

**Government of Karnataka**  
**Advanced Centre for Integrated Water Resources Management**  
**(AC-IWRM)**  
**1/1, 1<sup>st</sup> Floor, KSFC Bhavan, Thimmaiah Road, Near**  
**Cantonment Railway Station,**  
**Bangalore-560 052. Karnataka**

**No. ACIWRM/SE/NGMIS/TSA/2016-17/13**

**Date: 30/01/2017**

## **EXPRESSION OF INTEREST**

Government of Karnataka, Advanced Centre for Integrated Water Resources Management (Water Resources Department) invites Expression of Interest from reputed national consultants for the following posts with deep understanding in the field they are interested to apply for the post to work in Technical Support Agency (TSA) under ACIWRM for National Groundwater Improvement Management Scheme (NGMIS) supported by Government of India proposed Central Sector Scheme assisted by the World Bank. The duration of the project is about 60 months.

- 1) Team Leader
- 2) Senior Hydro geologist – Deputy Team Leader
- 3) Communication Specialist
- 4) Senior Hydro-geo-chemist
- 5) Agriculture Economist
- 6) Civil Engineer
- 7) Irrigation Specialist
- 8) Social Development specialist
- 9) Gender specialist
- 10) GIS & IT Expert

**The Job description, Minimum Qualification requirements & Terms of reference for above posts are as follows:**

### **1. Team Leader**

#### Job Description

- Team Leader shall be responsible for overseeing timely implementation of all tasks assigned to State- Technical Support Agency (S-TSA). Working with team members, s/he will fulfill the responsibilities/duties which will include

but not limited to: providing guidance and coordination of all program activities;

- Perform the monitoring and reporting tasks; review all documentation for contracting team members, support units and cluster teams; assist the PIU in preparation of annual work plans, review and consolidate water security plans (WSPs) Annual Implementation plans (AIPs) submitted by DPIU;
- Supervise and monitor implementation of the WSPs and AIPs; assist the Program Director with the selection and recruitment of Support organizations, experts in DPIUs, and members of cluster teams, etc.;
- Monitor and supervise S-TSA team members work to ensure timely delivery of outputs; monitor and supervise the work of cluster teams to ensure timely delivery of outputs;
- Prepare semi-annual Progress reports and other such reports as solicited by the program director/manager;
- Conduct regular field visits t supervise program implementation and submit consolidated field visit reports to the project director/manager in PIU; any other work as directed by the PIU.

#### Minimum Qualification Requirements

- Post Graduate in any of the groundwater related discipline viz., Geology, Hydrogeology, Geo-chemistry/Geophysics; with over 20 years of experience in water sector of which at least 7 years as a team leader for projects;
- Working knowledge of multi-disciplinary aspects that control sustained management of aquifer systems; experience in finance management; good facilitation and conflict management skills; grass-roots experience, especially working with farmers and civil society organizations; and well versed with Result Based Management approaches.
- Strong communication, presentation, interpersonal and counseling skills, and MS Office proficiency.
- Strong analytical and report writing skills are required.
- Ability and willingness to participate in a multi-disciplinary, innovative and enthusiastic team.
- Knowledge of Kannada language will be an asset.
- Good English language skills
- Computer skills

#### Terms of Reference

- Provide technical and administrative support to Gram Panchayats (GPs) in preparation/ development and submission of a Six-years Water Security Plans and water budgeting;
- Develop training manuals for building awareness on the current status of groundwater development in local language / dialect.
- Prepare a training and capacity building strategy, training methodology and modules for collection of Base-line data at GP level;

- Triangulate the data collected by GPs with the existing State level baseline data using CGWB and State Water level data, and prepare a consolidated user friendly baseline report for wide public dissemination;
- Data collection and management, which essentially includes baseline and monitoring data pertaining to
  - a) water level,
  - b) rainfall and groundwater recharge,
  - c) well discharge and aquifer-wise & season-wise groundwater draft,
  - d) water Budget,
  - e) cropping pattern and seasonal crop water requirement,
  - f) socio-economic framework and g) water use efficiency;
- Provide training and handholding support to SOs recruited to assist GPs in collection of baseline data for preparation of water security plans;
- Prepare combined technical manuals for groundwater data gathering, water budgeting exercise and water balance estimation;
- Develop training Curriculum for volunteers on Participatory Ground water data gathering;
- Develop training curriculum for GP level Water Budgeting;
- Prepare manuals, templates on administrative and financial matters to be followed by SOs;
- Develop participatory baseline report on overall Groundwater Management (both supply and demand side including institutional mechanism);
- Develop manuals on functioning of GPs/village institutions on groundwater management
- Design and implement PGWM data entry and analysis software for preparation of “Sujal-Card”;
- Supervise Implementation of Water Budgeting inputs in GPs’ program implementation;
- Support the State level SPV/PIU in the nodal department to consolidate the Water Security plans, along with cost estimates for State Level Steering Committee (SLSC) for approval, and submission thereon to MoWR for approval;
- Prepare Annual Work Plans and budgetary requirements based on the approved Water Security Plan for the state;
- Prepare procurement plans and area wise detailed activity plan to facilitate implementation of the same by the District-Block-GPs in the project area.
- Support PIU in all procurement activities under the program;
- Develop Bid Documents for all procurements;
- Back-office systems for management of procurement activities;
- Develop procurement training material and carry out procurement training;
- Assist SPV/PIU for recruitment of Support Organisations (SOs) to assist GPs in implementation of the program;

