:: कार्यवृत्त ::

शासन द्वारा लोक निर्माण विभाग में लागू विभिन्न IT अनुप्रयोगों का अधिकतम उपयोग सुनिश्चित किए जाने की अपेक्षा की गई। जिसके क्रम सभी खंडीय / वृत्तीय / क्षेत्रीय कार्यालयों के कार्यालयाध्यक्षो हेतु विभागाध्यक्ष कार्यालय में दिनाक 16-09-2023, 23-09-2023 तथा 30-09-2023 को पूर्ण दिवसीय सेमीनार आयोजित किए गए। उक्त तिथियों में दिए गए रोस्टर के अनुसार मुख्य अभियंता/ अधीक्षण अभियंता/ अधिशासी अभियंताओं द्वारा प्रतिभाग किया गया।

सेमीनार में निम्न बिन्दुओ पर चर्चा की गई-

1- विभिन्न IT अनुप्रयोगों यथा MIS / IM आदि में विगत तीन वर्षों से लगातार डाटा भरा जा रहा है परंतु अभी भी विभिन्न रिपोर्ट को MIS/IM आदि पोर्टल पर उपलब्ध डाटा से न प्राप्त कर अन्य माध्यमों से ही रिपोर्ट मांगी / भेजी जा रही है। जिस कारण पोर्टल पर उपलब्ध डाटा का समुचित प्रयोग नहीं हो पा रहा है।

2- सभी प्रतिभागियों के साथ वर्तमान रिपोर्टिंग सिस्टम में दिक्कते तथा उसमे सुधार हेतु सुझाव प्राप्त कर विस्तृत विचार विमर्श किया गया। सभी प्रतिभागियों से प्राप्त दिक्कते व सुझाव लगभग समान थे, जिसमे मुख्य निम्न है -

    a. एक ही रिपोर्ट को बार बार प्राप्त किया जाना,

    b. एक ही रिपोर्ट को अलग अलग फॉर्मेट में मांगा जाना

    c. रिपोर्ट को बनाने हेतु समुचित समय प्रदान न किया जाना

    d. एक ही रिपोर्ट को अलग अलग माध्यमो से प्राप्त किया जाना।

3- प्रतिभागियों के साथ वर्तमान में रिपोर्ट बनाने हेतु विभिन्न चरण तथा रिपोर्ट प्राप्त किए जाने हेतु प्रयोग किए जा रहे विभिन्न माध्यमों पर विस्तृत विचार विमर्श किया गया।

4- कई प्रतिभागियों द्वारा खंड स्तर पर कार्मिकों कि कमी के सम्बन्ध में अवगत कराना चाहा, परंतु इस प्रकार के नीतिगत प्रकरण सेमीनार में एजेंडा बिन्दु में न होने के कारण इस पर चर्चा नहीं की गई।

5- सेमीनार में प्रतिभागियों के साथ निम्न IT अनुप्रयोगों का रिपोर्टिंग में अधिकतम उपयोग किस प्रकार किया जा सकता है, इस पर विस्तार से चर्चा की गई। कई प्रतिभागियों को यह स्पष्ट नहीं था कि पोर्टल पर एंट्री किस स्तर से की जाती है, इस हेतु इस सम्बन्ध में भी विस्तार से बताया गया। –

    MIS
      I. WORKS
        1. BASIC DETAIL
          Initial one time details are filled by the JE-T after the sanction or re-sanction the work. Periodic updates are made as necessary, including remarks, identifying bottlenecks, allotment, physical progress, TS etc.
        2. FOREST STATUS
          Both the Assistant Engineer (AE) and Junior Engineer (JE-T) have the capability to link the online Forest Proposal Number to the respective work and update the forest status whenever there is a change.
        3. ANNUAL PHYSICAL PARAMETER
          These 5 data (Road Length, Bridge no. & span, Building No and Job) serve as crucial information for top-level management. Targets are established at the beginning of each Fy., and JE-T provides periodic progress updates.
        4. COMPONENT PHYSICAL PROGRESS

Detailed progress monitoring, categorized by components, is crucial for middle-level management. The responsibility for updating this information falls on the Assistant Engineer (AE). But during the current transition phase, JE-T also have access to this module for data input. While historically, progress monitoring has been limited to the traditional 13 components. In the present context, the department is involved in various types of work, such as road safety, landslide mitigation, and rigid pavement construction. The system now accommodates approximately 74 different components to accurately reflect the diverse range of activities being undertaken.

