

STATE GROUNDWATER AUTHORITY

(Constituted vide section (3) of Kerala Groundwater Control and Regulation Act, 2002, and vide Government Notification No.33125/GW1/2003/WRD dated 16th January, 2004)

Guidelines/Criteria for evaluation of proposals/requests for groundwater abstraction in Kerala

(With effect from 15.04.2018)

State Groundwater Authority
Water Resources Department,
Government of Kerala

Government of Kerala
STATE GROUNDWATER AUTHORITY
Groundwater Department, Jalavinjana Bhavan, Ambalamukku, Kowdiar P.O. Pin- 695003

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groundwater abstraction in Kerala**

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Groundwater abstraction
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1. SCOPE & OBJECTIVE

The prime objective of the guidelines for evaluation of proposals/requests for the withdrawal of groundwater, is to focus on a specific part of groundwater management viz. ensuring sustainability of groundwater both in terms of quantity & quality and also focus on land based management of groundwater resources, looking into the variations of availability of water in different climatic regions and diverse hydrogeological conditions in various districts of the state. These guidelines are proposed by Central Groundwater Authority which are modified in to the State context for implementation through State Groundwater Authority in Kerala. Explanation for different technical terms used in this document are given in Annexure I.

The annual replenishable groundwater resources availability plays an important role in defining these guidelines. These are re-assessed from time to time and the latest assessment, as applicable to these guidelines is available on www.cgwb.gov.in and www.groundwater.kerala.gov.in

The latest assessment of the state wise groundwater resources as on 31.03.2013 is applicable to these guidelines. As per the dynamic groundwater resource estimates of 2013, jointly carried out by CGWB and SGWD out of the 152 assessment units (Blocks), 1 is over-exploited, 2 critical units, 23 semi-critical units, other 126 blocks are categorised as safe units. The Annual replenishable groundwater resources have been estimated as 6.69 Billion Cubic Metres (BCM). The Net Groundwater Availability is 6.07 BCM and the overall stage of groundwater development of the State is 47%. The present guidelines will follow the assessment as on GWRE 2013 till it is revised and officially notified.

State Groundwater Authority (SGWA) so far has notified five block in Kerala as per G.O (P) No.58/2005/WRD dated 19.11.2005 for the purpose of regulation of groundwater development. More areas notified periodically will be up dated in to the list as applicable to these guidelines.

The District Administrative Heads (District Collector) have been appointed as Authorized Officers by State Groundwater Authority to evaluate proposals as per G.O (Rt) No. 1211/WRD dated 31.10.2009 for the Regulation of Groundwater development for various industrial and infrastructure development projects in each district

The District administrative heads assisted by the District Level Evaluation Committees (DLEC) in each district under the provisions; checking violations, sealing of groundwater abstraction structures, launching of prosecution against offenders, attending to complaints, etc., as reported by the District officers of GWD in the notified areas. The granting of NOC in the notified areas except for the list of Industries and Infrastructure projects annexed in these guidelines shall be exercised by the District Officers of Groundwater Department, whereas in the non-notified areas the same along with the other cases are to be carried out by the District officers of GWD based on the study report of a Groundwater Scientist.

These guidelines supersede all the earlier guidelines with effect from 15.04.2018. The

guidelines for abstraction of groundwater in Notified/Non-Notified areas for various users are given below.

2. NOTIFIED AREAS

Grant of permission for the construction of a new well and conversion of an existing well; only for drinking and domestic purpose shall be carried out by the District officers of GWD and the NOC to abstract groundwater through any energized means will not be accorded for any purpose other than drinking water. In all other cases except the above, if any required, the permission would be granted by the direction of the Authorised Officer in consultation with the District Level Evaluation Committee constituted for this purpose. The permission shall be given for conversion of existing abstractions and construction of new abstractions and NOC shall be given for groundwater extraction in the prescribed form. The list of notified areas, are given in Annexure II and also available on the web-site (www.groundwater.kerala.gov.in).