- Coordinate project inputs and activities from GP level up at the state level.
- Coordinate timely inputs from SOs to help State Implementation/Nodal Agency prepare State level overall implementation plan for their monitoring and evaluation
- Provide training facilities at State level in coordination with State Implementing/Nodal Agency to kick-start the project and continued capacity building
- Carry out monitoring and evaluation of outputs, activities and impacts.
- Conduct GP levels Water Security Plan Implementation appraisals with State Nodal Agency
- Facilitate human resource development activities, including project staff and farmers.
- Consolidate quarterly reports submitted by project partners and submit the same to PIU for its review and course of action;
- Prepare semi-annual project report and submit to PIU for the approval of the State Level Steering Committee and onward transmission to MoWR, RD & GR. These progress reports shall include progress in implementation of the project, Executive summary, analytical section with interventions undertaken at various levels, performance of DPIUs, Environment & Social safeguards, procurement and financial management aspects in addition to updation of data monitored in the Results Framework referred in the Loan documents of the World Bank;
- Provide support to monitor project expenditure, through GP level project implementation mechanisms.
- Support in preparation of periodic financial progress and analytical reports;
- Support in preparation of bank reconciliation, control of budget, preparation and maintenance of scheme wise books of records, etc. and assistance in audits;
- Support to PIU to review the expenditure statements received from other executing agencies and determining further funds to be provided
- Support State implementing agency in preparation planning, budgeting and expenditure statements, and Annual Financial Statements (AFS).
- Ensure social and gender sensitivity in program implementation;
- Process budget revisions linked with project work plans.
- Provide requisite support for internal and external auditors;
- Support the State in Developing equipment and asset inventory system to record and maintain equipment/assets.
- Coordinate with all relevant line departments in the state – as directed by the Program Director from time to time;
- Any other work as assigned by the Program Director of the State Implementing agency.

## **2. Senior Hydro-Geologist – Deputy Team Leader**

### Job Description

- Advise the Team Leader on all aspects related to Hydrology, working in close coordination with other members of the team; develop a farmer-friendly data storage/analysis procedure (Hydrology part), in GIS environment;
- Assist in development of design of farmer-friendly crop-water information kiosks, working in close coordination with other members of the team;
- Advise on refining the crop-water budgeting package to make it suitable for usage by the GPs;
- Carry out linkage building activities between the GPs and water based institutions at the district and state level;
- Carry out data analysis and prepare Technical Reports, in consultation with other team members, on a half-yearly basis.
- Conduct field visits for data collection and verification, consolidation and preparation of analytical reports in addition to providing inputs to semi-annual progress reports.

### Minimum Qualification Requirements

- Post Graduate in Geology or Hydrogeology with at least 15 years of experience in water sector;
- should have sound technical knowledge including establishing hydrologic monitoring networks, data collection methods, data analysis tools (especially computer based), groundwater resource estimation methodology, groundwater quality monitoring and artificial groundwater recharge (AGR);
- experience working with multi-disciplinary teams; and grass-roots experience, especially working with farmers and civil society organizations – an advantage
- Strong communication, presentation, interpersonal and counseling skills, and MS Office proficiency.
- Strong analytical and report writing skills are required.
- Ability and willingness to participate in a multi-disciplinary, innovative and enthusiastic team.
- Knowledge of Kannada language will be an asset.
- Good English language skills
- Computer skills

### Terms of Reference

- Provide technical and administrative support to Gram Panchayats (GPs) in preparation/ development and submission of a Six-years Water Security Plans and water budgeting;

- Develop training manuals for building awareness on the current status of groundwater development in local language / dialect.
- Prepare a training and capacity building strategy, training methodology and modules for collection of Base-line data at GP level;
- Triangulate the data collected by GPs with the existing State level baseline data using CGWB and State Water level data, and prepare a consolidated user friendly baseline report for wide public dissemination;
- Establish Hydrologic Monitoring Network (HMN);
- Data collection and management, which essentially includes baseline and monitoring data pertaining to
  - a) water level,
  - b) rainfall and groundwater recharge,
  - c) well discharge and aquifer-wise & season-wise groundwater draft,
  - d) water Budget,
  - e) cropping pattern and seasonal crop water requirement,
  - f) socio-economic framework and g) water use efficiency;
- Provide training and handholding support to SOs recruited to assist GPs in collection of baseline data for preparation of water security plans;
- Prepare combined technical manuals for groundwater data gathering, water budgeting exercise and water balance estimation;
- Develop training Curriculum for volunteers on Participatory Ground water data gathering;
- Develop training curriculum for GP level Water Budgeting;
- Develop participatory baseline report on overall Groundwater Management (both supply and demand side including institutional mechanism);
- Design and implement PGWM data entry and analysis software for preparation of “Sujal-Card”;
- Supervise Implementation of Water Budgeting inputs in GPs’ program implementation;
- Support the State level SPV/PIU in the nodal department to consolidate the Water Security plans, along with cost estimates for State Level Steering Committee (SLSC) for approval, and submission thereon to MoWR for approval;
- Prepare Annual Work Plans and budgetary requirements based on the approved Water Security Plan for the state;
- Coordinate project inputs and activities from GP level up at the state level.
- Coordinate timely inputs from SOs to help State Implementation/Nodal Agency prepare State level overall implementation plan for their monitoring and evaluation
- Organise and provide logistic support for workshops/seminars and in-service training
- Provide training facilities at State level in coordination with State Implementing/Nodal Agency to kick-start the project and continued capacity building

