

Department

Water Resource Department

Introduction

Water Resources department is one of the major department in the government of Karnataka and the department harnesses surface water for irrigation and drinking water purposes. The irrigation projects are classified under two categories like major irrigation projects and medium irrigation projects. Department have three major corporations-KBJNL, KNNL & CNNL these three corporations are unique establishment of the state of Karnataka as these are envisages as special purpose vehicle for speedy implementation of irrigation projects and to enable the government to borrow funds from external sources. The ultimate irrigation potential, from all sources has been estimated as 61.00 lakh hectares, out of which 35 lakh hectares is under major and medium irrigation projects. The water resources department has been entrusted with the following works.

- Collection of Hydrological Data, compilation, processing and hydrological designs.
- Planning and Investigation of Major and medium Irrigation projects.
- Construction and maintenance of On-going and Existing Major and Medium Irrigation Projects
- Resolving Inter State Water Dispute problems.
- Command Area Development activities.
- Research, Development and training works.
- Maintenance and monitoring of machineries in Water Resources Department.
- Monitoring & Evaluation of the Irrigation Projects.
- Administrative matters of the entire Water Resources Department.
- Latest techniques & software's are used to investigate projects in Geometrics centre.

Functional Analysis:

01. Role & Responsibility

i. Engineer in chief & Chief Engineer:

- Policy making Authorization, Approvals, Directions, Review, Reporting
- Investigation and Planning of Major & Medium Irrigation Projects.
- Establishing, Maintenance, Collection and publication of Hydrological and Hydrometeorological data of the entire State.
- Hydrological analysis and design of Water Resources projects.
- Monitoring and Evaluation of projects.
- Establishment matters of Irrigation Department.
- Projects taken up for Investigation by adopting the latest techniques through Geomatics Centre.

ii. Superintendent engineer & Executive Engineer:

- Direction and control, co-ordination, Review and reporting Administrative and Professional Head of the Department, Circle, Divisions.
- Approval to designs and drawing
- Approval to Estimates
- Approval to DTS and tenders
- Inspection of works
- Maintenance of the authorized system of accounts
- Watching of progress of expenditures
- Implementation, co-ordination, Review and reporting

iii. Assistant Executive Engineer :

- Head of the Sub Division
- Preparation of estimates Implementation, Supervision, co-ordination and reporting
- Preparation of tender documents
- Inspection of works

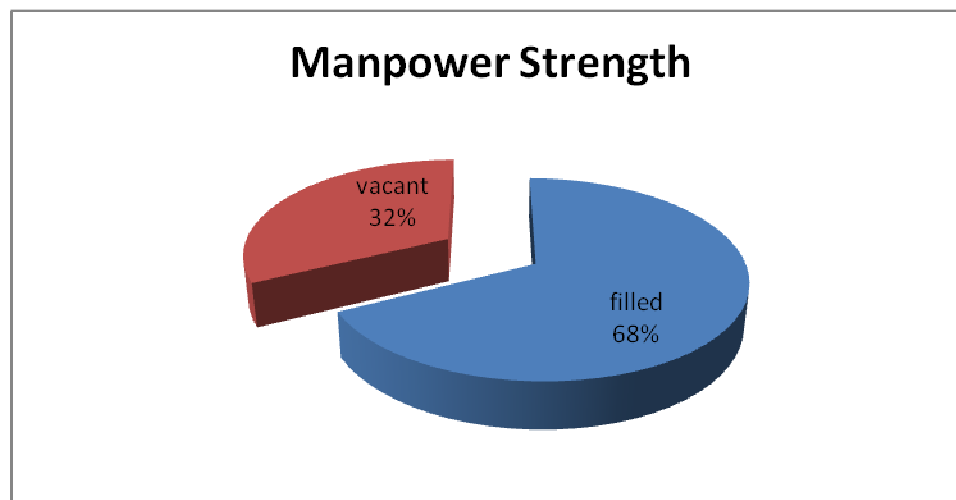
iv. Assistant Engineer & Junior Engineer:

- Execution original works and maintenance works
- Maintenance of accounts

v. Administrative Officer & Account officer:

02. Strength, Weakness Opportunities Threats

Strengths	Weakness
<ul style="list-style-type: none"> ➤ Cooperation and coordination within the department and other department is very easy to access ➤ Experienced Senior officers leading the department top post ➤ Accessible Technology ➤ Access to all the Records /Information ➤ Experience in Public accounts & Financial Management ➤ Opportunities for Innovations 	<ul style="list-style-type: none"> ➤ Frequent Interference in day to day functioning ➤ Lack of Coordination, ➤ More Multitasking for longer period ➤ Poor experience in board/corporation accounting ➤ Updating is lacking on Procurement procedure and other works ➤ Lack of importance for accounting function of auditor institute. ➤ Record Management is very poor ➤ Trusting between the officers is very low ➤ Frequent transfers ➤ Less knowledge about audit & accounts
Opportunities	Threats
<ul style="list-style-type: none"> ➤ People are interested to work as a Team ➤ Interpersonal Relationship and Team work is the key for achievement in the department ➤ People in the organization are willing to use Learning opportunities 	<ul style="list-style-type: none"> ➤ high working pressure experienced by the staff lead to poor performance and keep heavy pending works ➤ audit abjection may reduced the department image ➤ pending of works and construction may hamper the development



- Priority for periodical Training is less
- No opportunities for welfare programmes for Officers and staff

Behavioural Gap

- Role Clarity is not down properly
- Sharing of responsibilities is not accepted by the department staff
- Sense of owning department programmes is very poor
- Accepting others contribution for development is very less
- Learning new technology for better service delivery is not seen.