2.1. Drinking & Domestic purposes:

Permit for construction of groundwater abstraction structures/ replacement of existing defunct well and NOC for conversion of existing well can be accorded only for drinking and domestic purposes. The existing Building rules and CRZ rules are also applicable to such cases. The Government water supplying agencies should be accorded Permit and NOC as per their requirements. Permits and NOC for infrastructure projects will be considered only after issue of completion certificate from competent Authority as per Govt. norms for drinking and domestic purposes. NOC for groundwater withdrawal will be considered only if Water Supplying Department is not providing adequate water in the area/premises. Proof for this is to be produced from the concerned authority by the applicant.

2.1.1. Individual households

The conditions for granting the Permit and NOC to individual households in notified areas are given below:

- a. Permission to be granted only for such cases where public water supply system does not exist. The permission shall be valid only till such time there is no public water supply provided. In that case, the abstraction structure shall be exclusively utilized for artificial recharge to groundwater or sealed.
- b. A certificate from the water supply agency regarding non-availability of government water supply to the area/individual is to be submitted by the applicant.
- c. The premises should have only one groundwater abstraction structure (either existing or new) to meet the drinking and domestic requirements. No tube-well/bore-well/filter-point well will be constructed, if any working tube-well/bore-well/filter point well already exists. In case the existing well has become non-functional and is to be replaced, it should be converted into recharge well, if possible or, properly sealed and no water be pumped from it. An undertaking as per Annexure III is to be submitted by individual.
- d. The person(s) intending to construct a new tube-well/bore-well/filter point-well through a private agency shall seek permission from the District officer, GWD and also obtain other statutory clearances if necessary and intimate the same to the District officer GWD/Authorized officer/ Local Bodies, at least 15 days in advance along with the name and address of the approved drilling agency, which will undertake the construction of the abstraction structure. Authorities/Nodal Agency can ask the user to supply additional information.
- e. The maximum diameter of the bore-well should be restricted to 4.5 inches only, in case of tube-well it should be 6 inch only and the capacity of the pump should not exceed 1HP. In case of deep water level (>100m) the capacity of the pump/diameter of the structure will be decided by the Authority based on site specific recommendations.
- f. well/bore-well/filter point-well shall undertake artificial recharge to groundwater through rainwater

harvesting in the premises. The prescribed norms as per the Building Rules applicable to all cases and should be verified by the Local bodies. The exemptions to the above should be obtained from the District officer, Groundwater Department based on the report of a Groundwater Scientist.

- g. The water from the tube-well/bore-well/filter point well will be used exclusively for drinking and domestic purposes only within the premises.
- h. All details of the drilling like rock formations encountered, the depth and diameter of the constructed tube-well, (Fracture zones encountered/zones tapped) type of pipes used in tube well, yield of bore well/tube well and groundwater quality etc., shall be kept for record and are to be provided at the time of inspection.
- i. Any violation of the above conditions will be dealt under the provisions of Groundwater control and Regulation Act 2002.

2. 1. 2. Other than Individual households

The list of infrastructure projects, other than individual households is given in Annexure IV. The conditions for granting the NOC to such categories in notified areas are given below.