5. NABARD DETAIL

HOD office handles reimbursement data, while JE-T inputs other one-time data. Currently, NABARD progress reports are prepared independently. However, if this data is included, it would contribute to a comprehensive NABARD report, integrating all other progress-related data for a more complete overview.

6. DOCUMENT

AE, EE, and SE can upload project-related documents for a work project, ensuring they are easily accessible for future reference.

7. PROJECT ACTIVITY

AE and EE can schedule, monitor, and manage non-construction project activities such as land acquisition (LA), forest land diversion, arbitration, and other related tasks.

8. EXPENDITURE

As of now, JE-T is responsible for manually entering expenditure data. The integration with the IFMS is currently in progress. Once the integration is completed, the system will automatically update expenditure data after matching the Project Code with the Work Code. This will streamline and automate the expenditure tracking process.

9. MONTHLY PLANNING / DEMAND

Previously, the yearly demand was entered by JE-T. However, the system has been modified and now the demand is calculated based on monthly planned expenditure targets. The monthly expenditure plan for each work is created by the Assistant Engineer (AE) and scrutinized by the Executive Engineer (EE). Once the plan is finalized by the EE, either the EE personally or through JE-T enters the plan into the module. The demand is then calculated based on these monthly targets, reflecting a more dynamic and responsive approach to resource allocation and project planning.

10. LABILITY

Currently, fund allocation relies on annual demand, lacking real-time liability status. Real-time liability tracking is essential for prioritizing fund allocation accurately. The upcoming system will enable Division Cashiers/ PAC/ JET to input work-level and agreement-level liabilities, offering a more precise and efficient way to allocate funds as needed. This system is yet to be officially operational for allotment.

11. WORK CONTRACT REGISTER

For each work/ project, the Assistant Engineer (AE) is responsible for filling in the Agreements details. Additionally, all Agreement related modules are under the purview of the AE, and these aspects will be elaborated further in this seminar.

12. PICS SUBMISSION

During construction work in the field, the primary responsibility for photo submission lies with the JE. However, higher-ranking officers have the freedom to capture and upload photos for their respective work projects at any time.

13. STORY MAP

No separate entry will be required for the story map. Instead, it will be generated using ODK images and other financial and physical progress data. This data will be presented on a map in a user-friendly manner, providing a comprehensive and visual representation of the project's status.

14. PROCUREMENT

Analytical reports based on tenders published on the NIC uktenders portal are available here. No separate data entry is needed.

15. WORK E-PROCUREMENT

Following the linking of NIC e-procurement portal IDs with work codes, work-level procurement reports will be accessible. This linking process will be carried out by the Cashier/ EE / SE.

16. BID HELPER

A bid helper module has been developed based on standard bidding documents. This module assists users in creating bids and aids higher-ranking officers in reviewing bids. Its primary purpose is to mitigate inconsistencies in data and streamline the bidding process. This module is accessible to all engineers.

17. VERIFY BG

During procurement, bank guarantees are obtained from the contractors at different stages of the agreement's lifecycle. This system aids departmental engineers in verifying bank guarantees using API from ICICI Bank. This system allows verification of BG from any bank, with the only prerequisite being the mention of the ICICI bank code as the advisory bank during the BG formation process. Access to this module is available to all engineers.

II. AGREEMENT

1. BASIC DETAIL

The basic details of agreements are filled out by the AE for both MIS and non-MIS works.

2. UPDATE EOT / VARIATION

The AE is responsible for periodically updating information related to Extensions of Time (EOT) and variations for these agreements.

3. EXPENDITURE

Currently the expenditure for an agreement is recorded by the Assistant Engineer (AE). After the ongoing integration of IFMS, if the AE links the Contract Code of IFMS with the MIS Bond ID, the expenditure data will be automatically

fetched and updated. This integration streamlines the process and ensures accurate expenditure tracking.

4. LABILITY

Similarly, just as liabilities for works, liabilities against agreements can be entered. This allows for comprehensive tracking of financial commitments both at the work and agreement levels.

