool is **Web** based; Internet connectivity is must to access the link.
- Role based Controlled Access to INAPH MIS.
- INAPH MIS Tool has 5 Level Hierarchy as applicable for INAPH Application.
- Authorized Users with valid User Credentials (ID & Password) can access the link & Login.
- **INAPH MIS Link:** [http://inaphapp.nddb.coop/MIS/NDDBInaph/login.aspx](http://inaphapp.nddb.coop/MIS/NDDBInaph/login.aspx)
- User Role has been defined as per hierarchy and accordingly access rights are granted to Reports for various activities.

Hierarchy: 5 Levels

![Hierarchy Diagram]

Note:

- **Web Browser:** Internet Explorer 7, 8, 9 or 10
- **DO NOT USE ANY OTHER WEB BROWSERS** i.e. Chrome, Firefox and Mozilla etc.
Login Screen:

Login using the Credentials: **User Name & Password**

HOME SCREEN:

Main Menus & Sub-Menus are displayed on the Menu Bar
INAPH-MIS has Main Menus and Sub Menus as listed below:

1. Registration
   - Animal Registration
   - Animal Status
   - Ear Tag Change
   - Elite Animal Declaration
   - Animal Movement

2. Breeding (AI)
   - Artificial Insemination
   - Pregnancy Diagnosis
   - Calving
   - Breeding Summary
   - Artificial Insemination Follow Up

3. Milk Recording (PT)
   - Milk Recording
   - Animal Milk Yield
   - Animal Dry Off
   - Test Dose Distribution Plan
   - Daughter’s Follow Up
   - Growth Monitoring
   - Parentage Verification
   - Elite Animals’ Follow Up

4. Nutrition
5. Health
6. Management

All MIS Reports are user based and when generated for any given activity (AI, PD, Calving and Milk Recording etc.) the report lists the transactions & the information captured against the transaction against the user who has captured/recorded the actual activity in the allocated village(s).

**Common Features of MIS Reports:**

- **Selection of Users**
  - Selection of One or Many or All Users as desired

- **Selection of Village(s) (Location)**
  - Selection of One or Many or All Villages assigned to the selected Users as desired

- **Report Period (To & From Date)**

- **Data Entry Date: Check Box (If Ticked)**
  - Report is generated based on Date of Data Entry and not on the Actual Activity Date.
  - This is helpful to monitor the data entry done for that activity during a particular period.

- **Location Wise: Check Box (If Ticked)**
  - Report lists location-wise (Village-wise) details of the activity based on activity date irrespective of User who has recorded the activity in the selected location(s) (Village(s)).
  - This is useful to monitor the location wise activity done irrespective of User.

- **Daughters: Check Box (If Ticked)**
  - Report lists details of the activity on Daughters based on activity date.

- **Elite: Check Box (If Ticked)**
  - Report lists details of the activity on Elite Animals based on activity date.

- **Detailed or Summary Reports**
  - User-wise or Location-wise Detailed and Summary Reports of the activity based on activity date or data entry date.

- **Export**
  - Exporting to PDF or Excel
Some Basic MS excel tools used in Analysis

- Sorting  [www.youtube.com/watch?v=23o2QajKzT0]
- Filtering
- Pivot Table :  [www.youtube.com/watch?v=7zHLnUCtfUk]

Registration Menu

Registration Report:

- Select “Animal Registration” under “Registration” Menu.
- Report provides the Animal Registration and/or Re-Registration related details of the Animals based on the criteria specified by the User.

Report Generation Criteria:

1. Select User(s): Sub-Ordinate Users (AITs/MRs) are Listed
   - Select One or Many or All Users as desired
2. Select Village(s): Villages Assigned to AITs/MRs are Listed
   - Select One or Many or All Villages assigned to the selected Users as desired
3. Select Registration Type (Registration, Re-Registration or All).
   - Registration or Re-Registration or All can be selected
4. Report Period: Specify the Date Range [From: and Upto:] for the Report
5. Specific Report Criteria:
   - **Data Entry Date: Check Box (If Ticked)**
     - Report is generated based on Date of Data Entry and not on the Actual Activity (Registration/Re-Registration) Date.
     - This is helpful to monitor the data entry done for the activity (Registration/Re-Registration) during a particular period.
   - **Location Wise: Check Box (If Ticked)**
     - Report lists location-wise (Village-wise) details of Registration based on Registration Date irrespective of User who has recorded the Registration in the selected location(s) (Village(s)).
This is useful to monitor the location wise activity (Registration/Re-Registration) done irrespective of User.