- Carry out monitoring and evaluation of outputs, activities and impacts.
- Conduct GP levels Water Security Plan Implementation appraisals with State Nodal Agency
- Facilitate human resource development activities, including project staff and farmers.
- Consolidate quarterly reports submitted by project partners and submit the same to PIU for its review and course of action;
- Prepare semi-annual project report and submit to PIU for the approval of the State Level Steering Committee and onward transmission to MoWR, RD & GR. These progress reports shall include progress in implementation of the project, Executive summary, analytical section with interventions undertaken at various levels, performance of DPIUs, Environment & Social safeguards, procurement and financial management aspects in addition to updation of data monitored in the Results Framework referred in the Loan documents of the World Bank;
- Provide support to monitor project expenditure, through GP level project implementation mechanisms.
- Support in preparation of periodic financial progress and analytical reports;
- Support in preparation of bank reconciliation, control of budget, preparation and maintenance of scheme wise books of records, etc. and assistance in audits;
- Ensure social and gender sensitivity in program implementation;
- Process budget revisions linked with project work plans.
- Coordinate with all relevant line departments in the state – as directed by the Program Director from time to time;
- Any other work as assigned by the Program Director of the State Implementing agency.

### **3. Communication Specialist**

#### Job Description

- Orient cluster teams on the Non Formal Education (NFE) approach; develop social mobilization strategy through workshops, in coordination Social Development and Gender Specialist;
- develop training material, in the NFE mode, in consultation with the Team Leader and all members of the team;
- work with all stakeholders for experimenting usage the NFE approach for the entire program cycle, at sample habitations or “organic units”;
- design and compile IEC material; prepare progress Reports, in consultation with other team members and feedback from field, on a half-yearly basis; and establish links between cluster teams/GPs and Agriculture based institutions at the district and state level for implementation of project activities;

- conduct regular field visits to obtain feedback on IEC interventions, impact etc., for taking necessary course corrections;
- Provide inputs for semi-annual progress reports

#### Minimum Qualification Requirements:

- Post Graduate in Rural Communication/Rural Development or Agriculture Extension with at least 5 years of experience in providing training and extension services in agriculture sector;
- working experience in rural communication including design and compilation of IEC material, participatory rural appraisal and farmer field schools; and grass-roots experience, especially working with farmers and civil society organizations – an advantage
- Strong communication, presentation, interpersonal and counseling skills, and MS Office proficiency.
- Strong analytical and report writing skills are required.
- Ability and willingness to participate in a multi-disciplinary, innovative and enthusiastic team.
- Knowledge of Kannada language will be an asset.
- Good English language skills
- Computer skills

#### Terms of Reference

- Provide technical and administrative support to Gram Panchayats (GPs) in preparation/ development and submission of a Six-years Water Security Plans and water budgeting;
- Develop training manuals for building awareness on the current status of groundwater development in local language / dialect.
- Develop community communication Strategy and recommendations for increasing the awareness of the consequences of depleting ground water resources and other water related issues;
- Develop training manuals for formation of community institutions, with their roles and responsibilities in contributing to improvement in ground water levels;
- Prepare a training and capacity building strategy, training methodology and modules for collection of Base-line data at GP level;
- Triangulate the data collected by GPs with the existing State level baseline data using CGWB and State Water level data, and prepare a consolidated user friendly baseline report for wide public dissemination;
- Provide training and handholding support to SOs recruited to assist GPs in collection of baseline data for preparation of water security plans;
- Develop Cultural tools for communicating with the people on water issues;
- Develop training Curriculum for volunteers on Participatory Ground water data gathering;



- Develop participatory baseline report on overall Groundwater Management (both supply and demand side including institutional mechanism);
- Develop manuals on functioning of GPs/village institutions on groundwater management
- Carry out content analysis of community institution meetings;
- Supervise Implementation of Water Budgeting inputs in GPs' program implementation;
- Support the State level SPV/PIU in the nodal department to consolidate the Water Security plans, along with cost estimates for State Level Steering Committee (SLSC) for approval, and submission thereon to MoWR for approval;
- Prepare Annual Work Plans and budgetary requirements based on the approved Water Security Plan for the state;
- Support the SOs to establish a GP level Implementation team (comprising line department professionals) to work with community level institutions
- Coordinate timely inputs from SOs to help State Implementation/Nodal Agency prepare State level overall implementation plan for their monitoring and evaluation
- Organise and provide logistic support for workshops/seminars and in-service training
- Provide training facilities at State level in coordination with State Implementing/Nodal Agency to kick-start the project and continued capacity building
- Conduct GP levels Water Security Plan Implementation appraisals with State Nodal Agency
- Facilitate human resource development activities, including project staff and farmers.
- Consolidate quarterly reports submitted by project partners and submit the same to PIU for its review and course of action;
- Prepare semi-annual project report and submit to PIU for the approval of the State Level Steering Committee and onward transmission to MoWR, RD & GR. These progress reports shall include progress in implementation of the project, Executive summary, analytical section with interventions undertaken at various levels, performance of DPIUs, Environment & Social safeguards, procurement and financial management aspects in addition to updation of data monitored in the Results Framework referred in the Loan documents of the World Bank;
- Support in preparation of periodic financial progress and analytical reports;
- Ensure social and gender sensitivity in program implementation;
- Process budget revisions linked with project work plans.
- Coordinate with all relevant line departments in the state – as directed by the Program Director from time to time;
- Any other work as assigned by the Program Director of the State Implementing agency.