Skill, Knowledge & Attitude Analysis

Collection of Data, compilation, processing and hydrological designs: WRDO & Central Mechanical orga

SN	Sub Activities	Functionaries	Required Skills	Required Knowledge
1	Collection of Data Reporting	Sub Division Assistant Executive Engineer/ Assistant Engineer/ Junior Engineer Gaze reader	Monitoring of data Collection Data; Accuracy and compilation, Maintaince of data collections instruments	Basic knowled Statistical dat Various metho collection of da flood forecastin analysis and interpretation data Maintain relationship software's are investigate pro Geometrics cer Monitoring & of the Irrigatio Knowledge abo Hydrology
	Analysis & Interpretation	Division: Executive Engineer Circle office: Superintendent engineer (II Circle) (Water Resource Develop organization)	processing and hydrological designs Analysis & Draw inferences; Maintaince of data collections instruments Geometrics centre &	
	Data validation Acceptance and publishing	Chief Engineer office: Superintendent engineer (Hydrology)	Monitoring of data Collection Data; Compilation, processing and hydrological designs Analysis & Draw inferences; Maintaince of data collections instruments	

Planning and Investigation of Major and medium Irrigation projects.

WRDO & Central Mechan

SN	Sub Activities	Functionaries	Required Skills	Required Knowledge
2	Preliminary report Hydrology Data Proposed project site visit, Survey,- using total station or satalised based data(Remote SEsnsivg data) Detailed project report	Sub Division Assistant Executive Engineer Assistant Engineer/ Junior Engineer	Analyse skill of hydrology data Survey knowledge Drafting of technical reports	Subject Detailed Struct Qualit Project Land s Quant Estima Investi Total
	Scrutiny and evaluation of the preliminary report – which indicate broad feasibility of the proposed project Submit the recommendation report	Division Executive Engineer Circle: Superintendent engineer		
	Recommend to the government	Chief engineer		

Construction of new project and maintenance of existing Major and Medium Irrigation Projects (KNN)

Expected outcome:

SN	Sub Activities	Functionaries	Required Skills	Required Knowledge
3	Preliminary report Detail project report & work estimates, Administrative approval and technical sanctions Implementation or construction of the project	Sub Division Assistant Executive Engineer Assistant Engineer/ Junior Engineer	Execution & Supervisor skill Technical domain knowledge for construction technology	interpretation and drawing of structural Foundations Engineering Soil mechanics Vigilance Monitoring Inspection Quality control respective and maintenance Procurement Contract Interdisciplinary coordinating Law for Revenue
	Tender process & initiation of the projects		Monitoring & interpretation and evaluation of project construction	
	Implementation or construction of the project	Division Executive Engineer	Understanding and interpretation of design and drawings	
	Monitoring and evaluation Maintenance Administrative	Circle: Superintendent engineer	Periodical Inspection of projects Types of qualities test, quality assurance plant, etc.	

	approval and technical sanctions more than 2 crores		Qualities aspects with respects to construction and maintenance Procurement procedure Contract management Interdepartmental coordination & Revenue matters; water supply Supervising skill Project Report Structural Design Quality control Vigilant	
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Command Area Development Activities

SN	Sub Activities	Functionaries	Required Skills	Required Knowledge
4	<p>Reclamation of water logged areas.</p> <p>Construction of field irrigation channels (FIC).</p> <p>Construction of field drains.</p> <p>On-farm development (OFD).</p> <p>Adoption of warabandi system for distribution of water.</p> <p>Adoption and enforcement of suitable cropping pattern.</p> <p>Conjunctive use of surface and ground water.</p> <p>Extension training and demonstration Programmes.</p> <p>All round development of areas pertaining to agriculture.</p>	<p>Deputy administered Superintendents Assistants</p> <p>Chief accounts officers Account superintendents Account assistants</p> <p>Joint director of agriculture Assistant Director Agriculture Agriculture officers Agriculture filed assistant</p> <p>Joint registrar of cooperative society Assistant register of cooperative society Cooperative Inspectors</p> <p>Superintendent engineer Executive Engineer</p>	<p>Knowledge about soil and use of soil</p> <p>Crop management</p> <p>Water Management</p> <p>Conflict Management</p> <p>Formation of water user society</p> <p>Legal aspects</p> <p>Irrigation Engineering</p> <p>Interdepartmental coordination</p>	<p>Knowledge and use of soil</p> <p>Crop Management</p> <p>Water Management</p> <p>Conflict Management</p> <p>Formation of water user society</p> <p>Legal aspects</p> <p>Irrigation Engineering</p> <p>Interdepartmental coordination</p>

Research, Development

SN	Sub Activities	Functionaries	Required Skills	Required Knowledge
5	Research Applied Research Testing & Analysis of construction materials Design of Hydrological model studies- Hydrology & Hydraulics	Director Joint director Chief Research officers Research officers Assistant Research officer Junior Research officer Laboratory assistant	Basic Research Innovations Applied Research Testing & Analysis of construction materials Hydrological model studies- Hydrology & Hydraulics Computer application Statistical Tools	Basic R Innovat Applied Testin constru Hydro studie Hydrau Comput Statisti

Training works.

