Information Network for Animal Productivity and Health

INAPH
INAPH

• NDDB has developed an Information Network for Animal Productivity & Health (INAPH), a Desktop/Netbook/Windows Phone/Android Tablet based Field IT Application that facilitates the capturing of real-time reliable data on Breeding, Nutrition and Health Service delivered at Farmer’s Doorstep.

• It works in online as well as Offline mode and supports multiple languages.

• It provides a tool for farmer, field functionaries, Union, Federation, NDDB to assess and monitor the progress of the project.
Participating Organizations

1. Data entry
2. Data validation
3. Updation
4. Local output
5. Synchronization

Nutrition Lab.
Internet
Communi- cation Media

Netbook / Mobile

Desks to
Synchronisation GSM/GPRS

Support Staff

AI Delivery
Progeny Testing
Nutrition
Veterinary

Field Staff

AI Technicians
Milk Recorders
Local Resource Person
Veterinarians

• Registration
• AI
• PD
• Calving
• Other Services
• Yield measurement
• Sample Collection
• Typing
• Growth Monitoring
• RB Individual Animal
• RB Group of Animals
• Feed & Fodder sample collection
• Treatment
• Diagnosis
• Testing
• Outbreak
• Other services

Mobile
Farmer with animals in a village

NDDB

• Analytical reports
• BV Estimation

Centra
Database
Application server

CEO

C E O

Network at a glance

Milk Component Testing Lab

Nutrition Lab.
Disease Diag. Lab.
Animal Identification

• A Unique 12 Digit Barcoded Ear Tag to identify and register and track each Animals in a Central Database

• Provision for Ear Tag Change as well as Animal Movement, Sale, Death etc. without loosing Animal History
### Pregnancy Diagnosis

**Tag Number:** 2013021011

<table>
<thead>
<tr>
<th>Bull ID</th>
<th>Village</th>
<th>Owner</th>
<th>Species</th>
<th>Last Intermittent Date</th>
<th>Number of Days after Last Intermittent</th>
<th>Current Lactation Number</th>
<th>No of Actual AI</th>
<th>AI Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAD-BHE-13</td>
<td>Abasan</td>
<td>BHUAN DHUMAL</td>
<td>Cattle</td>
<td>01-01-2014</td>
<td>60</td>
<td>1</td>
<td>1</td>
<td>C</td>
</tr>
</tbody>
</table>

**Last Pregnancy Diagnosis Details**

- **PD Date:** 01-01-2014
- **PD Status:** 
- **Natural Service Provider:** Yes / No

**Fill Pregnancy Diagnosis Details**

- **Data of Pregnancy Diagnosis:** 01-01-2014
- **Pregnancy Diagnosis Results:** Fragrant / Non-Fragrant
- **Other Service Provider:** Yes / No
- **Service Provider Name:**

**Buttons:**
- Save
- Modify
- Reset
Breeding Services

Capturing Animal Registration information

Capturing Artificial Insemination information

Capturing Pregnancy Details

Recording Calving Details

Alert

Messages

Reports

Capturing Male Calv registration

Capturing Female Calv registration

Capturing Milk Recording information
### Growth Monitoring

<table>
<thead>
<tr>
<th>Modify/Delete</th>
<th>Village</th>
<th>Owner</th>
<th>Species</th>
<th>Last Growth Monitoring Date</th>
<th>Length (Inches)</th>
<th>Girth (Inches)</th>
<th>Weight (Kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ADORI-2</td>
<td>ashok Kumar</td>
<td>Cattle</td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

### Add/Modify Details

- **Growth Monitoring Date**: 29-07-2011
- **Length (in inches)**: 30
- **Girth (in inches)**: 24
- **Weight (Kg)**: 26.10
### Morning Milk Recording/Dry off

#### Last Milk Recording Details:
- **Tag Numbers:** 202123152000

<table>
<thead>
<tr>
<th>Calving Date</th>
<th>Lactation Number</th>
<th>Milk Recording Date</th>
<th>Morning Milk Production (Lt)</th>
<th>Afternoon Milk Production (Lt)</th>
<th>Morning Milk Production (Lt)</th>
<th>Village</th>
<th>Owner</th>
<th>Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>29-05-2021</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Milk Recording Details:
- **Status:** Milking
- **Date of Milk Recording:** 29-05-2021
- **Milk Volume (Lt):** 11

#### Milk Sampling Details:
- **Sample Box Number:** 111109
- **Testing Bottle Number:** 111
- **Testing Laboratory:** test lab

