

**Neeranchal National Watershed Project**  
**Terms of Reference for Baseline Survey Consultant**  
**for Development Preliminary Project Baseline**

---

## **Background**

The Department of Land Resources (DoLR) Government of India is currently preparing the World Bank supported Neeranchal National Watershed Development Project. Neeranchal is expected to positively influence the IWMP outcomes through technical and financial support for better delivery and impacts through improved planning approaches, capacity building, coordination and convergence, and supportive research and development. The main objectives of the IWMP are to restore the ecological balance by harnessing, conserving and developing degraded natural resources such as soil, vegetative cover and water. The outcomes are prevention of soil run-off, regeneration of natural vegetation, rain water harvesting and recharging of the ground water table. This enables multi-cropping and the introduction of diverse agro-based activities, which help to provide sustainable livelihoods to the people residing in the watershed area. In addition, there is a Scheme of Technology Development, Extension and Training (TDET) is also being implemented to promote development of cost effective and proven technologies to support watershed management.

Whereas, Neeranchal is not expected to invest in field based investments and is likely to provide technical capacity building support, it is expected to positively influence the outcomes of IWMP through addressing its shortcomings that would also include environment and social related challenges of watershed programs. It is therefore, critical to closely look at the current state of affairs in the watershed sector and identify potential environmental and social issues, assess the effectiveness of the ongoing watershed programs including the IWMP, especially their outcome focus and impact on people's lives and productivity, and identify the key challenges in sustaining the investments made on watersheds. Issues related to environmental and social sustainability of these investments also need to be considered.

## **Project Description**

The preliminary **Project Development Objective** is: *Neeranchal aims to increase incomes through enhanced agricultural production and improve sustainability of natural resources through better watershed management among the people living in selected micro-watersheds in eight States, by adding value to IWMP programs through institutional reform, capacity building, the development and application of best practices, and convergence with other Government projects.*

## *Project Components*

There are four proposed project components:

### 1) Institutional Reform and Capacity Building, in DoLR and across all states

The component would be delivered across all states and strengthen the capability of key national watershed institutions, particularly the DoLR and NRAA to more effectively plan, coordinate, deliver, and monitor integrated watershed programs; undertake relevant policy and economic analyses; develop national watershed strategies; and report on national progress. Specialized training would also be provided to State Level Nodal Agencies (SLNAs), other designated watershed implementing agencies, village level extension agents, community institutions, Gram Panchayat members, watershed committees, and farmers around improved watershed management practices.

### 2) State IWMP Support and Post Project Sustainability in Focal States

In the proposed eight focal states, the component would provide intensive support for improved IWMP operations and convergence/integration with other relevant sectors and schemes. The component would strengthen the lead nodal agency responsible for integrated watershed management; pilot integrated catchment assessment and planning processes; develop comprehensive digital databases for improved and integrated watershed management planning; develop strong internal M&E tools, including MIS in the state nodal agency; pilot community-based monitoring and documentation; and support incremental costs of state PMUs related to project implementation.

### 3) National Innovation Support

The component would support: applied research studies across key thematic areas including integrated landscape management and agricultural intensification, climate smart agriculture and agriculture value chains; applying best practices and tools for basic and advanced hydrological assessment; better demand-driven technology transfer; strengthening the institutional arrangements for coordinating and delivering longer-term needs-based research identification, technology transfer, research quality assurance, and dissemination of rainfed agriculture and watershed management research.

### 4) Project Management/Implementation Support.

This component would support the operation of a national Project Management Unit (PMU) in DoLR; a comprehensive communication program; 3rd party M&E support directly tied to project activities, including baseline surveys, input and output monitoring, process monitoring, impact assessments, acquisition of necessary remote sensing images, and case studies to guide project implementation.