- **Location Wise & Data Entry Date: BOTH CHECK BOX (If Ticked)**
  - Report lists location-wise (Village-wise) details based on Date of Data Entry of Registration irrespective of User who has recorded the Registration in the selected location(s) (Village(s)).
  - This is useful to monitor the location wise data entry done for the activity (Registration/Re-Registration) irrespective of User.

Click “Generate Summary” for Summary Report or “View Detail” for Detailed Report.

The Output of the Report will be displayed as shown below:

![Report Output](image)

Report can be Exported & Saved in different Formats as desired. (E.g. EXCEL or PDF)

**Animal Status Report:**

- Select “Animal Status” under “Registration” Menu.
- Report provides the Current Status Information and the past details of the activities/services to the Animal.
- Report is of an Individual Animal.
- Irrespective of Area of Operation (Assigned Village(s)), a User can generate the Report of an Animal located anywhere in the country.
- Animal Status Report is very useful to know the Current Location & Status Information and the past details of the activities/services to the Animal.
Click **Animal Status**
Enter the Latest **Ear Tag No** of the Animal
- Note: In case the Old Tag ID of an Animal is replaced with a New Tag ID; Report will not be generated if OLD TAG ID is entered.
Animal Status Report (Individual Animal History Sheet) will be generated as shown below:
Ear Tag Change Report:
- Select “Ear Tag Change” under “Registration” Menu.
- Report provides the Ear Tag Change related details of the Animals based on the criteria specified by the User.

Report Generation Criteria:
1. Select User(s): Sub-Ordinate Users (AITs/MRs) are Listed
   - Select One or Many or All Users as desired
2. Select Village(s): Villages Assigned to AITs/MRs are Listed
   - Select One or Many or All Villages assigned to the selected Users as desired
4. Specific Report Criteria:
   - **Data Entry Date: Check Box (If Ticked)**
     - Report is generated based on Date of Data Entry and not on the Actual Activity (Ear Tag Change) Date.
     - This is helpful to monitor the data entry done for the activity (Ear Tag Change) during a particular period.
   - **Location Wise: Check Box (If Ticked)**
     - Report lists location-wise (Village-wise) details of Ear Tag Change based on Ear Tag Change Date irrespective of User who has recorded the Ear Tag Change in the selected location(s) (Village(s)).
     - This is useful to monitor the location wise activity (Ear Tag Change) done irrespective of User.
   - **Location Wise & Data Entry Date: BOTH CHECK BOX (If Ticked)**
     - Report lists location-wise (Village-wise) details based on Date of Data Entry of Ear Tag Change irrespective of User who has recorded the Ear Tag Change in the selected location(s) (Village(s)).
     - This is useful to monitor the location wise data entry done for the activity (Ear Tag Change) irrespective of User.

Click “Generate Summary” for Summary Report or “View Detail” for Detailed Report.
The Output of the Report will be displayed as shown below:

**Elite Animal Declaration Report:**
- Select “Elite Animal Declaration” under “Registration” Menu.
- Report provides the Elite Animal Declaration related details of the Animals based on the criteria specified by the User.