5. COMPONENT PLANNING & PROGRESS

For agreement component progress management, there is a module available for activity-based planning. In this module, AE is responsible for planning and tracking progress, ensuring that activities related to the agreement's components are effectively managed and monitored

6. S CURVE / GANTT CHART

The system automatically generates graphical representations of data filled in Component Planning in the form of an S Curve and Gantt Chart. These visual tools provide a clear and dynamic overview of project progress and scheduling, making it easier for stakeholders to understand and manage the project's timeline and milestones.

7. COMPONENT RESOURCE

For minute monitoring, the system has the capability for resource-level monitoring. In this module, the Assistant Engineer (AE) inputs resource consumption data for respective component activities, and the system generates resource requirement reports for the asked period, in various graphical formats. This feature allows for detailed tracking and optimization of resource allocation throughout the project.

8. ALERTS FOR BOND

Various contractor obligations, such as those related to bank guarantees, insurance, and work programs, are crucial for the agreement. It's essential to ensure the validity of these documents. The system provides alerts to respective users before the validity expires, helping them stay on top of renewals and compliance. Additionally, the system offers the capability to create predefined templates for notices and other necessary communications, streamlining the administrative process.

9. KPI

In both the maintenance and construction phases, some non-construction activities are performed by the contractor, and payment is based on performance rather than measurement. These activities often involve Key Performance Indicators (KPIs) to monitor timely compliance. An in-built system has been developed to facilitate this process, with the AE and the respective contractor's engineer as users. It's important to note that the system is not currently in use but has the potential to enhance monitoring and payment processes for these non-construction activities.

10. ROYALTY CHECKING

A system is in place to check for duplicity (duplicate submissions) in royalty papers submitted by the contractor along with the bills. In this process, ministerial

staff involved in bill processing utilize the ODK app to scan the documents. The respective AE then downloads the report from the portal to identify and address any instances of duplicity in the submitted documents.

III. QUALITY- TEST SAMPLE TRACKING

A system has been developed to track the entire lifecycle process of a test specimen; from the time it is collected to the final result. This system is designed to ensure timely quality assurance mechanisms by the contractor. Users of this system include the contractor's engineers, Assistant Engineers (AEs), and laboratory engineers, who input data according to their respective roles. Although this system is not currently in use by the engineers, its implementation has the potential to significantly enhance the overall quality control process.

IV. ROAD MAINTENANCE - PATCH AND RENEWAL TARGET ACHIEVEMENT

Patch repairing and renewal are dynamic activities in road maintenance, and real-time reporting in this context can be challenging. Physical reporting can be time-consuming and require compilation at different levels. To streamline this process, an online system has been developed. In this system, the Assistant Engineer (AE) reports real-time progress using a mobile app, and the report for the entire state of Uttarakhand is compiled immediately without the need for additional intervention. The one-time target for this system is set by the HOD office. This approach greatly improves the efficiency and accuracy of reporting for road maintenance activities.

V. ESTIMATE TRACKING AND EFC

A module is in place to track all estimates prepared for sanction. As part of this process, the system automatically generates a presentation for the EFC that includes photographs and KML data. This feature streamlines the preparation and presentation of estimates, enhancing the efficiency of the approval process.

VI. BUDGET FINANCIAL ENTRY

A module for real-time reporting of budget expenditure at the division level, including financial details, is available. In this module, the Executive Engineer is responsible for inputting the consolidated expenditure and budget head information. The system then compiles an immediate report for the entire state of Uttarakhand, offering real-time insights into budget utilization and expenditures.

VII. REPORTS

The entire system offers various reports for the data entered. Here's a brief description of some of the commonly used reports. These reports are available to every logged user.

1. GROUP SUMMARY REPORT

Commonly used predefined groups, such as by scheme, district, status, etc., have corresponding compiled reports available within a web view interface. Additionally, these reports can be downloaded in Excel or other compatible formats, providing flexibility in how users access and analyse the data to support informed decision-making and reporting needs.

2. GROUP WORK REPORT EXCEL

The MIS serves as a data bank, offering the functionality to download work-wise details in Excel format, encompassing more than 100 fields of information. Users can select specific fields of interest, and the system generates custom reports based on their selections. This flexibility in data retrieval and reporting allows for comprehensive analysis and reporting tailored to specific needs and requirements.