## **4 Senior Hydro-geochemist**

### Job Description

- Study groundwater quality aspects of all the clusters in the state; map areas with quality problem;
- Recommend remedial measures of improving groundwater quality in problem GPs;
- Write technical guidelines for annual procedures to be followed for groundwater quality monitoring;
- train cluster teams and GPs in sample collection; establish linkage of GPs with water quality testing laboratories;
- Prepare technical guidelines for cluster teams and GPs for application of intervention in arresting ground water decline;
- Prepare relevant technical Reports, in consultation of other team members from time to time.
- Conduct field visits for overseeing intervention undertaken and data collection

### Minimum Qualification Requirements:

- Post Graduate in chemistry with at least 10 years of experience in water quality analysis; should have sound technical knowledge including water quality instrumentation, sample collection, (physical, chemical and biological) quality assessment, and data analysis tools (such as Piper Diagram, Wilcox Method, Sodium Absorption Ratio); would have worked multi-disciplinary teams;
- Strong communication, presentation, interpersonal and counseling skills, and MS Office proficiency.
- Strong analytical and report writing skills are required.
- Ability and willingness to participate in a multi-disciplinary, innovative and enthusiastic team.
- Knowledge of Kannada language will be an asset.
- Good English language skills
- Computer skills

### Terms of Reference

- Provide technical and administrative support to Gram Panchayats (GPs) in preparation/ development and submission of a Six-years Water Security Plans and water budgeting;
- Develop training manuals for building awareness on the current status of groundwater development in local language / dialect.
- Prepare a training and capacity building strategy, training methodology and modules for collection of Base-line data at GP level;
- Data collection and management, which essentially includes baseline and monitoring data pertaining to

- a) water level,
- b) rainfall and groundwater recharge,
- c) well discharge and aquifer-wise & season-wise groundwater draft,
- d) water Budget,
- e) cropping pattern and seasonal crop water requirement,
- f) socio-economic framework and g) water use efficiency;
- Provide training and handholding support to SOs recruited to assist GPs in collection of baseline data for preparation of water security plans;
- Prepare combined technical manuals for groundwater data gathering, water budgeting exercise and water balance estimation;
- Develop training Curriculum for volunteers on Participatory Ground water data gathering;
- Develop training curriculum for GP level Water Budgeting;
- Develop participatory baseline report on overall Groundwater Management (both supply and demand side including institutional mechanism);
- Supervise Implementation of Water Budgeting inputs in GPs' program implementation;
- Support the State level SPV/PIU in the nodal department to consolidate the Water Security plans, along with cost estimates for State Level Steering Committee (SLSC) for approval, and submission thereon to MoWR for approval;
- Prepare Annual Work Plans and budgetary requirements based on the approved Water Security Plan for the state;
- Coordinate timely inputs from SOs to help State Implementation/Nodal Agency prepare State level overall implementation plan for their monitoring and evaluation
- Facilitate human resource development activities, including project staff and farmers.
- Ensure social and gender sensitivity in program implementation;
- Coordinate with all relevant line departments in the state – as directed by the Program Director from time to time;
- Any other work as assigned by the Program Director of the State Implementing agency.

## **5. Agriculture Economist**

### Job Description

- Monitor market prices of the crop produces, specific to the area of operation, crop yields, cost of cultivation and net returns;
- Advise cluster teams/GPs on measures to increase the Net income from farming, twice a year (beginning Khariff and Rabi), with an indication of their variability according to climatic variations and types of irrigation practices used; advise cluster teams/GP on crop insurance and make efforts to build linkages between GPs and insurance agencies;

- explore possibility of bringing in alternate energy sources in agriculture, including solar pumps; select pilot areas (about 10) for field-testing of alternate energy options and customizing the equipment to local conditions; prepare Technical Reports,
- Prepare technical analysis reports for circulation to partners and stakeholders for improving marketability of agri-products
- Provide inputs for semi-annual progress reports in consultation with members of the team, on a half-yearly basis.
- Undertake field visits to study the markets and prepare reports with support of the data collected;

#### Minimum Qualification Requirements:

- Post Graduate in any discipline related to Agriculture Sector with at least 8 years of experience in economic analysis of agriculture sector;
- should have sound technical knowledge crop water requirement, on agriculture market fluctuations and its impact on the producer, computing economic rate of returns, crop insurance and low input agriculture;
- working experience with farmers and civil society organizations – a must
- Strong communication, interpersonal skills, MS Office proficiency, presentation techniques with experience and aptitude for project management, counseling skills
- Strong analytical and report writing skills are required.
- Ability and willingness to participate in a multi-disciplinary, innovative and enthusiastic team.
- Knowledge of Kannada language will be an asset.
- Good English language skills
- Computer skills

