Goat Production Management Information System

User Manual (Version 1.2)

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Introduction

The animal identification and performance recording of livestock species have been carried out by different developing countries. Animal identification and record keeping are building blocks for enhancing livestock productivity and effective decision making for genetic improvement programme. However, some countries have not been able to follow the animal identification and performance recording, therefore the genetic worth of livestock is an known and some of the breeds are on verge of extinction due to lack of information. However, some countries are recording the performance of livestock on small flock size. This data too is not in a proper format and updated regularly and remain underutilized. It is also difficult to analyze in time frame manner as they are scattered in different registers across the region. Keeping in view of the above facts, the information management software was developed to trace the pedigree as well as its performance. This database is primarily aimed to manage data on goats however; in future it can be modified to fulfill the need of other species too. The software is named “Goat Production Management Information System” (GMIS). Presently this software is affordable, sustainable, robust, secure, web enabled and user friendly. E-based centralised information management system can be used for creation of National Data Bank. It is developed using MySQL, PHP, Java running. It can run on both Windows and Linux operating system. This software has structured breeding plan and can easily help in genetic evaluation of animals by which we can easily retrieve information on different aspects of goat production. In GMIS users can enter data on production, reproduction, health mgt., inventory, buck distribution, capacity building, finance and project staff. The entered data can be uploaded on regular basis.
Important Features

GMIS is a multiuser, web based & multitasking information management system for goat production management. This software manages the production data on all economic aspects. GMIS can be used to create national data bank with a facility to update and utilize the data in secure manner through internet.

**Computer Requirements:** Presently the software is hosted and URL is “pcgoatcirg.icar.gov.in”. Following are the basic requirements of the software.

The GMIS can be run under two operating systems: Linux and Windows

**Linux Base:**
- **Additional Packages:** SQL Server, PHP, Apache 2.0.
- **Web Server:** IIS 5.1 with Internet Explorer 5 or higher
- **RAM:** 256 MB RAM minimum, 1 GB recommended
- **Processor:** Pentium IV or compatible CPU, Server based CPU
- **HDD Requirement:** SCSI based servers are recommended. 40 GB space for software installation and appropriate space for data Storage (as per volume of data)
- **Network:** TCP/IP based Network
- **Resolution:** 1024*768 resolutions

**Windows Base:**
- **Additional Packages:** WAMP Server.
- **Web Server:** IIS 5.1 with Internet Explorer 5 or higher
- **RAM:** 256 MB RAM minimum, 1 GB recommended
- **Processor:** Pentium IV or compatible CPU, Server based CPU
- **HDD Requirement:** SCSI based servers are recommended. 40 GB space for software installation and appropriate space for data Storage (as per volume of data)
- **Network:** TCP/IP based Network
- **Resolution:** 1024*768 resolutions
Module - 1.1 Getting Started with GMIS

The guest user can view information overview of AICRP and development of the projects, knowledge portal and other reports.

To start GMIS, open the portal “pcgoatcirg.icar.gov.in” Home Page will appear. The guest user can access the home page and other available information for getting an overview and general information through other tabs i.e. overview of AICRP, Knowledge portal, AICRP Unit Details, Formats, contact information. The interface is given below in Fig. 1.1

**Guest User:**
1. Center Information can access contact details.
2. Knowledge portal, Objective and technical program.

**Fig. 1.1 Home page of GMIS**
Module -1.2 Login with GMIS

The registered unit of AICRP on goat improvement can login through predefined login ID and password. Along with password the users will be asked to indicate the module i.e. Inventory, Growth, Milk, Reproduction to be used. Once the user identity is properly authenticated by the server, user is allowed to login and manage the information. The interface is given below in Fig. 1.1.

Registered User:
1. Click on GMIS.
2. Select Login tab.
3. Enter Username, Password and Captcha total (e.g. 9+7=16).
4. Click on Login button to enter Center Home page.

Fig. 1.2 Login interface of GMIS
Module -2 Inventory

In the module 2 users can manage the Inventory of the unit (Fig 2). This interface includes information on animal, sire, dam ID along with species, breed, location, sex, mode of entry (by birth or purchase), date of birth and case of disposal. Number of progenies produced by the scenario will automatically be taken from the pedigree record. View all the data by clicking on the “stock view”.