#### Questions:
- **Genetic:**
  - **Buck:** Yes
  - **Cows:** No
- **Sub-Clincial Ketosis:**
  - **Yes:** Yes
  - **No:** No
- **Heat Problems:**
  - **Yes:** Yes
  - **No:** No
- **De-Wormed:**
  - **Yes:** Yes
  - **No:** No
- **Feeding Mineral Mixture:**
  - **Yes:** Yes
  - **No:** No
- **Calves Alive:**
  - **Yes:** Yes
  - **No:** No

#### Vaccination Given:
- **Yes:** Yes
- **No:** No
### Ration Balancing

**Tagged Already:**
- Yes
- No

**Tag Number:**

**Last Recommended Date:**

**Ration Implemented:**
- Yes
- No

**Transaction Date:**

**Animal Details**

- **Sex:**
  - Male
  - Female

- **Species:**
  - Cow
  - Buffalo

- **Breed:**
  - N/A

- **Class:**
  - Heifer
  - Adult

- **Age (year and month):**
  - 4

- **Pregnant:**
  - Yes
  - No

- **Pregnancy Month:**

- **Body Weight (kg):**
  - 600.00

#### Details

**Owner Details**

- **Owner Name Along With Father’s Name:**
  - Male

- **Gender:**
  - ST

- **Land Holding:**
  - Small (1-1.99 Ha)

- **Village:**
  - ACHANAKPUR-13450...

- **Village Institution:**
  - ACHANAKPUR-13450...

- **Agency:**
  - vijaycoy

### Cereal Nutrients

- **Cereal Nutrients to be Added:**
  - Cereals

- **Cereal Nutrients to be Added:**
  - Cereals

### Owner Details

- **Owner Details:**
  - Cereals

### Cereal Nutrients

- **Cereal Nutrients to be Added:**
  - Cereals
Capturing Animal Registration information

Capturing Animal Profile

Capturing Feed intake and Milk Yield

Select Locally Available Feeds & Fodder with Cost

Least cost balanced ration formulation by software

Need Based Fresh Formulation

Balanced Feeding to Animal

Output

Reports

Ration Balancing
### Nutrient Availability

**Nutrient Requirements**

<table>
<thead>
<tr>
<th>Particulars</th>
<th>T(N) (g)</th>
<th>CP (g)</th>
<th>Calcium (g)</th>
<th>P (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintenance</td>
<td>370.00</td>
<td>394.00</td>
<td>20.00</td>
<td>14.00</td>
</tr>
<tr>
<td>Milk Production</td>
<td>2612.00</td>
<td>1000.00</td>
<td>35.64</td>
<td>21.96</td>
</tr>
<tr>
<td>Growth</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>7312.00</td>
<td>1372.00</td>
<td>55.64</td>
<td>35.96</td>
</tr>
</tbody>
</table>

**Fill Current Feeding Practice**

<table>
<thead>
<tr>
<th>Feed Sub</th>
<th>Feed Name</th>
<th>Rate/kg</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bran</td>
<td>Wheat Bran</td>
<td>3.00</td>
<td>1</td>
</tr>
<tr>
<td>Churni</td>
<td>Blackgram Churni</td>
<td>10.00</td>
<td>2</td>
</tr>
<tr>
<td>Hay</td>
<td>Lucerne Hay</td>
<td>4.00</td>
<td>2</td>
</tr>
</tbody>
</table>

**Permissible Dry Matter(DM) Intake Range**

10 Kg to 12.5 Kg (2% to 2.5% of Body Weight)

**Nutrient Available in Existing Ration**

<table>
<thead>
<tr>
<th>Feed Name</th>
<th>Feed Sub Class</th>
<th>Quantity</th>
<th>Rate/Kg (Rs)</th>
<th>Amount (Rs)</th>
<th>Dry Matter (kg)</th>
<th>T(N) (g)</th>
<th>CP (g)</th>
<th>Calcium (g)</th>
<th>P (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat Bran</td>
<td>Bran</td>
<td>3.00</td>
<td>8.00</td>
<td>24.00</td>
<td>2.70</td>
<td>1755.00</td>
<td>432.00</td>
<td>2.70</td>
<td>9.99</td>
</tr>
<tr>
<td>Blackgram Churni</td>
<td>Churni</td>
<td>2.00</td>
<td>10.00</td>
<td>20.00</td>
<td>1.80</td>
<td>1680.00</td>
<td>396.00</td>
<td>3.24</td>
<td>2.16</td>
</tr>
<tr>
<td>Lucerne Hay</td>
<td>Hay</td>
<td>2.00</td>
<td>4.00</td>
<td>8.00</td>
<td>1.80</td>
<td>990.00</td>
<td>288.00</td>
<td>21.60</td>
<td>2.88</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>7.00</td>
<td></td>
<td>45.00</td>
<td>8.38</td>
<td>3825.00</td>
<td>1026.00</td>
<td>27.54</td>
<td>15.08</td>
</tr>
</tbody>
</table>