#### Terms of Reference

- Provide technical and administrative support to Gram Panchayats (GPs) in preparation/ development and submission of a Six-years Water Security Plans and water budgeting;
- Develop training manuals for building awareness on the current status of groundwater development in local language / dialect.
- Prepare a training and capacity building strategy, training methodology and modules for collection of Base-line data at GP level;
- Triangulate the data collected by GPs with the existing State level baseline data using CGWB and State Water level data, and prepare a consolidated user friendly baseline report for wide public dissemination;
- Data collection and management, which essentially includes baseline and monitoring data pertaining to
  - a) water level,
  - b) rainfall and groundwater recharge,
  - c) well discharge and aquifer-wise & season-wise groundwater draft,
  - d) water Budget,

- e) cropping pattern and seasonal crop water requirement,
- f) socio-economic framework and g) water use efficiency;
- Provide training and handholding support to SOs recruited to assist GPs in collection of baseline data for preparation of water security plans;
- Prepare combined technical manuals for groundwater data gathering, water budgeting exercise and water balance estimation;
- Develop training Curriculum for volunteers on Participatory Ground water data gathering;
- Develop training curriculum for GP level Water Budgeting;
- Develop participatory baseline report on overall Groundwater Management (both supply and demand side including institutional mechanism);
- Supervise Implementation of Water Budgeting inputs in GPs' program implementation;
- Support the State level SPV/PIU in the nodal department to consolidate the Water Security plans, along with cost estimates for State Level Steering Committee (SLSC) for approval, and submission thereon to MoWR for approval;
- Prepare Annual Work Plans and budgetary requirements based on the approved Water Security Plan for the state;
- Coordinate timely inputs from SOs to help State Implementation/Nodal Agency prepare State level overall implementation plan for their monitoring and evaluation
- Facilitate human resource development activities, including project staff and farmers.
- Ensure social and gender sensitivity in program implementation;
- Coordinate with all relevant line departments in the state – as directed by the Program Director from time to time;
- Any other work as assigned by the Program Director of the State Implementing agency.

## **6. Civil Engineer**

### Job Description:

- Support cluster teams on survey, design and construction of water harvesting structures and location of suitable sites for construction of AGR structures;
- Assist cluster teams in preparation of designs and cost estimates, on impact monitoring of AGR structures on water levels in the wells;
- Standardize the process of identification, site selection, construction and impact monitoring process of AGR activity;
- Establish linkages between the program staff and institutions at the district and state level working on groundwater recharge, including watershed management; and
- Provide inputs for semi-annual progress reports;

Conduct regular field visits to oversee and random inspection of civil works being implemented under the program

#### Minimum Qualification Requirements:

- Graduation / Post-graduation in Civil Engineering with at least 8 years of experience in civil engineering; with technical knowledge on survey, design and construction of water harvesting structures;
- Ground experience in working on agriculture related projects with farmers and civil society organizations – an advantage
- Strong communication, presentation, interpersonal and counseling skills, and MS Office proficiency.
- Strong analytical and report writing skills are required.
- Ability and willingness to participate in a multi-disciplinary, innovative and enthusiastic team.
- Knowledge of Kannada language will be an asset.
- Good English language skills
- Computer skills

#### Terms of Reference

- Provide technical and administrative support to Gram Panchayats (GPs) in preparation/ development and submission of a Six-years Water Security Plans and water budgeting;
- Develop training manuals for building awareness on the current status of groundwater development in local language / dialect.
- Prepare a training and capacity building strategy, training methodology and modules for collection of Base-line data at GP level;
- Triangulate the data collected by GPs with the existing State level baseline data using CGWB and State Water level data, and prepare a consolidated user friendly baseline report for wide public dissemination;
- Establish Hydrologic Monitoring Network (HMN);
- Data collection and management, which essentially includes baseline and monitoring data pertaining to
  - a) water level,
  - b) rainfall and groundwater recharge,
  - c) well discharge and aquifer-wise & season-wise groundwater draft,
  - d) water Budget,
  - e) cropping pattern and seasonal crop water requirement,
  - f) socio-economic framework and g) water use efficiency;
- Provide training and handholding support to SOs recruited to assist GPs in collection of baseline data for preparation of water security plans;
- Prepare combined technical manuals for groundwater data gathering, water budgeting exercise and water balance estimation;
- Develop training Curriculum for volunteers on Participatory Ground water data gathering;
- Develop training curriculum for GP level Water Budgeting;

- Develop participatory baseline report on overall Groundwater Management (both supply and demand side including institutional mechanism);
- Design and implement PGWM data entry and analysis software for preparation of “Sujal-Card”;
- Supervise Implementation of Water Budgeting inputs in GPs’ program implementation;
- Support the State level SPV/PIU in the nodal department to consolidate the Water Security plans, along with cost estimates for State Level Steering Committee (SLSC) for approval, and submission thereon to MoWR for approval;
- Prepare Annual Work Plans and budgetary requirements based on the approved Water Security Plan for the state;
- Coordinate timely inputs from SOs to help State Implementation/Nodal Agency prepare State level overall implementation plan for their monitoring and evaluation
- Facilitate human resource development activities, including project staff and farmers.
- Ensure social and gender sensitivity in program implementation;
- Coordinate with all relevant line departments in the state – as directed by the Program Director from time to time;
- Any other work as assigned by the Program Director of the State Implementing agency.