3. FILTERING

   In addition to predefined groups, users have the flexibility to create custom filters by combining multiple criteria to fetch reports on works that align with their specific areas of interest. Once these filters are applied, the MIS will focus exclusively on the filtered works, enabling the generation of reports tailored to the user's selection. This dynamic filtering capability enhances the system's versatility, allowing users to access and analyse data relevant to their unique needs and preferences.

4. PIVOT REPORTS

   The system offers versatile reporting capabilities with pivot tables, allowing users to create thousands of field combinations and visualize reports as needed. Users can generate these reports within the system and also export them to Excel or other compatible formats for further analysis and presentation. This flexibility in report generation and export empowers users to extract valuable insights from the data according to their specific requirements. Report.

5. CHART / MAP REPORT

   In addition to pivot table reports, the system provides the option to generate reports in chart and map views. Users can create combinations on the X, Y, and Z axes to visualize the data in these formats. This feature allows for dynamic data analysis and visualization, enabling users to gain valuable insights and present their findings effectively through charts and maps.

6. FOREST REPORT

   Given the significance of forest land transfer in works, the system provides separate reports dedicated to tracking the status of forest land transfer cases. These reports help stakeholders monitor and manage this critical component of projects efficiently.

7. NABARD REPORT

   The system includes a separate and comprehensive report specifically for works funded by NABARD. This report offers detailed insights and data related to projects financed by NABARD, facilitating efficient tracking and reporting for these specific projects.

8. ALERTS REPORT

   At the office level, a combined report for all alerts related to both works and agreements is available. This report consolidates and presents all alert notifications, allowing for centralized oversight and management of critical matters pertaining to works and agreements.

9. ANNUAL DATA ANALYSIS

This consolidated repository simplifies the process of accessing and reviewing annual data reports, making it more efficient for users to analyse and manage information related to different components across projects.

10. CONTRACT REGISTER

A register for all registered contractors is maintained within the system, and users can access drill-down reports for each contractor's agreements in the department. These reports typically include information such as the contractor's class and category, providing a comprehensive overview of their engagement and agreements within the department.

Due to time constraints, we have briefly discussed the following other systems:

1. ODK IMAGE GALLERY

All the images received by the ODK app are directly viewable in their respective work or bridge sections. However, for easy access to all images, there is also a gallery feature available, allowing users to conveniently view and manage all images in one place.

2. INFRASTRUCTURE MANAGEMENT

In the Infrastructure Management System, the data is provided by the concerned Junior Engineer (JE) to the Junior Engineer (JE-T), and all entries are made by the Junior Engineer (JE-T).

A- ROAD

- Network Basic Detail
- Features
- Pavement Detail
- Surface Condition
- Village Coactivity
- Traffic Census
- Mapping
- Pics

The basic details of a road, including its Division, Block, and Constituency Boundary, are filled out by the HOD office. Other details, such as features, villages, surface conditions, etc., are entered at the division level.

The system goes beyond traditional tabular reports by offering a comprehensive mapping component. It includes various types of maps to provide a visual representation of road-related data. First, there are Individual Road Maps that highlight specific roads, showcasing all the features associated with them. Second, Group Maps categorize roads by Division, District, or Constituency, simplifying the visualization and listing of roads within these specified areas. Additionally, Village-Road Connection Maps visually illustrate the relationship between a particular road and the villages it connects, aiding in the understanding of road-village connections. Lastly, Village-All Roads Maps provide an overview of all roads connected to a village, offering valuable insights into the road network within a given village. These mapping features enhance the system's functionality by allowing users to analyze and interpret road data spatially, contributing to better planning and decision-making.

B- BUILDING

- Basic Detail
- Photo/ video

All the detailed information pertaining to buildings is recorded at the division level. This comprehensive dataset includes textual information, images, and videos, providing a thorough and multimedia-rich record of building-related data.

C- BRIDGE

- Inventory
- Inspection
- Rating

All inventory details are meticulously recorded and managed at the division level within the system. This comprehensive inventory database encompasses a wide range of information. Additionally, essential design documents related to these inventory items can be seamlessly uploaded, ensuring that crucial design-related data is readily accessible and well-organized.