The project would concentrate on providing specific technical support activities, goods and incremental costs and would generally not finance major physical works. The Neeranchal investments in technical assistance would complement IWMP and its own investments in watershed planning, physical works for soil and water conservation, and alternative livelihoods through ongoing operations. Component 1 in Neeranchal addresses capacity building at central, state and local levels in addition to what IWMP already delivers. Component 2 potentially

focuses on issues that have not been considered at scale in most ongoing watershed programs and as such it may be necessary to ensure that their anticipated environmental and social impacts are included and also addressed. Component 3 is largely supporting research, development and technology transfer to support IWMP delivery, farmers, and other stakeholders. Given the technical assistance focus of the project, as at this stage it does not entail Bank direct investments on the ground (such as, water and soil conservation works, constructing check dams, erosion prevention structures etc.), there may be only minor environmental and/or social safeguards issues to be mitigated. At the same time, the project is designed to improve the capacity of DoLR and watershed institutions in participating states to better address safeguards in their IWMP.

### *Project Location*

The project would predominantly focus on selected sites in dryland areas in eight states: Andhra Pradesh, Chhattisgarh, Gujarat, Odisha, Jharkhand, Madhya Pradesh, Maharashtra, and Rajasthan. The states present a wide range of physical characteristics ranging from hilly terrain and forested highlands of central India on one hand to drier landscapes of the western India as well as four states with fairly long coastlines. The eight states also vary in terms of agro-climatic and/or agro-ecological zones with widely varying temperature and rainfall profiles. Broadly, all the states have small and marginal farmers with small sized farmlands facing the challenges of climatic variations with current low levels of resilience to climate change.

### *Need for a Consultancy to Develop Preliminary Project Baseline*

In line with the proposed project objectives, GoI and World Bank place the highest importance to undertaking effective and comprehensive monitoring and evaluation (M&E) in partnership with a range of stakeholders, including communities. A highly qualified consultant is needed to develop a baseline of relevant information to support future impact assessment based on the project's results framework of key indicators.

## **OBJECTIVES OF THE ASSIGNMENT**

The consultant will gather secondary data for a baseline against selected indicators in the project's results framework.

## **KEY DELIVERABLES, PROPOSED MILESTONES, AND REPORTING**

### *Description of Key Tasks*

**Task 1. Identify key indicators.** Consult with the DoLR Project Implementation Office and task team members of the World Bank to review key indicators where a baseline is needed from the Results Framework.

**Task 2. Prepare a methodology for data collection.** Identify data sources from reports, other data bases and the DoLR MIS for IWMP, etc.

**Task 3. Collect Data.** Gather baseline data for the selected indicators and compile into a final report.

### *Key Reports*

All documents will be delivered in hard copy (x 3) as well as in electronic form on CD-ROM or flash drive (x3) no later than 30 days after the scheduled end of the activity, or as indicated for specific cases or in specific terms of reference.

### *Facilities to be provided by Client:*

The client will facilitate access to key information available with various state government agencies, especially the MIS for the IWMP. They will also facilitate client access to relevant staff in various agencies identified and, facilitate visits for carrying out of this assignment. They will also facilitate making copies of the reports and their distribution.

### *Reporting and supervision arrangements*

In all aspects of this assignment, the consultant will report to the Project Director, Neeranchal Project, DoLR. The consultant will work in close and regular coordination with the district level project teams and any field NGOs involved in IWMP.

## **Estimated Inputs and Costs**

It is expected that the overall task will take 14 days of professional time, mainly as a desk study in Delhi. Expected costs are:

| <b>Consultancy Description</b> | <b>Person-Days</b> | <b>Rate/Day (INR)</b> | <b>Total Fees (Lakh)</b> | <b>Field Travel (Days)</b> |
|--------------------------------|--------------------|-----------------------|--------------------------|----------------------------|
| Results Framework Baseline     | 14                 | 8,000                 | 1.12                     | 0                          |

The Individual Consultants would be paid on the basis of actual working days as per work plan for the individual consultant or changes thereof approved by DoLR. Further, for field visits, the individual Consultant would be eligible for receiving reimbursement of First AC Train fare/ Apex Air fare (economy class) by Air India; reimbursement for boarding and lodging up to Rs. 3000/- per day as per actual; and reimbursement of local travel charges up to Rs. 500/- per day.

## Desired Qualification and Experience of the Consultant

### Education

- A degree in sociology, agriculture, natural resources management, etc, would be required. A working knowledge of relevant sector activities including watershed management, agriculture, forestry, horticulture, soil science, statistics, hydrology and biodiversity would be useful.