## **7. Irrigation Specialist**

### Job Description:

- Advise the project staff on selection and feasibility of appropriate water saving irrigation measures
- Advise the project staff on Design, and prepare drawings of suggested irrigation systems including preparation of cost estimates.
- Assess the irrigation performance/efficiency of the selected sites in the participating States on before and after previous interventions;
- Advise cluster teams on all aspects related to soils and their suitability for cropping pattern in the state and Participatory Technology Development (PTD);
- closely work with all other team members to development of curriculum for Farmer Field Schools on specific aspects related to water conservation and accounting;
- develop a farmer friendly crop-water budgeting tool in close coordination with members of the team;
- develop guidelines for operation and maintenance of water saving irrigation devices/assets;
- provide inputs for semi-annual progress Reports, in addition to thematic technical reports for application in program implementation;

- Conduct regular field visits for data collection and supervision

#### Minimum Qualification Requirements:

- Post Graduate. in Agriculture/Irrigation Engineering with at least 10 years of experience in design, field-testing and marketing of agriculture tools and implements;
- sound technical knowledge on design of agronomic practices, drudgery reduction agriculture equipment, farm practices for irrigation efficiency and micro irrigation;
- Experience in site selection and construction of small water harvesting structures; good understanding of soil-crop suitability, crop varieties and agro-meteorology; and working experience at village level, farmers and civil society organizations – must.
- Strong communication, presentation, interpersonal and counseling skills, and MS Office proficiency.
- Strong analytical and report writing skills are required.
- Ability and willingness to participate in a multi-disciplinary, innovative and enthusiastic team.
- Knowledge of Kannada language will be an asset.
- Good English language skills
- Computer skills

#### Terms of Reference

- Provide technical and administrative support to Gram Panchayats (GPs) in preparation/ development and submission of a Six-years Water Security Plans and water budgeting;
- Develop training manuals for building awareness on the current status of groundwater development in local language / dialect.
- Prepare a training and capacity building strategy, training methodology and modules for collection of Base-line data at GP level;
- Triangulate the data collected by GPs with the existing State level baseline data using CGWB and State Water level data, and prepare a consolidated user friendly baseline report for wide public dissemination;
- Establish Hydrologic Monitoring Network (HMN);
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  - a) water level,
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  - c) well discharge and aquifer-wise & season-wise groundwater draft,
  - d) water Budget,
  - e) cropping pattern and seasonal crop water requirement,
  - f) socio-economic framework and g) water use efficiency;
- Provide training and handholding support to SOs recruited to assist GPs in collection of baseline data for preparation of water security plans;



- Prepare combined technical manuals for groundwater data gathering, water budgeting exercise and water balance estimation;
- Develop training Curriculum for volunteers on Participatory Ground water data gathering;
- Develop training curriculum for GP level Water Budgeting;
- Develop participatory baseline report on overall Groundwater Management (both supply and demand side including institutional mechanism);
- Supervise Implementation of Water Budgeting inputs in GPs' program implementation;
- Support the State level SPV/PIU in the nodal department to consolidate the Water Security plans, along with cost estimates for State Level Steering Committee (SLSC) for approval, and submission thereon to MoWR for approval;
- Prepare Annual Work Plans and budgetary requirements based on the approved Water Security Plan for the state;
- Coordinate timely inputs from SOs to help State Implementation/Nodal Agency prepare State level overall implementation plan for their monitoring and evaluation
- Facilitate human resource development activities, including project staff and farmers.
- Ensure social and gender sensitivity in program implementation;
- Coordinate with all relevant line departments in the state – as directed by the Program Director from time to time;
- Any other work as assigned by the Program Director of the State Implementing agency.

## **8. Social Development specialist**

### Job Description:

- Advise PIU, DPIUs and SOs on all aspects related to application of social safeguards;
- carry out linkage building activities between the cluster teams/GP and human resource development/training institutions at the state on developing tools for social inclusion;
- Develop a sustainable community based social audit mechanism, and related manual and training modules;
- Conduct trainings at all levels and institutionalize training tools for future applications;
- Provide inputs for semi-annual progress reports;
- Conduct regular field visits to support DPIU and SOs in program implementation and application of social audit tools.

### Minimum Qualification Requirements:

- Post Graduate in Sociology or Social development or equivalent with at least 5 years' experience in community mobilization, capacity building and institution development; gender mainstreaming, participatory rural appraisal, SWOT analysis and design of IEC material; experience in working with multi-disciplinary teams, communities, farmers and civil society organizations - a must
- Strong communication, presentation, interpersonal and counseling skills, and MS Office proficiency.
- Strong analytical and report writing skills are required.
- Ability and willingness to participate in a multi-disciplinary, innovative and enthusiastic team.
- Knowledge of Kannada language will be an asset.
- Good English language skills
- Computer skills