**Cost of Ration/Kg Milk Production Rs :** 4.33

**Nutrients Surplus/Deficient in Existing Ration:**

<table>
<thead>
<tr>
<th>T(N) (g)</th>
<th>CP (g)</th>
<th>Calcium (g)</th>
<th>P (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3487.00</td>
<td>346.00</td>
<td>28.10</td>
<td>20.93</td>
</tr>
</tbody>
</table>
Perform Ration Balancing

Nutrient Requirements

<table>
<thead>
<tr>
<th>Particulars</th>
<th>TDN(g)</th>
<th>CP(g)</th>
<th>Calcium(g)</th>
<th>P(g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maintenance</td>
<td>3700.00</td>
<td>364.00</td>
<td>20.00</td>
<td>14.00</td>
</tr>
<tr>
<td>Milk Production</td>
<td>5612.00</td>
<td>1098.00</td>
<td>35.64</td>
<td>21.96</td>
</tr>
<tr>
<td>Growth</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Total</td>
<td>7312.00</td>
<td>1372.00</td>
<td>55.64</td>
<td>35.96</td>
</tr>
</tbody>
</table>

Dry Matter (DM) Requirement:

10 Kg to 12.5 Kg (7% to 2.5% of Body Weight)

Nutrient Available in Existing Ration

<table>
<thead>
<tr>
<th>Feed Sub Class</th>
<th>Feed Name</th>
<th>Quantity</th>
<th>Unit</th>
<th>Rate/kg(Rs)</th>
<th>Amount(Rs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bran</td>
<td>Wheat Bran</td>
<td>3.00 Kg</td>
<td>0.00</td>
<td>2.00</td>
<td>6.00</td>
</tr>
<tr>
<td>Channi</td>
<td>Blackgram Channi</td>
<td>2.00 Kg</td>
<td>0.00</td>
<td>10.00</td>
<td>20.00</td>
</tr>
<tr>
<td>Hay</td>
<td>Lucerne Hay</td>
<td>2.00 Kg</td>
<td>0.00</td>
<td>4.00</td>
<td>8.00</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>7.00 Kg</td>
<td></td>
<td></td>
<td>52.00</td>
</tr>
</tbody>
</table>

Cost of Ration/Kg Milk Production Rs : 4.33

Nutrients Surplus/Deficient in Existing Ration

<table>
<thead>
<tr>
<th>TDN(g)</th>
<th>CP(g)</th>
<th>Calcium(g)</th>
<th>P(g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>-346.00</td>
<td>-346.00</td>
<td>-20.10</td>
<td>-20.93</td>
</tr>
</tbody>
</table>

Least Cost Balanced Ration

<table>
<thead>
<tr>
<th>Feed Name</th>
<th>Feed Sub Class</th>
<th>Quantity</th>
<th>Unit</th>
<th>Rate/kg(Rs)</th>
<th>Amount(Rs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat Bran</td>
<td>Bran</td>
<td>5.18 Kg</td>
<td>0.00</td>
<td>8.00</td>
<td>41.40</td>
</tr>
<tr>
<td>Lucerne Hay</td>
<td>Hay</td>
<td>0.66 Kg</td>
<td>0.00</td>
<td>4.00</td>
<td>34.63</td>
</tr>
<tr>
<td>Mineral Mixture BIS</td>
<td>Minerals</td>
<td>53.00 q</td>
<td>0.00</td>
<td>40.00</td>
<td>2.13</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>13.89</td>
<td></td>
<td></td>
<td>78.16</td>
</tr>
</tbody>
</table>

Cost of Ration/Kg Milk Production : 6.51 Only
Cost of Ration/Kg (as such) : 5.63 Only
Cost of Ration/Kg (DM Basis) : 6.25 Only

View Solution Details  Shadow Pricing
Capturing Animal Registration Information
- Capturing Vaccination & Deworming Activity Details
- Capturing Disease Testing Activity Details
- Capturing Treatment Activity Details
- Capturing Outbreak Details

Health Services
- Alert
- Messages
- Reports
- Analysis of Pathology Samples at Laboratory
- Alerts to Veterinarians for Follow-up on Treatment, Vaccination, Deworming and Outbreaks
### Vaccination Details

