GOVERNMENT OF TAMILNADU
WATER RESOURCES DEPARTMENT

From
Er.K.Asokan,M.Tech.,
Chief Engineer & Director(FAC),WRD,
Institute for Water Studies,Hydrology &
Quality Control,
Tharamani,Chennai 600113
Email : ceiwshqcwrd@gmail.com

To,
The Additional Chief Secretary to
Govt/Project Director,TNIAMP,
MDPU
Chepauk,Chennai 600005

Letter No 256/IWSH&QC/TNIAMP DSS/2022 Dated 03-06-2024

Sir,

Subject Development of Decision Support System for TNIAM Project area.- Request for review by ACS/Project Director, MDPU -Regarding

Ref
1) GO (D) No.23, Water Resources (WR1) Department, Dt 27-01-22
2) Agreement No 01/RSC/IWSH&QC/2023-24 Dated 27-11-2023

I wish to inform that the work of developing a Decision Support System to improve water management, enhance agricultural productivity, profitability, and resilience to climate variability in selected sub basins of Tamil Nadu and to track the work progress in TNIAM Project Area, sanctioned vide the Govt. order 1st cited is under progress.

Vide the agreement 2nd cited, 9 deliverables have been agreed upon for the completion of the above work. Out of the 9 deliverables, 5 deliverables have been submitted. The work progress report and completion status report as per the agreement are enclosed.

The dashboard design for most of the Decision Support Systems are developed and the data collection and integration works are under progress.

At this juncture, it will be pertinent if the Decision support System is reviewed by the Additional Chief Secretary to Govt./Project Director,TNIAMP so that valuable feedback and suggestions can be received to improve the system design.

Hence, I request that a suitable date may please be informed to this office for making arrangements for review of the Decision Support System by the Additional Chief Secretary to Govt./Project Director,TNIAMP.

Encl:1. Work Progress Report
2.Completion Report as per the agreement

Sd/ K.Asokan/03-06-2024
Chief Engineer & Director,WRD,
Institute for Water Studies,Hydrology & Quality Control,Tharamani,Chennai 600113

Copy presented to the Additional Chief Secretary to Govt,WRD,Secretariat,Chennai 9 for Information

Copy to the Engineer in Chief & Chief Engineer(General),WRD, Chennai 5 for Information

03/06/2024
For Chief Engineer & Director,WRD,
Institute for Water Studies,Hydrology
& Quality Control,Tharamani,Chennai 600113

3.6.24

Work Progress Report

Development of Decision Support System to improve water management, enhance agricultural productivity, profitability, and resilience to climate variability in selected sub basins of Tamil Nadu and track work progress and impact assessment in TNIAMP Project Area.

- ✓ Agreement made on 27-11-2023 and the work started on the same day.
- ✓ Inception report submitted on 27-12-2023
- ✓ Mock up plan for dashboards, Mobile Application and Beta version released on 27-01-2024

I. **Realtime Monitoring of Project Progress Tracking System taken live.** Demonstration of Live System updated with Unified – completed on 27-02-2024

1. Integration of Unified Mobile Application
2. Development of MIS Reporting Dashboard
3. Development of Physical progress dashboard
4. Finance Dashboard setup
5. GIS Dashboard Integration
6. Development of User & Workflow Management System
7. System Testing & Debugging

1. Mobile Application

Login & Sign Up

Registered users can access the mobile app by logging in using OTP, while unregistered users are provided with the choice to sign up for their respective department. After completing the sign-up process, users will be directed to the home page upon login using Mobile number and OTP where they will see the line departments assigned specifically to them. MDPU users will have visibility of all line departments, while field users will only have access to the departments they are assigned to.

Offline Data Sync:

Data collected offline will be stored locally on the user's mobile device and can be synchronized manually once a stable internet connection is available. Users can initiate this synchronization process by selecting the "Offline" menu item located at the bottom of the screen. The system will retain a maximum of 10 data entries during offline storage.