### Terms of Reference

- Provide technical and administrative support to Gram Panchayats (GPs) in preparation/ development and submission of a Six-years Water Security Plans and water budgeting;
- Develop training manuals for building awareness on the current status of groundwater development in local language / dialect.
- Develop community communication Strategy and recommendations for increasing the awareness of the consequences of depleting ground water resources and other water related issues;
- Develop training manuals for formation of community institutions, with their roles and responsibilities in contributing to improvement in ground water levels;
- Prepare a training and capacity building strategy, training methodology and modules for collection of Base-line data at GP level;
- Provide training and handholding support to SOs recruited to assist GPs in collection of baseline data for preparation of water security plans;
- Develop Cultural tools for communicating with the people on water issues;
- Develop training Curriculum for volunteers on Participatory Ground water data gathering;
- Prepare manuals, templates on administrative and financial matters to be followed by SOs;
- Carry out necessary training for stakeholders/partners Carry out gender assessment studies to ensure gender equality in decision making related to water, agriculture;
- Develop participatory baseline report on overall Groundwater Management (both supply and demand side including institutional mechanism);
- Develop manuals on functioning of GPs/village institutions on groundwater management
- Carry out content analysis of community institution meetings;
- Supervise Implementation of Water Budgeting inputs in GPs' program implementation;

- Support the State level SPV/PIU in the nodal department to consolidate the Water Security plans, along with cost estimates for State Level Steering Committee (SLSC) for approval, and submission thereon to MoWR for approval;
- Prepare Annual Work Plans and budgetary requirements based on the approved Water Security Plan for the state;
- Develop procurement training material and carry out procurement training;
- Support the SOs to establish a GP level Implementation team (comprising line department professionals) to work with community level institutions
- Coordinate timely inputs from SOs to help State Implementation/Nodal Agency prepare State level overall implementation plan for their monitoring and evaluation
- Organise and provide logistic support for workshops/seminars and in-service training
- Facilitate human resource development activities, including project staff and farmers.
- Ensure social and gender sensitivity in program implementation;
- Coordinate with all relevant line departments in the state – as directed by the Program Director from time to time;
- Any other work as assigned by the Program Director of the State Implementing agency.

## **9. Gender Specialist**

### Job Description:

- Carry out linkage building activities between the GP and institutions specializing in gender based interventions, at the state;
- support the Team in developing a sustainable community based institutional mechanism for equal participation of men and women in preparation of Water Security Plans, Water budgeting, program implementation and IEC campaigns;
- Contribute inputs for semi-annual progress reports, in consultation with other members;
- Conduct regular field visits to support DPIUs and SOs in ensuring social inclusion of women in the program

### Minimum Qualification Requirements:

- Post Graduate in Sociology or other similar subjects; with at least 6 years of experience in main streaming gender in various sectors - preferably water sector with sound technical knowledge on generation of gender study tools including data collection, analysis and compilation of study reports; grass-roots experience, especially working with farmers and civil society organizations – preferred

- Strong communication, presentation, interpersonal and counseling skills, and MS Office proficiency.
- Strong analytical and report writing skills are required.
- Ability and willingness to participate in a multi-disciplinary, innovative and enthusiastic team.
- Knowledge of Kannada language will be an asset.
- Good English language skills
- Computer skills

### Terms of Reference

- Provide technical and administrative support to Gram Panchayats (GPs) in preparation/ development and submission of a Six-years Water Security Plans and water budgeting;
- Develop training manuals for building awareness on the current status of groundwater development in local language / dialect.
- Develop community communication Strategy and recommendations for increasing the awareness of the consequences of depleting ground water resources and other water related issues;
- Develop training manuals for formation of community institutions, with their roles and responsibilities in contributing to improvement in ground water levels;
- Prepare a training and capacity building strategy, training methodology and modules for collection of Base-line data at GP level;
- Provide training and handholding support to SOs recruited to assist GPs in collection of baseline data for preparation of water security plans;
- Develop Cultural tools for communicating with the people on water issues;
- Develop training Curriculum for volunteers on Participatory Ground water data gathering;
- Carry out necessary training for stakeholders/partners Carry out gender assessment studies to ensure gender equality in decision making related to water, agriculture;
- Develop participatory baseline report on overall Groundwater Management (both supply and demand side including institutional mechanism);
- Develop manuals on functioning of GPs/village institutions on groundwater management
- Carry out content analysis of community institution meetings;
- Develop toolkit for Mainstreaming Gender participation in groundwater management;
- Supervise Implementation of Water Budgeting inputs in GPs' program implementation;
- Support the State level SPV/PIU in the nodal department to consolidate the Water Security plans, along with cost estimates for State Level Steering Committee (SLSC) for approval, and submission thereon to MoWR for approval;

- Prepare Annual Work Plans and budgetary requirements based on the approved Water Security Plan for the state;
- Support the SOs to establish a GP level Implementation team (comprising line department professionals) to work with community level institutions
- Coordinate timely inputs from SOs to help State Implementation/Nodal Agency prepare State level overall implementation plan for their monitoring and evaluation
- Facilitate human resource development activities, including project staff and farmers.
- Ensure social and gender sensitivity in program implementation;
- Coordinate with all relevant line departments in the state – as directed by the Program Director from time to time;
- Any other work as assigned by the Program Director of the State Implementing agency.

## **10. GIS and IT Expert**

### Job Description:

- Advising the Project Management on procurement of the right GIS Software and Hardware.
- Advising the Project Management on procurement of relevant spatial as well as numerical information, including the satellite data (both the digital as well as hard copy versions).
- Establishing GIS stations, at each DPIU;
- Training (both formal and on-job) the project personnel in application, operation and maintenance of GIS technologies;
- Support DPIUs, SOs, GPs to encourage farmers and other working groups at the grass-root levels towards use of GIS technologies for Groundwater Management;
- Creating the GIS data base for Hydrological Units in the GP clusters identified
- Utilization of Village Cadastral Maps, falling within the Hydrological Unit Clusters
- Prepare Technical Reports, in consultation with the Subject Expert and provide inputs for semi-annual progress reports.

