

SOP/ Verification Protocol for

DLI#5: Improvement/Arrest in the Rate of Decline of Groundwater Levels

1. Background

Majority of the area considered under Atal Bhujal Yojana is overexploited resulting in to significant decline in ground water level on a long-term basis. The overall goal of Atal Bhujal Yojana is to Improve/Arrest the rate of decline of groundwater Levels. It is expected that the implementation of various demand and supply side measures proposed in the WSP through participatory approach could have a significant positive impact on the groundwater level.

The improvement in ground water is manifested in terms of rise in ground water level or arrest in the declining trend. Accordingly, one of the Disbursement Linked Indicator (DLI) identified under Atal Bhujal Yojana is “Improvement in the rate of decline of groundwater levels or arrest in the rate of decline of groundwater levels (DLI#5)”. DLI#5 will incentivise the positive impact of various interventions supported under Atal Bhujal Yojana (Demand/Supply side measures) and other related program.

2. SOP / Verification Protocol

The SOP for DLI#5 baseline data fixation and verification is given below:

Table1: Baseline data fixation and verification

DLI#5	Improvement/Arrest in the rate of decline of groundwater levels.
Assessment unit for DLI#5	Gram Panchayat
Definition/Description of achievement	A Gram Panchayat is verified to have achieved DLI#5 if there is an improvement / arrest in declining trend of ground water levels as compared to the base line data
Scalability of Disbursement (Yes/No)	Yes
Data Source/Agency	Water Level Observation well (CGWB, SGWB and Atal Jal)
Verification Entity	Third Party Governmental Verification Agency TPGVA

The process of DLI#5 data collation, baseline data fixation and verification can be described under four broad steps.

Step -I: Identification of Observation wells in every Gram Panchayat.

- i. Identification of the number and location of water level observation wells for each selected Gram Panchayat for measuring DLI#5 achievements and program effectiveness. If a Gram Panchayat is having more than one observation well, then all the wells will be considered for DLI#5.
- ii. All selected Gram Panchayats under the program will be considered for DLI#5 verification.
- iii. For a Gram Panchayat to qualify for DLI#5 verification, it should have at least one observation well with minimum two data points each of pre-monsoon (April/May) and post- monsoon (October/November) for fixation of baseline data.
- iv. Where sufficient observation wells are not available, new observation wells established/Piezometers with DWLRs will be considered, provided that at least two years pre & post monsoon water level data is available.

Step II: Fixation of Base line data

- i. The observed pre-monsoon(April/May) and post-monsoon water level (October/November) in each observation well will be used for fixing the baseline separately for pre and post monsoon period.
- ii. The groundwater level baseline for observation wells shall be arrived based on the arithmetic average of available data separately for pre-monsoon and post-monsoon period.
- iii. For the wells / Piezometers fitted with DWLR having high frequency measurements, five week average of 6 hourly/ daily data shall be considered for working out the base line (average) for pre monsoon (15th April to 21st May) and post monsoon (15th October to 21st November) period for a particular year.

Step III: Year on year comparison of pre-monsoon and post-monsoon Ground water level data of reference year with baseline to arrive at number of qualifying GP showing improvement / arrest of decline in water level

- i. Each year, the pre-monsoon (April/May) and post-monsoon (October/November) groundwater level of reference year for the identified observation wells will be compared with the respective baseline data of ground water level.
- ii. In a given year, GP will be considered as achieved under DLI#5, if reference year data of groundwater level for selected observation wells i.e., pre-monsoon and post monsoon is **equal to or above** the baseline groundwater level
- iii. GPs with more than one observation well identified for DLI#5 will qualify only when more than or equal to 50% of the identified wells in the GP shows improvement during the year.
- iv. GPs can qualify for DLI#5 in multiple years.
- v. Block wise list of Gram Panchayat qualified under DLI#5 shall be prepared and shared with QCI for verification.

Step -IV: Verification of DLI#5

Verification under DLI#5 will be done in two steps, desktop and field verification.

A. Desktop Verification:

Data submitted by states shall be examined at the level of NPMU before sharing with the TPGVA for desktop verification. TPGVA will verify the water level data from the source documents provided by the states of identified observation/monitoring wells duly signed by the Project Director, SPMU.

B. Field Verification:

The observation wells identified in a GP will be physically verified by TPGVA, which may include, but not limited, to the following:

- i. Physical inspection of the observation/monitoring well and random measurement of water level, if possible.
- ii. In case well is fitted with DWLR, the data may be cross checked with the water level data captured by the digital recorder/NWIC portal.
- iii. Checking of physical record being maintained at DPMU/SPMU or available with the concerned department.

3. Incentivization under DLI#5

- i. All selected blocks under the Program will be considered for DLI#5.
- ii. Observation wells with reference year data shall be considered for baseline and verification round.

- iii. The block should have at least 8 or more observations well with minimum two data points each of pre-monsoon (April/May) and post- monsoon (October/November). All Observation well meeting the above criteria will be considered for DLI#5.
- iv. A block is verified to have achieved the DLI, if groundwater level of reference year is equal or higher in correspondence to baseline groundwater levels in at least 50% of the Observation wells in a given block.
- v. Blocks can qualify for this DLI in multiple years.

Flow chart for DLI#5