Data Collection

Information is gathered according to Phases, Sub-Basins, Districts, Blocks, and Villages. This page covers the TNAU department and provides information about its interventions. Likewise, interventions such as components and sub-components will be presented for all 10-line departments, meeting the specified requirements of each department. The subsequent fields will be dynamically retrieved based on the field selection in the dropdown menu. A maximum of 2 images is mandated for the users to upload and an optional 30 seconds video uploadoption is also provided.

For WRD Line department users:

Surface Water Data of all Tanks

The application tracks Surface water levels, for the given tank details across TN. It also manages offline data, while also addressing issues faced during app crashes. This application is integrated withthe geo fencing feature.

Web Application

URL: https://wrdtniamp-uat.farmwiseai.com/

The web application allows users to access collected data and financial information according to their assigned roles. For field users, registering on the web is optional, and they have the choice to select their username during mobile registration. Administrators have the privilege to create and edit new users based on their respective roles.

2. MIS REPORTING DASHBOARD

The MIS dashboard is accessible to all user types. The data displayed in the reports is tailored to the user's roles as follows:

Department login: Only data relevant to the department is displayed.

Field/Individual Login: Only data specific to the field user is displayed.

Admin/MDPU login: All data from line departments can be viewed.

The homepage of the TNIAMP application provides a summary of various activity metrics, including:

1. Total number of registered users.
2. Overall count of geotagged items.
3. Geotagged items recorded within the current month.

Project Reported Count:

The "Project Reported Count" section aggregates data from ten departments, each listed separately below in a pie chart visualization. Clicking on each department within the pie chart reveals its corresponding count. Furthermore, selecting any department allows users to access detailed progress reports tailored to that department, with the option to download the data in Excel format.

Scheme Detail Report:

The "Scheme Detail Report Status" displays the progress status of Agriculture departments through a bar chart, illustrating projects at different stages. Users have the option to download the data in Excel format for further analysis.

Work Completion Report:

The Work Completion Report showcases the status of work categorized by department, category, or activity, providing a comparison between planned and actual achievements. It presents the number of interventions conducted annually, visually represented in graphs for straightforward interpretation.

Project Health:

The Project Health section provides an overview of key metrics, including the Number of Works on Target, Number of Delayed Works, Works Not Started and Completed Works. These metrics track project health against predefined targets in department wise and are visualized in a bar chart for easy monitoring and analysis.

3. DEVELOPED PHYSICAL PROGRESS DASHBOARD

The Physical Progress Dashboard offers detailed insights into the physical development initiatives, featuring weekly updates and showcasing progress across multiple dimensions.

4. FINANCE DASHBOARD

The finance dashboard will visualize the following information (on-going Vs. completed). Ongoing projects include the following information such as Expected Financial progress, Actual Financial progress, Variance, expected invoice, Collected invoice.

5. GIS DASHBOARD INTEGRATION

The GIS Dashboard is a geospatial platform designed to create and deliver maps based on

boundary data such as Sub Basin, District, Taluk, Block, Village and Ayacut. It offers various components represented by points on the map, allowing users to access associated data upon interaction. Additionally, the dashboard features surface water analysis across Tamil Nadu, offering insights on a year-based, month-based and fortnight-based basis.

6. Development of User & Workflow Management System

User Management within the dashboard involves the creation and management of both individual users and admin users. The process includes admin users with specific roles such as, department admin and sub - basin admin

II. Realtime Monitoring of Department Project Indicator Monitoring system – Completed

a. Requirement gathering for Department Project Indicator monitoring.
b. Design and creation of Indicator Database structure
c. System architecture and workflow design
d. Integration with existing monitoring system
e. UI/UX Design for Department project indicator monitoring
f. System testing and debugging

Department level Project Indicators Monitoring screens, input screens, and output screens to track all activities of partner departments such as Water Resources, Agriculture and Farmers Welfare, Horticulture and Plantation Crops, Agri. Marketing &Agri Business, Agri. Engineering, Fisheries and Fisherman Welfare, Animal Husbandry and 3 Universities (Tamil Nadu Agricultural University (TNAU), Tamil Nadu Veterinary and Animal Sciences University (TANUVAS) & Tamil Nadu Dr. J. Jayalalitha Fisheries University(TNJFU) have been developed.