1. Click on **Inventory**.
2. Fill the related field.
3. Click on **Submit** button to upload data.
4. Click on **View** button to Show data.

**Fig. 2 Inventory module**
Module -3 Growth Record

The module-3 includes body weight and body measurement of the animal. Once animal ID is entered and click on load button then software automatically collects and show sire, dam ID and past growth records from the inventory and growth database. This will authenticate that correct growth information is entered in the field. It also collects information on date of birth, sex, parity of dam from the reproduction database and shows them for verification. Then body weight growth at birth, 3, 6, 9 and 12 months can be updated by entering the data in the field provided. The data on body measurement like BL (Body Length), BH (Body Height), HG (Heart Girth), can also be entered. The growth data at three months interval is shown from relevant databases. This module also generates average daily gains for different age periods.

1. Click on Growth.
2. Enter Animal ID then Click on Load button to fetch related information.
3. Fill the related field.
4. Click on Submit button to upload data.
5. Click on View Growth Data button to Show data.

Fig. 3 Growth performance
Module -4 (a) Milk Yield

In this module the information on weekly milk production data for each can be added. The software calculates partial milk yield for 90 days, 140 days, lactation milk yield, lactation period and average daily milk yield for the lactation period. It also automatically calculates the type of kidding, parity from reproduction data base (Fig 4).

1. Click on **Milk Yield**.
2. Enter Animal ID then Click on **Load** button to fetch related information.
3. Fill the related field.
4. Click on **Submit** button to upload data.
5. Click on **Milk Yield Data** button to Show data.

**Fig. 4 (a) Interface for milk production performance**
Module -4(b) Pashmina Production

In this module data on pashmina production is maintained. The information on animal number, its parent, sex, parity, pashmina yield, date of pashmina yield, season and weight of animal at pashmina yield can be added. In this module information on pashmina produced from the pashmina goat can be viewed by clicking view yield button in summarized form.

1. Click on **Pashmina Yield**.
2. Enter Animal ID then Click on **Load** button to fetch related information.
3. Fill the related field.
4. Click on **Submit** button to upload data.
5. Click on **View Yield** button to Show data.

**Fig. 4(b) Interface for pashmina production performance**
Module -5 Reproduction

This module includes reproduction performance of doe and buck goats. Like all modules, if animal ID is given, the information on sire and dam, date of birth will be retrieved from Inventory database. The date of service, weight of animal at service, buck identity, date of kidding, type of kidding can be added. After the information on an individual female is entered in the database the software automatically calculates age at first kidding, kidding interval, gestation, service period and parity (Fig 5.1).

1. Click on Reproduction and select Female.
2. Enter Animal ID then Click on Load button to fetch related information.
3. Fill the related field.
4. Click on Submit button to upload data.
5. Click on View button to Show data.

Fig. 5.1 Interface for Female Reproduction data and efficiency
In Male reproduction, information related to semen quality i.e. No. of live & dead spermatozoa, thickness, progressive motility can be added. Similarly, the details regarding performance of buck i.e. number of does mated, weight at 6 Month, 9 Month and dam milk yield 90 days at top bar will be automatically shown on the right side of the screen.

1. Click on Reproduction and select Male.
2. Enter Animal ID then Click on Load button to fetch related information.
3. Fill the related field.
4. Click on Submit button to upload data.

Fig. 5.2 Interface for Male Reproduction data and efficiency
Module -6 Health Management

Health management modules has three sub-module i.e. health management operations, physiological response and mortality.

6.1 Health Management Operation:
This module includes the details of preventive health care. After each visit to the cluster / village information on vaccination and treatment related data can be added (Fig. 6.1).

1. Click on Health Mgmt.
2. Fill the related field.
3. Click on Submit button to upload data.
4. Click on View Visit button to Show data.

Fig. 6.1 Interface for Health Management

6.2 Physiological Response:
Physiological response, the sub module of health mgmt. includes data on heart rate, rectal temperature and surface temperature, humidity, environment temperature. By clicking physiological response button user can view physiological report of all animals in summarized form Fig. 6.2.