### Experience

- The successful consultant will be able to demonstrate extensive experience (at least 10 years) in India in developing baselines across a range of agriculture and natural resource based projects and programs as part of a broader M&E system.
- The successful consultant will have demonstrated high standards of collaboration with government, non-government, and private sector organizations. Experience working with multi-national and/or bi-lateral donors is a strong asset.

## SELECTION CRITERIA OF CONSULTANT

The successful Individual Consultant will be chosen based on the following criteria.

### Selection criteria

| Sl. No.       | Evaluation Criteria   | Maximum marks |
|---------------|---|---------------|
| <b>Part A</b> | <b>Evaluation Criteria for Short- listing of Applications</b>                                   |               |
| <b>a)</b>     | <b>Qualification</b>  | <b>20</b>     |
| i)            | Additional Academic Qualification beyond the minimum required                                   | 10            |
| ii)           | Any Additional Professional Qualification beyond the minimum required                           | 10            |
| <b>b)</b>     | <b>Experience<br/>(relevant expertise justifying adequacy for the assignment)</b>               | <b>60</b>     |
| i)            | Year-wise tasks completed in last three years of similar nature                                 | 15            |
| ii)           | Experience of working with Government of India and various State Governments                    | 10            |
| iii)          | Experience of working with World Bank   | 20            |
| iv)           | Works currently in hand   | 5             |
| v)            | Experience of working for any similar programme of Government of India with Multilateral Bodies | 10            |
| <b>Part-B</b> | <b>Interview - Assessment of Capability of candidate for the assignment through Interview</b>   | <b>20</b>     |
|               |   |               |
|               | <b>Total</b>  | <b>100</b>    |



TECHNICAL ANNEX 1: NEERANCHAL RESULTS FRAMEWORK AND MONITORING (DRAFT VERSION)

**Project Development Objective (PDO):** is to improve the effectiveness of the Integrated Watershed Management Program in selected micro-watersheds. This will be achieved through institutional reform, capacity building, development and application of best practices and innovation, and convergence with other government programs.

| PDO Level Results Indicators*   | Core                     | Unit of Measure | Base line | Cumulative Target Values |      |      |      |      |      | Frequency                  | Data Source/ Methodology                 | Responsibility for Data Collection | Description (indicator definition etc.)  |
|---|--------------------------|-----------------|-----------|--------------------------|------|------|------|------|------|----------------------------|--|------------------------------------|--|
|   |                          |                 |           | YR 1                     | YR 2 | YR 3 | YR 4 | YR 5 | YR 6 |                            |  |                                    |  |
| <b>Indicator One:</b> <i>Convergence and Integration in the development of Project MWSs.</i>  | <input type="checkbox"/> |                 |           |                          |      |      |      |      |      |                            |  |                                    |  |
| <ul style="list-style-type: none"> <li>Increased funds used for WSD as per MWSD plan</li> </ul>   |                          | Rs / ha         | 8150      |                          |      | 25%  | 35%  | 45%  | 50%  | Yearly, Mid term and EOP   | Annual outlay/ expenditure in WDD, NREGS | WDD/DWDO supported by M&E agency   | Incremental funds refer to shift in the way resources for SWC activities are allocated in other programs (like NREGS) to MWSD based usage.           |
| <ul style="list-style-type: none"> <li>Improved integration of resource conservation and production programmes in the MWSs<sup>1</sup></li> </ul> |                          | % of MWSs       | 0%        |                          |      | 30%  | 40%  | 50%  | 65%  | Yearly, Mid term and EOP   | Quality control reports for MWS plans.   |                                    | Quality rating based on: actual level of budget integration, targeting key SWC works in relation to MWS master plan, and stakeholders' satisfaction. |
| <ul style="list-style-type: none"> <li>Project MWSs with improved convergence and integration</li> </ul>  |                          | % of MWSs       | 0%        |                          |      | 30%  |      |      | 50%  | Mid-term and EOP           |  |                                    | Percent of project MWSs meeting the convergence and integration criteria   |
| <b>Indicator Two:</b> <i>Conservation outcomes in Project MWSs</i>  | <input type="checkbox"/> |                 |           |                          |      |      |      |      |      |                            |  |                                    |  |
| <ul style="list-style-type: none"> <li>Changes in biomass</li> </ul>  |                          | Percent         | 10%       |                          |      |      |      |      | 15%  | Baseline, Mid-term and EOP | Hydrological monitoring system; run-     | WDD, M&E agency; Communities       | Biomass to be assessed based on land cover/NDVI values derived from satellite imageries  |