III. Realtime Monitoring system for climate resilient Tank Irrigation and Agriculture Management – Completed

a. Data repository design
b. Development of Tanks and Cascade Level water budget tools
c. Agro-Climatic Zone (ACZ) crop planning integration
d. Design and creation of catchment area treatment plan
e. Integration of climate smart agriculture advisory services
f. Implementation of Fish culture Management System

Over all work progress: 70 %

03/06/2024

For Chief Engineer & Director, WRD,
Institute for Water Studies, Hydrology and Quality Control,
Tharamani, Chennai – 600 113.

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Development of Decision Support System to improve water management, enhance agricultural productivity, profitability, and resilience to climate variability in selected sub basins of Tamil Nadu and track work progress and impact assessment in TNIAMP Project Area

Completion status as per agreement

S No.	Deliverables	Time Period	Payment Term with respect to Agreement Amount	Completion status	Remarks
1	Submission of Inception Report Submission of Inception Report with fortnightly work plan and deployment schedule as Gantt Chart, details on baseline survey completed, input output datasets, project schedule, schedule of trainings	One month from Signing of Contract	20%	Completed by December 2023	
2	Submission of plan Data Collection and Processing Report and Report on Mock-ups of dashboards, Mobile Application, data collection initiation report	Two months from Signing of Contract	10 %	Completed by January 2024	
3	Submission Report on Information System for Realtime Monitoring of Project Progress Tracking System taken live. Demonstration of Live System updated with Unified Mobile Application, MIS Reporting Dashboard,	Three months from Signing of Contract	10 %	Completed by February 2024	Dashboard design Completed. Data is required to be integrated. Data collection is in progress

	Physical Progress Dashboard, Finance Dashboard, GIS Dashboard, User & Workflow Management				
4	Submission Report on Information System for Realtime Monitoring of Department Project Indicator monitoring taken live. Demonstration of Live System updated with Department Project Indicator monitoring	Four months from Signing of Contract	10 %	Completed by March 2024	Dashboard design Completed. Data is required to be integrated. Data collection is in progress
5	Submission Report on Information System for Realtime Monitoring of Climate Resilient Tank Irrigation and Agriculture Management System taken live. Demonstration of Live ySystem updated with Creation of Data Repository, Tank and Cascade Level Water Budget, Agro-Climatic Zone (ACZ) Crop planning, Catchment Area Treatment Plan, Climate Smart Agriculture Advisory Services, Fish culture Management	Six months from Signing of Contract	10 %	Completed by May 2024	Dashboard design Completed. Data is required to be integrated. Data collection is in progress

6	Submission of report on Information System for Realtime Monitoring of Extension Services Dashboard taken live. Demonstration of Live System updated with Market Access, Linkage with Suppliers, Production Estimates, MSP, Procurement and Storage, Price Information, Linkage with Marketplace	Seven Months from Signing of Contract	10 %	To be Taken up and completed by June 2024	
7	Submission of Report on Information System for Realtime Monitoring of Impact Assessment module, Success Stories, Ranking Dashboard, Model Villages, Module for do-it-yourself - taken live Demonstration of Live System updated with Impact Assessment, Success Stories, Ranking Dashboard, Model Villages, Module for do-it-yourself	Eight Months from Signing of Contract	10 %	To be Taken up and completed by July 2024	
8	Submission of Final Report. (i) Fully Operational System (ii) Operational training through workshops	Nine Months from Signing of Contract	10 %	To be Taken up and completed by August 2024	
9	Software Maintenance Support	24 Months from the date of Final Report	10 % (1.25 % at the end of each quarter for 8 quarters)	To be taken up in September 2024	

03/06/2024

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