- a. The construction of any groundwater abstraction structure shall be based on a feasibility study and issue of permit by the District Officer Groundwater Department.
- b. There should be a minimum spacing of 500m for the Groundwater abstraction for Government water supply agencies and exceptions to this should be obtained from the Authorised officer through the approval of DLEC based on the study report of a Groundwater Scientist.
- c. Maximum diameter of the groundwater abstraction structures should be restricted to 150 mm (6 inches) only and capacity of the pump should not exceed 2 HP. In case of tube wells/bore wells for Government water supply agencies, housing societies, the well size/dia. & HP of prime mover can be more depending on the groundwater availability and requirement. The Authorised officer in consultation with the advisory committee would decide on standards for the area.
- d. Concurrent with the construction of groundwater abstraction structures, the organization shall undertake artificial recharge to groundwater through rain water harvesting structure in the premises within 45 days of issuance of NOC and shall confirm to the Authorized officer (chairman of DLEC) with intimation to the District officer, GWD (convenor of DLEC).
- e. Water meter installation in the abstraction structure is mandatory and confirmation of water meter installation shall be given to the Authorized Officer with a copy to the District Officer, GWD. A separate energy meter also to be installed based on the NOC and should be maintained as per the instruction as required.
- f. The water from the groundwater abstraction structures shall be used only for drinking and domestic purposes.
- g. All details of the drilling like location of well (Lat./Long.), formations encountered, the depth and diameter of the constructed groundwater abstraction structures, type of pipes used, yield of bore well/ tube well/ filter point-well (fracture zones encountered/zones tapped) and groundwater quality, etc. have to be furnished to District officer of GWD within 90 days of the completion of the construction by the approved drilling agency.
- f. The permission for the construction of groundwater abstraction structure would be valid for a period of six months from the date of issue of Permit. If the structure is not constructed within validity period, the Permit would be deemed to have been cancelled.
- g. The Permit and NOC issued would be non-transferable.

- h. Permit to be granted only for such cases where public water supply system does not exist. The permission shall be valid only till such time, there is no public water supply provided. In that case, the abstraction structure shall be exclusively utilized for artificial recharge to groundwater or sealed.
- i. Any violation of the above conditions will attract legal action under the provisions of Groundwater Control and Regulation Act 2002

In case if the notified areas are de-notified subsequently, the conditions pertaining to “non-notified areas” shall be followed for new projects, but for the existing projects the restrictions will be continued for another three years or till the renewal of NOC whichever is earlier

3. NON-NOTIFIED AREAS

Permission for the construction of groundwater abstraction structures and NOC for withdrawal of Groundwater in the non-notified areas will be considered for Industries /Infrastructure / Mining projects as per the criteria given below.

3. 1. Criteria for Industries/Infrastructure/Mining Projects

3. 1. 1. Industries:

Safe	Major and Medium Industries to recycle and reuse at least 30%of the waste water	NOC is required for groundwater withdrawal subject to adoption of artificial recharge to groundwater
Semi-critical	Major and Medium Industries to recycle and reuse at least 40% of the waste water	Withdrawal may be permitted subject to undertaking of groundwater recharge measures. The withdrawal should not exceed 200% of the recharged quantity
Critical	Major and Medium industries should fully recycle and reuse at least 75% of the waste water	Withdrawal may be permitted subject to undertaking of groundwater recharge measures. The withdrawal should not exceed 100% of the recharged quantity
Over-exploited	All industries to fully recycle and reuse the waste water	Withdrawal may be permitted subject to undertaking of groundwater recharge measures. The withdrawal should not exceed 50% of the recharged quantity

Refer section 3.1.1.b for recharge criteria for Water Intensive Industry

**The groundwater recharge should be implemented within the premises and/or same watershed/ assessment unit. Detailed project proposal shall be included along with the application of NOC for groundwater withdrawal.

- a. Feasibility report for the construction for groundwater abstraction shall be considered by the District Officer, only after the approval of Industrial/Building Permit issued by the competent Authority as per Govt. norms.
- b. The withdrawal of Groundwater for the construction purpose should be approved by the DLEC based on scientific assessment and pumping test studies.
- c. Proponents are to submit a status report stating the quantum of water required and the quantity that would be provided by the Government Water Supplying agency. This should be supported by a letter from the agency

3.1.1. (b). Water Intensive Industries

Industries using groundwater as raw material/water intensive industries shall not be granted NOC for groundwater withdrawal in over exploited and notified areas. A list of different industries categorised as water intensive is given in Annexure V. In Safe, Semi-Critical & Critical areas NOC for groundwater withdrawal is mandatory for these industries as per Section 3.1. However, groundwater withdrawal will be limited as follows:

Category	Groundwater Withdrawal Limit
Safe	Withdrawal limited to 200% of ground water recharge.
Semi- Critical	Withdrawal limited to 100% of ground water recharge.
Critical	Withdrawal limited to 50% of ground water recharge.
Over- Exploited	No permission for Industries under this category

3. 1. 2. Infrastructure projects

The application for the infrastructure projects would be considered depending on the type of infrastructure project as per the Annexure IV.