### Minimum Qualification Requirements:

- Post graduate in Information Technologies with specialization in Remote Sensing and GIS applications and various IT software;
- Should have at least 8 years' experience in working in development of various GIS applications for monitoring environment projects; sound technical knowledge on data procurement (satellite, published maps and databases), generation of thematic maps, training and handholding junior professionals; must have experience in working with multi-disciplinary teams for at least 5 years;

- Strong communication, presentation, interpersonal and counseling skills, and MS Office proficiency.
- Strong analytical and report writing skills are required.
- Ability and willingness to participate in a multi-disciplinary, innovative and enthusiastic team.
- Knowledge of Kannada language will be an asset.
- Good English language skills
- Computer skills

### Terms of Reference

- Provide technical and administrative support to Gram Panchayats (GPs) in preparation/ development and submission of a Six-years Water Security Plans and water budgeting;
- Develop training manuals for building awareness on the current status of groundwater development in local language / dialect.
- Prepare a training and capacity building strategy, training methodology and modules for collection of Base-line data at GP level;
- Data collection and management, which essentially includes baseline and monitoring data pertaining to
  - a) water level,
  - b) rainfall and groundwater recharge,
  - c) well discharge and aquifer-wise & season-wise groundwater draft,
  - d) water Budget,
  - e) cropping pattern and seasonal crop water requirement,
  - f) socio-economic framework and g) water use efficiency;
- Provide training and handholding support to SOs recruited to assist GPs in collection of baseline data for preparation of water security plans;
- Prepare combined technical manuals for groundwater data gathering, water budgeting exercise and water balance estimation;
- Develop training Curriculum for volunteers on Participatory Ground water data gathering;
- Develop participatory baseline report on overall Groundwater Management (both supply and demand side including institutional mechanism);
- Design and implement PGWM data entry and analysis software for preparation of “Sujal-Card”;
- Develop toolkit for Mainstreaming Gender participation in groundwater management;
- Supervise Implementation of Water Budgeting inputs in GPs’ program implementation;
- Support the State level SPV/PIU in the nodal department to consolidate the Water Security plans, along with cost estimates for State Level Steering Committee (SLSC) for approval, and submission thereon to MoWR for approval;
- Prepare Annual Work Plans and budgetary requirements based on the approved Water Security Plan for the state;
- Back-office systems for management of procurement activities;

- Coordinate timely inputs from SOs to help State Implementation/Nodal Agency prepare State level overall implementation plan for their monitoring and evaluation
- Facilitate human resource development activities, including project staff and farmers.
- Consolidate quarterly reports submitted by project partners and submit the same to PIU for its review and course of action;
- Provide support to monitor project expenditure, through GP level project implementation mechanisms.
- Support in preparation of periodic financial progress and analytical reports;
- Ensure social and gender sensitivity in program implementation;
- Process budget revisions linked with project work plans.
- Support the State in Developing equipment and asset inventory system to record and maintain equipment/assets.
- Coordinate with all relevant line departments in the state – as directed by the Program Director from time to time;
- Any other work as assigned by the Program Director of the State Implementing agency.

**Deliverables:**

Following are the minimum deliverables from the national consultants in addition to any solicited by the Director, PIU

<b>Deliverable /Report</b>	<b>Description</b>	<b>Time-frame</b>
Inception report	Report containing need analysis, design methodology, instruments, field procedures and quality control plan	3 months from signing of LoA
Annual Work Plan & Budget	Compile at the state level based on the outcome of GP, block, and district level Annual Plan and Budget Workshops.	30 <sup>th</sup> March, every year
Half-yearly reports	Draft and final versions of the design of M&E system for each subcomponent/component as laid out in GP level Water Security Plans clubbed at State level in a mutually agreed format or An updated report in cases where an M&E system for a subcomponent/component of the program is designed tested and launched.	April 15 <sup>th</sup> and October 15, every year
Mid-term Report	Synthesis of periodic reports, major recommendations for State Ground Water Strategy to formalize policy and regulation of the States based on the program performance and results achieved from every GP, district to State level	End of third year of implementation
Final Report	Synthesis of all work in the program, final M&E reporting. Should include final completion reports from every GP, District, and State targeted.	End of the program period
Training Report	Training packages used in training of trainers in English and in respective local language. This will change every year in terms of content, priority and level of capacity developed and to be built to achieve final outcome of the program. Details of this will be discussed and finalized as an ongoing process.	Once in every 6 months

Interested consultants will need to register on the e-procurement platform (Karnataka government) to apply. The Expression of Interest (Proposal) with all relevant documents shall be submitted electronically at [www.eproc.karnataka.gov.in](http://www.eproc.karnataka.gov.in). The closing data for uploading EOI/proposal is 02<sup>nd</sup> March 2017

Any clarification can be sought at [aciwrm2012@gmail.com](mailto:aciwrm2012@gmail.com).

Sd/-  
Superintending Engineer  
AC-IWRM