|   |                          |              |  |  |     |     |  |     |     |                            |   |  |   |
|---|--------------------------|--------------|--|--|-----|-----|--|-----|-----|----------------------------|---|--|---|
| • Reduced Soil loss   |                          | t/ha/yr      |  |  |     | 10% |  |     | 15% |                            | off studies, etc  |  |   |
| <b>Indicator Three:</b> <i>Increased productivity of arable lands in Project MWSs</i> | <input type="checkbox"/> |              |  |  |     |     |  |     |     |                            |   |  |   |
| • Cereals   |                          | t/ha         |  |  |     | 15% |  |     | 25% | Baseline, Mid-term and EOP | Data from ongoing M&E for IWMP in project states; additional data acquisition as required; M&E agency | DoLR and states, supported by M&E agency | Weighted average yield of three major crops (based on area) for cereals, pulses, and vegetables. For milk, average milk yield per lactation period. |
| • Pulses  |                          | t/ha         |  |  | 10% |     |  | 20% |     |                            |   |  |   |
| • Oilseeds  |                          | t/ha         |  |  | 15% |     |  | 25% |     |                            |   |  |   |
| • Vegetables  |                          | t/ha         |  |  | 10% |     |  | 20% |     |                            |   |  |   |
| • Milk  |                          | l/ lactation |  |  | 15% |     |  | 25% |     |                            |   |  |   |

MWS-Micro watershed; MWSD-Micro watershed development; WSD-Watershed development; SWC-Soil and water conservation works; SWS-sub-watersheds; SMC-Soil and moisture conservation.

BL values will be captured once the BL survey is completed. BL values for some indicators, taken from best available secondary data sources will be revised once BL survey is done. The targets are incremental (over IWMP watersheds) for Phase-I MWSs and same applies for other phases.

<sup>1</sup>Integration of agriculture, ground water, horticulture, livestock and forestry activities into MWS master plans.

| PDO Level Results Indicators*   | Core                     | Unit of Measure              | Base line | Cumulative Target Values |      |      |      |      |      | Frequency    | Data Source/ Methodology                         | Responsibility for Data Collection | Description (indicator definition etc.)  |
|---|--------------------------|------------------------------|-----------|--------------------------|------|------|------|------|------|--------------|--|------------------------------------|--|
|   |                          |                              |           | YR 1                     | YR 2 | YR 3 | YR 4 | YR 5 | YR 6 |              |  |                                    |  |
| <b>Indicator Four:</b> New science based approaches and tools adopted into wider watershed operations | <input type="checkbox"/> | Number of approaches adopted | 0         |                          |      |      | 1    |      | 2    | Midterm, EOP | Project reports/ implementation support missions | DoLR, M&E agency                   | Two new approaches emerging out of the project are adopted into DoLR Operational manual/ guidelines: <ul style="list-style-type: none"> <li>• Hydrological assessment used as part of SWS/MWS planning, and</li> <li>• DSS models used for site</li> </ul> |