- a. Feasibility for the construction for groundwater abstraction shall be considered only after the approval of Building Permit by the competent Authority as per Govt. norms.
- b. NOC for the withdrawal of Groundwater for the construction purpose should be approved by the DLEC based on scientific assessment and pumping test studies.
- c. Rainwater Harvesting/Groundwater Recharging arrangements as per the completion plan of the Building shall be verified by a Groundwater Scientist and should be properly endorsed in the completion Plan submitted before the local Authority upon completion.
- d. Proponents are to submit a status report stating the quantum of water required and the quantity that would be provided by the Government Water Supplying agency. This should be supported by a letter from the agency
- e. Conjunctive use of Groundwater alone shall be permitted if Water Supplying Agency in the area is not providing adequate water in the area/premises for which a proof from the concerned Authority is to be produced by the applicant
- f. The quantum of groundwater for usage other than drinking/ domestic shall not exceed 25% of total groundwater abstraction in case of Housing projects/Residential Townships.
- g. Run-off from the entire project area is to be utilized either for artificial recharge to groundwater unless risk of contamination exists or area is water logged or for storage for utilization or both.

3.1.3. Mining and De-watering projects

Abstraction of ground water by mining industries intersecting water table for de-watering of mine pit water, and de- watering groundwater for basement construction of buildings, levelling of ground etc., may be permitted subject to the following conditions.

- a. Conditions for recharge and recycle/reuse would be similar to those given in case of industries for withdrawal of groundwater (Section 3.1). Project proponent has to submit mining plan with mine seepage computation/modelling studies carried out by them.
- b. The de-watered quantum of water is to be put to gainful use. This may include water supply and provide to water supply agencies, agriculture, dust suppression by the industry, utilization

by the mining industry, utilization for artificial recharge to groundwater, etc.

c. Piezometers for monitoring the groundwater level of de-watered aquifers are to be mandatorily installed within the premises and in peripheral areas having adequate depth range. The record/logbook of water level data be maintained and to be provided periodically or whenever demanded by the regulating agency.

d. Wherever the mines/de-watering project is situated in the coastal area special care should be taken to prevent sea water ingress. This should be supported by a technical evaluation report.

e. In case of mining projects detailed and continuous study on the ground water regime, including groundwater modelling should be carried out and the results should be submitted to the District officer GWD quarterly and shall in turn handed over CGWB regional office.

f. In case if ground is trenched beyond 2m from the existing ground level for basement construction or removal of 2m overburden to level the ground, clearance from Groundwater Department should be obtained and submitted along with building plan for approval.

4. CHANGE IN LAND USE

Industries/ Infrastructure/Mining projects coming up in agricultural land or any other land after change in land use including abandoned stone quarry and mine pits shall have to submit all documents endorsing the change of land use from competent authority. Withdrawal of ground water from existing abstraction structures, if any, after change in land use in the area can be done only after approval from the State Groundwater Authority. Cases would be processed as per changed land use.