SN	Sub Activities	Functionaries	Required Skills	Require
6	Capacity building Research on field issues Consultation Designing and development of modules Trainer skills	Principal Professor Assistant Professor Lecturers Junior Engineer	Systematic Approach o f Training Designing and development of modules Trainer skills Computer applications Filed technical and non technical Management	Systematic Training Designing a of modules Trainer ski Computer a Filed techn technical M

Administrative matters of the entire Water Resources Department

SN	Sub Activities	Functionaries	Required Skills	Required Knowledge
8	Recruitment Promotions Retirement Disciplinary action Data maintaince related to service particulars Transfers (WRDO & Nigamas both)	Sub Division FDA Account Superintendents <hr/> Division & Circle FDA/SDA/ Superintendents Account Superintendents <hr/> Chief Engineer Register Superintend Engineer SDA/FDA/Superintendent Account Superintendents	Budget: concept Budget preparation and allocation Monitoring of budget Revision Control PWD accounts Book Keeping Returns Annual Accounts Audit Disciplinary proceedings Inquires Computer applications	Bud Bud and Mon Revi Con PWD Bool Retu Ann Aud Disc proc Inqu Compu

03. Cause & Effects

04. Performance Problem

- Functionaries performance
- Focusing for Quality Standards
- Completion of projects

05. Training Interventions

Input:

For 5 days Programme

The Target Group

Engineer –in-Chief

Chief Engineer

Superintending Engineer

Day 1	Leadership & Communication, Time Management, Stress Management.
Day 2	Computer, Project Planning & Project management with respect to water resource Department, Practical session.
Day 3	Computer application, Budget & financing plans for project with respect to water resource Department, KTPP, RTI, & KGSC Act.
Day 4	Computer applications, Operation and maintenance of dam structures & channel structures, water management, Disaster management
Day 5	Computer, GPS/GIS, Health status of Dam, Infrastructure protection & Safety, Group interaction.

Input:
For 5 days Programme

The Target Group
Executive Engineers
Assistant Executive Engineers

Day 1	Leadership & Communication, Time Management, Stress Management.
Day 2	Computer Application, Concrete Technology, Quality Assurance, Quality Control & Quality Audit, Estimation & Rate Analysis, KTPP & RTI Act, Arbitration.
Day 3	Computer Application, Hydrology, flood forecasting & Flood rotting River gauging & Sediment survey, Hydraulic & structural Design.
Day 4	Computer Applications, Surveying Topographic max reading, Geophysical survey, Design of canals & canal distribution system, Construction Equipment & Safety practices in construction.
Day 5	Computer Application, Operation & Maintenance of Dam Structures & canal Structures, water management & Health Status of Dams, Water Quality & Water Quality tests.
Day 6	Computer Application, Design, erection, operation & maintenance of gats of irrigation structures, Infrastructure safety & protection; Group Interaction.

Input:
For 5 days Programme

The Target Group
Assistant Engineers
Junior Engineers

Day 1	Chang management, Team Building& Communication, Time Management, Stress Management.
Day 2	Computer Application, Concrete Technology, Quality Assurance, Quality Control & Quality Audit, Estimation & Rate Analysis, KTPP & RTI Act.
Day 3	Computer Application, Hydrology, flood forecasting & Flood rotting River gauging & Sediment survey, Hydraulic & structural Design.
Day 4	Computer Applications, Surveying Topographic max reading, Geophysical survey, Design of canals & canal distribution system. Construction Equipment & Safety practices in construction.
Day 5	Computer Application, Operation & Maintenance of Dam Structures & canal Structures, water management & Health Status of Dams, Water Quality & Water Quality tests.
Day 6	Computer Application, Contract Act obligations of contractor & Department, Design, erection, operation & maintenance of gats of irrigation structures, Infrastructure safety & protection Group Interaction.

Input:
for 5 days Programme

The Target Group
Administrative Officers
Accounts Officers

Day 1	Chang management, Team Building& Communication, Time Management, Stress Management. Interpersonal
Day 2	Computer Application, Statutory & Legal Requirement, Organisation Structure of WRD, Disciplinary Procedures.
Day 3	Computer Application, KTPP Preparation of Budget, Allocation of Budget, Budget Monitoring, Revised Budget, Budgetary Control. PWD Accounts:-Book Keeping, Returns, Annual Accounts & Audit.
Day 4	Computer Applications, Cyber law. KCSR, RTI Act, KGSA,
Day 5	Computer Application, Land Acquisition, Office Procedure, Enquiries.