1. Click on Health Mgmt and select Physiological Resposes.
2. Fill the related field.
3. Click on Submit button to upload data.
4. Click on Physiological Report button to Show data.
6.3 Mortality:

The sub module mortality of health management includes mortality report of individual goat. In this module entry of mortality related information viz. animal number, sex, date of birth, date of death, age group, postmortem conducted by and cause of death can be added. By clicking view button user can see all mortality information in summarized form.

1. Click on Health Mgmt and select Mortality.
2. Enter Animal ID then Click on Load button to fetch related information.
3. Fill the related field.
4. Click on Submit button to upload data.
5. Click on View button to Show data.

Fig. 6.3 Interface for Mortality data
Module -7 Buck Distribution

In buck distribution module user can maintain the records of Buck Distribution of field and income generated by the center. Details of the name of cluster, tag no, name of village, name of farmer, mode of distribution, date of buck provided can be added. By clicking view button user can see all buck distribution record in summarized form.

1. Click on **Buck Distribution**.
2. Fill the related field.
3. Click on **Submit** button to upload data.
4. Click on **View** button to Show data.

**Fig. 7 Interface for Buck Distribution data GMIS**
Module-8 Geographical Information System (GIS)

In Geographical Information System (GIS) user can know about the scientific location of unit comprising different agro climatic zone, latitude, longitude and climatic variable in the particular area. Similarly timings of sunrise and sunset, rainfall can be added.

1. Click on GIS and select **Add**.
2. Fill the related field.
3. Click on **Submit** button to upload data.

**Fig. 8 Interface for Geographical Information System**
Module -9 Project Staff

In this module user can manage the staff strength of the unit by adding details about new staff appointed at unit (Fig. 9). This includes name of staff, designation (Project Incharge, Co-Project Incharge, RA/SRF and other staff), designation, pay scale and date of joining, present basic pay and date of Relieving. In addition user can add the photograph of each staff.

1. Click on **Staff** and select **Add Staff**.
2. Fill the related field.
3. Click on **Submit** button to upload data.
4. Click on **Staff** and select fallingo to view detail.

![Fig. 9 Interface for project Staff data](image-url)
Module -10 Finance and Accounts

In finance module information related to budget allotted to unit, fund utilization, head wise fund utilization and income generation can be maintained.

10.1 Budget Estimate (BE)

Allotted budget of each unit for the financial year is shown in this section.

- Click on Finance and select Budget Estimate to view BE.

10.2 Revised Estimate (RE)

The installment wise amount distributed by PC Unit to each unit is shown in this section.

- Click on Finance and select Revised Estimate to view RE.

10.3 Fund Utilization

In this module user can submit the details about head-wise monthly fund utilization. Overall budget details i.e. balance funds and expense details can be viewed by clicking on “fund detail”.

1. Click on Finance and select Fund Utilization.
2. Fill the related field.
3. Click on Submit button to upload data.
4. Click on Fund Detail button to new details.

Fig. 10.3 Interface for fund utilization
10.4 Head Wise Fund Utilization

User can view fund utilization annually, monthly and head-wise.

- Click on Finance and select Head Wise Fund Utilization to view Head Wise fund Utilization details.

10.5 Income Generation

In this module, details of the income generated by selling a buck/goat to the farmers are maintained. The details of Farmer to which the goat/buck distributed, his concern village, mode and date of distribution, and the amount of the buck/goat can be added.

1. Click on Finance and select Income Generation.
2. Fill the related field.
3. Click on Submit button to upload data.
4. Click on View Income button to Show data.

Fig. 10.5 Interface for Resource Generation
10.6 Proposed RE

In this module user can add the details of revised estimate (RE). The head-wise details of funds required by concerned unit can be added. Whenever PC unit demands for revised estimate, user can submit their details via this module.

1. Click on Finance and select Proposed RE.
2. Fill the related field.
3. Click on Submit button to upload data.
4. Click on RE Detail button to Show data.

Fig. 10.6 Interface for Revised Estimate
Module -11 Capacity Building

The capacity building modules the data on training conducted at each unit, farm and field visit of unit staff to different clusters, information on exposure visit, awareness camp and farmer registration is maintained.