**Report Generation Criteria:**
1. Select User(s): Sub-Ordinate Users (AITs/ MRs) are Listed
   - Select One or Many or All Users as desired
2. Select Village(s): Villages Assigned to AITs/MRs are Listed
   - Select One or Many or All Villages assigned to the selected Users as desired
4. Specific Report Criteria:
   - **Data Entry Date: Check Box (If Ticked)**
     - Report is generated based on Date of Data Entry and not on the Actual Activity (Elite Declaration of Animal) Date.
     - This is helpful to monitor the data entry done for the activity (Elite Declaration of Animal) during a particular period.
   - **Location Wise: Check Box (If Ticked)**
     - Report lists location-wise (Village-wise) details of Elite Declaration of Animal based on Elite Declaration Date irrespective of User who has recorded the Elite Declaration of Animal in the selected location(s) (Village(s)).
     - This is useful to monitor the location wise activity (Elite Declaration of Animal) done irrespective of User.
   - **Location Wise & Data Entry Date: BOTH CHECK BOX (If Ticked)**
     - Report lists location-wise (Village-wise) details based on Date of Data Entry of Elite Declaration of Animal irrespective of User who has recorded the Elite Declaration of Animal in the selected location(s) (Village(s)).
     - This is useful to monitor the location wise data entry done for the activity (Elite Declaration of Animal) irrespective of User.

Click “Generate Summary” for Summary Report or “View Detail” for Detailed Report.

The Output of the Report will be displayed as shown below:
Animal Movement Report:

- Select “Animal Movement Report” under “Registration” Menu.
- Report provides the Animal Movement related details of the Animals based on the criteria specified by the User.

Report Generation Criteria:

1. Select User(s): Sub-Ordinate Users (AITs/MRs) are Listed
   - Select One or Many or All Users as desired
2. Select Village(s): Villages Assigned to AITs/MRs are Listed
   - Select One or Many or All Villages assigned to the selected Users as desired
4. Specific Report Criteria:
   - Data Entry Date: Check Box (If Ticked)
     - Report is generated based on Date of Data Entry and not on the Actual Activity (Animal Movement) Date.
     - This is helpful to monitor the data entry done for the activity (Animal Movement) during a particular period.
   - Location Wise: Check Box (If Ticked)
     - Report lists location-wise (Village-wise) details of Animal Movement based on Movement Date irrespective of User who has recorded the Movement of Animal in the selected location(s) (Village(s)).
     - This is useful to monitor the location wise activity (Animal Movement) done irrespective of User.
   - Location Wise & Data Entry Date: BOTH CHECK BOX (If Ticked)
     - Report lists location-wise (Village-wise) details based on Date of Data Entry of Animal Movement irrespective of User who has recorded the Movement of Animal in the selected location(s) (Village(s)).
     - This is useful to monitor the location wise data entry done for the activity (Animal Movement) irrespective of User.

Click “Generate Summary” for Summary Report or “View Detail” for Detailed Report.

The Output of the Report will be displayed as shown:
User Profile and Area of Operation Report:

- Select “User Profile and Area of Operation Report” under “Registration” Menu.
- Report provides the User Profile and Area of Operation (Villages Allocated to the Field Force) related details of the User.

Report Generation Criteria:

1. Select User(s): Sub-Ordinate Users (AITs/MRs) are Listed
   - Select One or Many or All Users as desired

Click “View Detail” for Detailed Report.
The Output of the Report will be displayed as shown:
Breeding (AI) Menu

Artificial Insemination Report:
- Select “Artificial Insemination” under “Breeding (AI)” Menu.
- Report provides the Artificial Insemination related details of the animals that are inseminated based on the criteria specified by the User.
Report Generation Criteria:

1. Select User(s): Sub-Ordinate Users (AITs/MRs) are Listed
   - Select One or Many or All Users as desired
2. Select Village(s): Villages Assigned to AITs/MRs are Listed
   - Select One or Many or All Villages assigned to the selected Users as desired
3. Select AI Type (General, Test, or/and Nominated).
   - One or Two or All AI Types can be selected
4. Report Period: Specify the Date Range [From: and Upto:] for the Report
5. Specific Report Criteria:
   - **Data Entry Date: Check Box (If Ticked)**
     - Report is generated based on Date of Data Entry and not on the Actual Activity (Artificial Insemination) Date.
   - **Daughters: Check Box (If Ticked)**
     - Report lists details of Artificial Inseminations on Daughters based on AI Date.
   - **Location Wise: Check Box (If Ticked)**
     - Report lists location-wise (Village-wise) details of Artificial Inseminations based on AI Date irrespective of User who has recorded the AI in the selected location(s) (Village(s)).
   - **Date Entry Date & Daughters: BOTH CHECK BOX (If Ticked)**
     - Report lists details of Artificial Inseminations on Daughters based on Date of Data Entry of Artificial Insemination.
   - **Location Wise & Data Entry Date: BOTH CHECK BOX (If Ticked)**
     - Report lists location-wise (Village-wise) details based on Date of Data Entry of AI irrespective of User who has recorded the AI in the selected location(s) (Village(s)).
   - **Location Wise & Data Entry Date & Daughters: ALL CHECK BOX (If Ticked)**
     - Report lists details of Artificial Inseminations on Daughters location-wise (Village-wise) based on Date of Data Entry of AI irrespective of User who has recorded the AI in the selected location(s) (Village(s)).

Click “Generate Summary” for Summary Report or “View Detail” for Detailed Report. Report can be Exported & Saved in different Formats as desired. (E.g. EXCEL or PDF)
Pregnancy Diagnosis Report:

- Select “Pregnancy Diagnosis” under “Breeding (AI)” Menu.
- Report provides the Pregnancy Status related details of the animals that are subjected to Pregnancy Diagnosis based on the criteria specified by the User.

Report Generation Criteria:

1. Select User(s): Sub-Ordinate Users (AITs/MRs) are Listed
   - Select One or Many or All Users as desired
2. Select Village(s): Villages Assigned to AITs/MRs are Listed
   - Select One or Many or All Villages assigned to the selected Users as desired
3. Select AI Type (General, Test, or/and Nominated).
   - One or Two or All AI Types can be selected
4. Report Period: Specify the Date Range [From: and Upto:] for the Report
5. Specific Report Criteria:
   - **Data Entry Date: Check Box (If Ticked)**
     - Report is generated based on Date of Data Entry and not on the Actual Activity (Pregnancy Diagnosis) Date.
   - **Daughters: Check Box (If Ticked)**
     - Report lists details of Pregnancy Diagnosis on Daughters based on PD Date.
   - **Location Wise: Check Box (If Ticked)**
     - Report lists location-wise (Village-wise) details of Pregnancy Diagnosis based on PD Date irrespective of User who has recorded the PD in the selected location(s) (Village(s)).
   - **Date Entry Date & Daughters: BOTH CHECK BOX (If Ticked)**
     - Report lists details of Pregnancy Diagnosis on Daughters based on Date of Data Entry of Pregnancy Diagnosis.
   - **Location Wise & Data Entry Date: BOTH CHECK BOX (If Ticked)**
     - Report lists location-wise (Village-wise) details based on Date of Data Entry of PD irrespective of User who has recorded the AI in the selected location(s) (Village(s)).
   - **Location Wise & Data Entry Date & Daughters: ALL CHECK BOX (If Ticked)**
     - Report lists details of Pregnancy Diagnosis on Daughters location-wise (Village-wise) based on Date of Data Entry of PD irrespective of User who has recorded the PD in the selected location(s) (Village(s)).

Click “Generate Summary” for Summary Report or “View Detail” for Detailed Report. Report can be Exported & Saved in different Formats as desired. (E.g. EXCEL or PDF)
Calving Report:

- Select “Calving” under “Breeding (AI)” Menu.
- Report provides the Calving related details of the animals that have calved based on the criteria specified by the User.

Report Generation Criteria:

1. Select User(s): Sub-Ordinate Users (AITs/MRs) are Listed
   - Select One or Many or All Users as desired
2. Select Village(s): Villages Assigned to AITs/MRs are Listed
   - Select One or Many or All Villages assigned to the selected Users as desired
3. Select AI Type (General, Test, or/and Nominated).
   - One or Two or All AI Types can be selected
4. Report Period: Specify the Date Range [From: and Upto:] for the Report
5. Specific Report Criteria:
   - **Data Entry Date: Check Box (If Ticked)**
     - Report is generated based on Date of Data Entry and not on the Actual Activity (Calving) Date.
   - **Daughters: Check Box (If Ticked)**
     - Report lists details of Calving on Daughters based on Calving Date.
   - **Location Wise: Check Box (If Ticked)**
     - Report lists location-wise (Village-wise) details of Calving based on Calving Date irrespective of User who has recorded the Calving in the selected location(s) (Village(s)).
   - **Date Entry Date & Daughters: BOTH CHECK BOX (If Ticked)**
     - Report lists details of Calving on Daughters based on Date of Data Entry of Calving.
   - **Location Wise & Data Entry Date: BOTH CHECK BOX (If Ticked)**
     - Report lists location-wise (Village-wise) details based on Date of Data Entry of Calving irrespective of User who has recorded the Calving in the selected location(s) (Village(s)).
   - **Location Wise & Data Entry Date & Daughters: ALL CHECK BOX (If Ticked)**
     - Report lists details of Calving on Daughters location-wise (Village-wise) based on Date of Data Entry of Calving irrespective of User who has recorded the Calving in the selected location(s) (Village(s)).
Click “Generate Summary” for Summary Report or “View Detail” for Detailed Report. Report can be Exported & Saved in different Formats as desired. (E.g. EXCEL or PDF)

Breeding Summary Report:
- Select “Breeding Summary” under “Breeding (AI)” Menu.
- Report provides the Summary of Count (frequency) of various activities done by the User(s) based the criteria specified by the User.

Report Generation Criteria:
1. Select User(s): Sub-Ordinate Users (AITs/MRs) are Listed
   - Select One or Many or All Users as desired
2. Select Village(s): Villages Assigned to AITs/MRs are Listed
   - Select One or Many or All Villages assigned to the selected Users as desired
3. Select Species: Cattle or Buffalo or Both
4. Report Period: Specify the Date Range [From: and Upto:] for the Report
5. Specific Report Criteria:
   - Data Entry Date: Check Box (If Ticked)
     - Report is generated based on Date of Data Entry and not on the Actual Activity Date.
Artificial Insemination Follow-up Report:

Artificial Insemination Follow Up Report as the name indicates, is useful and designed to enable the AI Technician to follow up the AI on Animal for subsequent activities (Pregnancy Diagnosis or Calving or Repeat Insemination) after being inseminated up to Calving.

For Repeat AI in same Heat Cycle only the latest (last) AI is considered for follow up upto Calving.

Report Generation Criteria:

1. Select User(s): Sub-Ordinate Users (AItS/MRs) are Listed
   o Select One or Many or All Users as desired
2. Select Village(s): Villages Assigned to AITs/MRs are Listed
   - Select One or Many or All Villages assigned to the selected Users as desired
3. Select AI Type (General, Test, or/and Nominated).
   - One or Two or All AI Types can be selected
4. Report Period: Specify the Date Range [From: and Upto:] for the Report
5. Specific Report Criteria:
   - **Daughters: Check Box (If Ticked)**
     - Report lists details of latest AI in same heat cycle & the subsequent activities followed up on Daughters based on Artificial Insemination Date.
   - **Elite: Check Box (If Ticked)**
     - Report lists details of latest AI in same heat cycle & the subsequent activities followed up on Elite Animals based on Artificial Insemination Date.
   - **Daughters & Elite: BOTH CHECK BOX (If Ticked)**
     - Report lists details of latest AI in same heat cycle & the subsequent activities followed up on **Daughters** which are declared **Elite** based on Artificial Insemination Date.

Click “View Detail” for Detailed Report. Report can be Exported & Saved in different Formats as desired. (E.g. EXCEL or PDF)
**Animal Health MIS Reports**

MIS reports can be used to access and download reports on any computer system with internet connectivity. The user can view the reports on vaccination and other interventions based on the access rights provided to him/her.

### I. Individual vaccination reports

Individual vaccination reports are animal wise reports which can be generated at various levels (animal/user/village/disease/period etc). The procedure to generate individual vaccination reports are given below:

**Step 1:** Log on to [http://inaph.nddb.coop](http://inaph.nddb.coop) by typing the address in the internet explorer/chrome or any other web browser (Fig 1).