|  |                          |                         |           |                          |      |      |      |      |      |                 |  |  | land-use and agriculture potential  |
|--|--------------------------|-------------------------|-----------|--------------------------|------|------|------|------|------|-----------------|--|--|---|
| <b>Indicator Three:</b> Adoption of improved SMC and production technologies   | <input type="checkbox"/> | % of farmers            | 0         |                          |      | 30%  |      |      | 60%  | Midterm and EOP | MIS/Impact Surveys                                       | DoLR/M&E agency                          | Adoption of key scientific resource conserving, productivity-enhancing technologies that are disseminated.                                  |
| <p><b>Intermediate Result (Component Three): National Innovation Support</b></p> <p><i>Establish a coordinated research approach to provide practical knowledge and tools to support integrated watershed management</i></p> |                          |                         |           |                          |      |      |      |      |      |                 |  |  |   |
| Intermediate Level Results Indicators*   | Core                     | Unit of Measure         | Base line | Cumulative Target Values |      |      |      |      |      | Frequency       | Data Source/ Methodology                                 | Responsibility for Data Collection       | Description (indicator definition etc.)   |
|  |                          |                         |           | YR 1                     | YR 2 | YR 3 | YR 4 | YR 5 | YR 6 |                 |  |  |   |
| <b>Indicator One:</b> Hydrological monitoring systems installed and functional at community level  | <input type="checkbox"/> | Percent of MWSs covered | 0         |                          |      | 30%  | 45%  | 60%  | 75%  | Yearly          | Project reports/   | DoLR/State level/<br>Communities         | Hydrological monitoring adopted within regular WSD planning<br><br>Fully functional means the system generating data at specified intervals |
| <b>Indicator Two:</b> Improved information for farmers on climate change and risk management   | <input type="checkbox"/> | Percent of MWSs covered | 0         |                          |      | 30%  | 40%  | 50%  | 75%  | Yearly          | Annual reports /<br>Process monitoring /End user surveys | DoLR/State level/Comm unities/M&E agency | Underlying studies completed, delivery systems designed & functional, regular information flow to farmers ensured.                          |
| <b>Indicator Three:</b> Web based knowledge sharing system established for Integrated WSD and functional   | <input type="checkbox"/> | No. of States covered   | 0         |                          |      | 1    | 3    | 6    | 8    | Yearly          | Project reports.   | DoLR/State IAs , M&E agency              | Integrated WSD based knowledge sharing system is working in project states and disseminating information to the stakeholders                |
| <p><b>Intermediate Result (Component Four): Nationwide Project Implementation Support</b></p> <p><i>Ensure effective, efficient and responsive project management</i></p>  |                          |                         |           |                          |      |      |      |      |      |                 |  |  |   |
| <b>Indicator One:</b> Effective project  | <input type="checkbox"/> | Percent                 | n/a       | n/a                      | 25   | 40   | 60   | 70   | 80   | Yearly          | Project/M&E reports, MIS,                                | DoLR/State levelM&E                      | Measured based on the percent of M&E recommendations acted upon   |

|            |  |  |  |  |  |  |  |  |  |  |                        |        |  |
|------------|--|--|--|--|--|--|--|--|--|--|------------------------|--------|--|
| management |  |  |  |  |  |  |  |  |  |  | Performance scorecards | agency | during implementation to improve the effectiveness of the project. |
|------------|--|--|--|--|--|--|--|--|--|--|------------------------|--------|--|

**\*Please indicate whether the indicator is a Core Sector Indicator (see further <http://coreindicators>)**

**\*\*Target values should be entered for the years data would be available, not necessarily annually.**

**Data Needed for Base Line** (Clearly indicate the sources for each data in detail; Collect and compile the data at most disaggregated level possible):

1. Actual expenditure under IWMP by states for the nine project states (for the latest three years ending with 2012/13)
2. Proportion of actual expenditure under IWMP spent for conservation and production related works by states for the nine project states (for the latest three years ending with 2012/13)
3. Actual area treated under IWMP by states for the nine project states (for the latest three years ending with 2012/13)
4. Soil loss estimations for non-IWMP and IWMP MWSs in the nine project states (from latest available studies/documents-published and unpublished)
5. Biomass changes (Land cover changes) estimated for non-IWMP and IWMP MWSs in the nine project states (from latest available studies/documents-published and unpublished)
6. Crop area and crop yield data for major rainfed and irrigated crops (including horticulture crops) for the latest three years-
  - for the selected nine project states (for the selected MWSs or district based)
  - for non-IWMP and IWMP MWSs in the nine project states
7. Agriculture landuse data (net cropped, gross cropped, net irrigated, gross irrigated, current fallows) for the latest three years-
  - for the selected nine project states (for the selected MWSs or district based)
  - for non-IWMP and IWMP MWSs in the nine project states
8. Milk yield data for cows and/or buffaloes for the latest three years-
  - for the selected nine project states (for the selected MWSs or district based)
  - for non-IWMP and IWMP MWSs in the nine project states
9. Adoption rates of improved technologies- for crops/for soil and water conservation measures-by farmers in non-IWMP and IWMP MWSs in the nine project states (from latest available studies/documents-published and unpublished)