Bridge inspections are conducted by departmental engineers for all bridges twice a year using the ODK app right at the bridge sites. The inspection data, complete with ratings, is collected and made available on the portal. This data serves as a valuable resource for further analysis and assessment of bridge conditions and maintenance needs

D- AAPDA KARYYOJNA

- Location of Machine/ Equipment
- Landslide Zone

From a disaster preparedness perspective, the system consolidates all relevant information that can be of assistance during a disaster.

E- ROAD SAFETY

- Location of Road safety Features
- Black Spots

From a road safety perspective, the system centralizes all pertinent information related to Black spots and road safety features.

F- GIS

A comprehensive GIS is accessible within the Infrastructure Management system, providing access to all the data available in the Infrastructure Management database at a single point. Additionally, users have the option to download the kml files.

3. HRMS

   a. Organization Chart/ Directory
   b. Posting Data
   c. Forum
   d. ACR
   e. Grievance
   f. Training

The Human Resource Management System (HRMS) serves as a centralized repository for all employee details within our organization. Additionally, a dedicated forum has been integrated into the HRMS platform, enabling departmental users to engage in discussions about department-specific issues and concerns. This forum fosters

collaboration and communication among department members, promoting effective problem-solving and knowledge sharing within the organization.

A grievance redressal system has been developed for employees, providing a mechanism for addressing and resolving employee grievances. However, the system is not yet administratively functional.

4. SOR
5. ROAD CUTTING PERMISSION PROCESS
6. CONTRACTOR REGISTRATION
7. FEEDBACK APP

For detailed monitoring, the system provides a comprehensive timeline of the feedback received through the mobile app and the subsequent activities undertaken. This timeline is available in various analytical formats, allowing for in-depth analysis of the causes of issues and incidents.

8. DMS

The Document Management System (DMS) houses a comprehensive collection of GOs, circulars, manuals, and SOPs issued periodically. Within the DMS, there is a dedicated section specifically for documents related to online systems. This section not only contains textual documents but also includes videos for convenient and visual reference. This organized approach to document management ensures that essential resources are readily accessible and easily referenced when needed.

Some of our departmental engineers actively contribute by creating YouTube videos on topics related to our department. These informative videos are available within our DMS. You can directly subscribe to their channels through the following link, ensuring you stay updated with the latest information and insights they share.

@sharelearnshare5402   by Krishan Kant
@einceinc5501   by IT Team
@pwduttarakhand2022   by Prakash Chandra Pant
@ermanojbisht1   by Manoj Kumar Bisht

6- प्रतिभागियों को अवगत कराया गया कि समय समय पर विभिन्न module के समबंध में DMS में प्रशिक्षण हेतु मैनुअल/ वीडियो आदि उपलब्ध है।

7- सभी प्रतिभागी इस बिन्दु पर सहमत थे कि वर्तमान परिस्थितयो में बेब बेस सिस्टम रिपोर्ट प्राप्त किए जाने हेतु सर्वाधिक उचित है तथा खंड स्तर पर इसमे डाटा भरे जाने के पश्चात सभी कार्यलियों द्वारा इसके माध्यम से सूचनाए प्राप्त की जानी चाहिए।

8- प्रतिभागियों द्वारा सुझाव दिया गया कि सिस्टम में सुचारु डाटा एंट्री हेतु यूज़र को समय समय पर आने वाली परेशानियों तथा उनको गाइड किए जाने हेतु लगभग आगामी दो साल के संक्रमण काल तक विभागाध्यक्ष कार्यलिय में dedicated कार्मिक हो जो कि 24x7 उनकी समस्याओ का निदान कर सके।

9- अंत में प्रमुख अभियंता तथा मुख्य अभियंता (नियोजन) महोदय द्वारा प्रतिभागियों के साथ अपने विचार रखे गए तथा प्रतिभागियों को IT अनुप्रयोगों का अधिकतम उपयोग सुनिश्चित किए जाने के निर्देश दिए गए। अंत में सभी प्रतिभागियों का धन्यवाद ज्ञापित करते हुए सेमीनार समाप्त किया गया ।