**Step 2:** Click on the “MIS Report in Live Environment” (Fig 1).

**Fig 1. INAPH Home page**

![INAPH Home page](image)

**Step 3:** Log in with your user name and ID (Fig 2) which opens the home page of the MIS report (Fig 3).
Step 4: Select “Individual Vaccination” under the “Vaccination” drop down of the “Health” tab on the home page (Fig 4).

Step 5: Your organization will automatically be populated; more organizations will appear only if you are given higher access rights.

Step 6: Click on the “User” radio button and select single or multiple users (which will again appear based on your hierarchy in the system). The “Select All” check box may be ticked if all the users need to be selected.
Step 7: A similar process as above may be followed for selection of villages *(only those villages allocated to the user/users selected in step 6 will appear)*.

Step 8: Select the disease for which the vaccination report is to be generated (multiple selections are possible). If report of vaccination against all diseases need to be generated, the “Select All” check box may be ticked.

Step 9: Select the date range for which the report is required.

Step 10: Click on “View Summary” tab to get a summary report an example of which is provided in Fig 5.

Step 11: Click on “View Detail” tab to get a detailed report which includes the tag number of the animal, animal details, owner name, vaccine batch number etc (Fig 6).

Step 12: If the “DataEntry Date” check box is ticked, the actual date of data entry is displayed.

Step 13: If the “Location-wise” check box is ticked, the vaccination transaction by any other user registered in INAPH allocated the selected village (s) will also appear in the report.

Step 14: Click on “Export” tab to export the report generated in excel format for further analysis.

**Fig 5. Individual vaccination summary report**
II. VACCINATION COVERAGE REPORTS

These generate animal-wise, species-wise, user-wise or location-wise (State/District/Tehsil/Village) reports on the coverage of vaccination with respect to the animal population registered in INAPH and, also as per the Livestock Census data. The procedure to generate vaccination coverage reports are given below:

**Steps 1 to 3:** As for Individual vaccination reports.

**Step 4:** Select “Vaccination Coverage” under the “Vaccination” drop down of the “Health” tab on the home page (Fig 7).

**Fig 7. Vaccination coverage report selection**

**Step 5 to 7:** As for Individual vaccination reports.

**Step 8:** Select the “ReportType” from the drop down as shown in Fig 8.
**Fig 8. Selection of report type**

![Image of INAPH Management Information System interface]

**Step 9:** Click the “Disease Class” radio button for which the vaccination report is to be generated (multiple selections are possible). If report of vaccination against all diseases need to be generated, the “Select All” check box may be ticked.

**Step 10:** Click the “Disease” radio button and select the specific disease for which the vaccination report is to be generated (multiple selections are possible). If report of vaccination against all diseases need to be generated, the “Select All” check box may be ticked. However all the diseases classified under the selected “Disease Class” will appear in the “Disease” list box (Fig 9).

**Step 11:** Select the species for which the report is required from the drop down. If the report of all the species is required, select “All” (Fig 10).

**Step 12:** Select “As per census” if the vaccination coverage is to be compared with the census population, select “As per INAPH” if the comparison is to be made against the registered animals in the INAPH database (Fig 11).

**Fig 9. Selection of disease class and disease**

![Image of INAPH Management Information System interface with disease and species selection highlighted]
Fig 10. Selection of species

Fig 11. Selection of animal population

Step 13: Select the date range for which the report is required.

Step 14: Click on “View Detail” tab to get report an example of which is provided in Fig 12 (Animal-wise report).

Fig 12. Example of animal-wise report

Step 15: Reports may be generated animal-wise, user-wise, village-wise, tehsil-wise, district-wise or state-wise. A district-wise report example is given in Fig 13.
**Fig 13. Example of district-wise vaccination coverage report**

**Step 16:** If the “Data Entry Date” check box is ticked, the actual date of data entry is displayed (for individual data).

**Step 17:** Click on “Export” tab to export the report generated in excel format for further analysis.

**Step 18:** Click on “Reset” tab if a fresh query is to be made.