11.1 Training

In this module, details about the trainings are maintained. The basic details i.e. title of the training, duration and farmers participated can be added. In photograph upload, photographs of the training can be uploaded. The image should be in .jpg, .png, .gif, .bmp formats. Size of the image should be less than 5 MB. Five images can be uploaded at a time for complete upload. The overall summary of the trainings held at the center can be viewed by clicking on training summary.

1. Click on Capacity Building and select Training.
2. Fill the related field.
3. Click on Submit button to upload data.
4. Click on Training Summary button to Show data.

Fig. 11.1 Interface for Training
11.2 Farm/ Field visit

This module helps user to maintain the records of visits made by the staff. The user can add the details about the purpose of visit, place/ cluster/village visited duration and nature of work carried out.

1. Click on **Capacity Building** and select **Farm/ Field Visit**.
2. Fill the related field.
3. Click on **Submit** button to upload data.
4. Click on **View Visit** button to Show data.

**Fig. 11.2 Interface for Farm/ Field visit**

11.3 Exposure Visit

This module helps user to maintain the records of exposure visit. In this module entry of exposer visit related information viz. date of visit, name of farmer, technology distributed, feedback can be added. By clicking view button user can view all exposer visit information in summary.

1. Click on **Capacity Building** and select **Exposure Visit**.
2. Fill the related field.
3. Click on **Submit** button to upload data.
4. Click on **View** button to Show data.
11.4 Awareness Camp

This module helps user to maintain the records of awareness camp conducted by the project staff. In this module entry of awareness camp related information viz. name of cluster, name of village, number of farmer, technology distributed, date of camp, feedback can be added. By clicking view button we can view all awareness camp information in summary.

1. Click on **Capacity Building** and select **Awareness Camp**.
2. Fill the related field.
3. Click on **Submit** button to upload data.
4. Click on **View** button to Show data.
11.5 Farmer Registration

This module maintains the information on registered farmers. In this module entry of adopted farmer related information viz. name of farmer, mobile number, number of goat, registration date, address of farmer can be added. By clicking view button user can view all farmers information in summary.

1. Click on **Capacity Building** and select **Farmers Registration**.
2. Fill the related field.
3. Click on **Submit** button to upload data.
4. Click on **View** button to Show data.

**Fig. 11.5 Interface for Farmer’s Registration**
11.6 Cluster/ Village

This module maintains the information about the clusters and number of villages covered by the units. In this module entry of number of cluster covered, number of village covered, date of updation and remark can be added. By clicking view button user can view all farmers’ information in summary.

1. Click on **Capacity Building** and select **Cluster/ Village**.
5. Fill the related field.
6. Click on **Submit** button to upload data.
7. Click on **View** button to Show data.

**Fig. 11.6 Interface for Cluster/ Village**
Module -12 Upload Data File

12.1 Upload with Excel

This module help user to direct upload the bulk data by the excel sheet. The formats for excel upload are already with to unit incharges. This direct upload facility is optional to manual entry of data. Here data related to inventory, growth, production, reproduction, mortality can be uploaded directly. After uploading excel data will be entered into respective field of each module.

1. Click on Upload and select Excel.
2. Select Category field.
4. Click on Upload button to upload data.

Fig. 12.1 Interface Excel Upload in GMIS
12.2 Upload with PDF

In this module PDF copy of leaflet/pamphlets/monograms, package of practices, success stories in local language published by the unit can be uploaded. These uploaded files will be available for farmers/stockholders for download.

1. Click on **Upload** and select **PDF/DOC**.
2. Choose related excel file.
3. Select Category field.
4. Click on **Upload** button to upload data.
5. Click on **View PDF** to show data.

**Fig 12.2 Interface Excel Upload in GMIS**
Module -13 View Data

This module helps user to view the overall summary of inventory, growth, milk yield health management, capacity building. Here user can edit as well delete or manage the entered data.

1. Click on View data.
2. Choose related field to show data.

**Fig 13 Interface of View Data in GMIS**
Module -14 Contact Us

In this module users contact information is available. One can contact us in working hours in case of any query regarding GMIS as well as user can manage password in “Change Password” module. By entering your registered user ID and email ID, user can reset new password.

1. Click on Contact Us regarding any query and difficulty faced.

Change Password:

1. Click on Contact Us select Change Password.
2. Fill the related field.
3. Click on Submit button to change your password.

Fig 14 Interface of Change Password in GMIS
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