**Tag Number:** 2113121108

<table>
<thead>
<tr>
<th>AnimalID</th>
<th>Sex</th>
<th>Species</th>
<th>Age (in years)</th>
<th>Owner</th>
<th>Village</th>
<th>Hamlet</th>
<th>Last Vaccination Date</th>
<th>Vaccination For</th>
</tr>
</thead>
<tbody>
<tr>
<td>111321231</td>
<td></td>
<td>Cow</td>
<td>7-7</td>
<td>anon Kumar</td>
<td>AU091-234536055949</td>
<td>ADORN-23...</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Fill Vaccination Details:**

- **Vaccination Date:** 20-09-2010
- **Vaccine Type:** Gel
- **Form:** Injection
- **Manufacturer:**
- **Vaccination Centre:**
- **Vaccine Batch Number:**
- **Vaccination For:**
  - Anthrax
  - Schmall
  - Foot and Mouth
### Mass Deworming

**Dewormed On**: 29/07/2013

<table>
<thead>
<tr>
<th>Species Name</th>
<th>Batch</th>
<th>Medicine Name</th>
<th>Dosage</th>
<th>Next Deworming On</th>
<th>Manufacturer</th>
<th>Modify</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Deworming Details**

- **Deworming Date**: 29/07/2013
- **Village**: ANAHAADUR-2015000000
- **Dewormer Name**: Albertson

**Species Details**

Fill species which are Dewormed and their number in the below table.

<table>
<thead>
<tr>
<th>Select</th>
<th>Species</th>
<th>Total Animals Dewormed</th>
<th>Select</th>
</tr>
</thead>
<tbody>
<tr>
<td>☑</td>
<td>Cattle</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

**Actions**

- [ ] Save
- [ ] Modify
- [ ] Delete
- [ ] Reset
### Follow Up Outbreak Details

<table>
<thead>
<tr>
<th>Select</th>
<th>Report No</th>
<th>Report Date</th>
<th>Infection Name</th>
<th>Action Taken</th>
</tr>
</thead>
</table>

### Outbreak History

- **Date of First Incidence:** 29-07-2013
- **Date of Reporting First Incidence:** 29-07-2013
- **Duration of Outbreak (days):** 1000

### Previous Sample Test Results

<table>
<thead>
<tr>
<th>Species</th>
<th>Sample Type</th>
<th>Type of Examination</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle</td>
<td>Abomasum</td>
<td>Seroscopy</td>
<td>100</td>
</tr>
</tbody>
</table>

### Outbreak Follow-up

- **Date of Interim Report:** 29-09-2010
- **Probable Source of Infection:** Toddler
- **Action Taken:** Change in HCP
- **Outbreak Confirmed:**
  - **Signs:**
    - Stail Quarter
    - Bia Torque
    - Ducellots
    - Ralf
    - Campylobacteriosis
- **Disease Confirmed:**
- **Locate Affected Species:**
  - Add New
  - Outline View

### Animals Affected

<table>
<thead>
<tr>
<th>Select</th>
<th>Species</th>
<th>Animals Affected</th>
<th>Animals Died</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cattle</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Access Hierarchy

- Five Level of Access Hierarchy
- Multiple villages to one Field Users.
- Same Village can be assigned to multiple Field Users.
- **Role** (AI tech, LRP, Milk Recorder, Health worker, Analyst etc) and **Hierarchy Based Access Control**.
- **Organization level** administration managed at local EIA level through Admin Application.
Training

Technical Training

IT Team Training by NDDB

Field IT Implementation Support including system Installation and Troubleshooting

Functional Training

Trainers Training by NDDB

Trainers Train Field Users

Field User Implementation Support
Implementation Support

NDDB Technical Team

NDDB Central Implementation Team

Regional INAPH Coordinator

EIA1 Project Coordinator
EIA IT Officer
EIA Area Officers
Field Uses

EIA2 Project Coordinator
EIA IT Officer
EIA Area Officers
Field Uses

Reporting

- Role and Hierarchy based Reporting covering one or more Functional Area.
- Provides Decision Supports as well as Operational Support based on the requirements.
- Provide Alerts to take action in Real Time.
- Web based Reporting on Common INAPH Portal at [http://inaph.nddb.coop](http://inaph.nddb.coop)
Coverage

• Current Coverage
  – 29.45 lac animals
  – 11.68 lac farmers
  – 11500 villages
  – 120 Districts
  – 11 States
  – > 7000 field Users
THANK YOU!