5. OTHER CONDITIONS (Applicable for all cases):

- a) No application for construction of a new Groundwater abstraction structure/NOC for withdrawal of Groundwater shall be entertained without referral letters from the statutory authority (Local Bodies, State Govt. Departments or Agencies like State Pollution Control Board, Industries Department, Local Development Authorities etc.).
- b) The referral letter shall contain verification on the quantum of water for the industry/project with detailed break up of groundwater consumption, recycle & reuse of the waste water, so that the wastage of the precious resource can be avoided. In case this is not given by the referral authority, applicant should obtain a letter from the Industries Dept./Project Sanctioning Authority/ local Bodies on the same lines.
- c) The Industries/Infrastructure projects that are not listed in the Annexure IV and V shall be given NOC for withdrawal of Groundwater based on self-declaration, if the use of Groundwater is within 2500lpd provided they belongs to non-polluting category. A certificate in this regard should be submitted along with the application either from Industries Department/KSPCB/Local Bodies or from any other competent Authority.
- d) For all limited Groundwater extraction projects Pumping tests are exempted, but the applicant should apply for Certificate of Registration as a User of Groundwater and should install a separate flow meter and maintain a log book to quantify the limits of extraction. The certificate is valid for three years.

- e) Non-compliance of conditions mentioned in the NOC may be taken as sufficient reason for cancellation of NOC accorded/ non-renewal of NOC.
- f) NOC issued is non-transferable.
- g) In case of any delay in executing the project for bonafide reasons within the set time, for which NOC has been granted, the firm shall apply to SGWA for extension. SGWA may consider extension based on its merits. Any proposal to extend the validity of NOC would be considered for a similar period with recharge conditions applicable as per guidelines in force, provided no groundwater abstraction has been made.
- h) Sale and supply of raw/unprocessed/untreated groundwater by unauthorized agencies for commercial use is not permitted.
- i) The CRZA rules and Building rules and regulation shall be applicable wherever in vogue.
- j) No permission required for withdrawal of groundwater from any area if withdrawal is done through non-energized means irrespective of the type of well, but grant of permission for construction of abstraction structures as stipulated in the Building rules applicable to all cases except for industrial and Infrastructure projects.
- k) Mandatory clause on Artificial Recharge to groundwater may be relaxed in case of water logged/shallow water level (< 5 m bgl during pre-monsoon) areas based on the report of a Groundwater Scientist
- l) Relaxation in the quantity of groundwater withdrawal in over-exploited areas, and/or quantity of recharge being affected by the firm can be permitted by SGWA if it feels it absolutely necessary in public interest.
- m) The artificial Groundwater Recharge proposals are required to be vetted by a Groundwater Scientist either of State/Centre.
- n) Treated water shall not be used for recharge to groundwater, since it may contain heavy metals & other toxic elements. The treated waters shall be fully used by the proponent or any other agency, who can utilize it without contaminating the underlying aquifer / water bodies.
- o) The State Groundwater Authority (SGWA) shall send a quarterly progress report to CGWA for records for all the regulations as per the guidelines
- p) Building rules and Regulations for groundwater development through open wells/bore wells/tube wells/ filter points wells shall be applicable only for drinking and domestic purposes
- q) Abstraction structure should be located inside the premises of project property.
- r) The general guidelines for the groundwater level monitoring and construction of piezometers for this purpose are annexed as Annexure VI.

6. ISSUANCE/ RENEWAL OF NOC

- a) NOC will be accorded in non-notified areas for a period of three years initially and will be renewed for the next two years, subject to compliance of conditions mentioned in the NOC. Thereafter, NOC's shall be renewed every five years subject to the compliance of the conditions mentioned in the renewed NOC

- b) Renewal of NOC's issued earlier to industries/projects in non-notified areas and where the area has subsequently become notified, will be done by DLEC except for water Intensive Industries. In case of water intensive industries the SGWA shall carry out the renewal of NOC for every two (2) years. The District officers will forward the application to the SGWA with concerned recommendation of DLEC for approval.
- c) In case of change in category of the area, renewals would be granted with conditions as laid down for such new category areas. In case it is difficult to comply with the conditions the applicant should satisfy the authority for granting exemption/alternative measure. The condition of recharge may be relaxed for OE blocks at par with Critical blocks and for Critical blocks at par with semi-critical blocks.
- d) In case it is found that some of the conditions stipulated during the issuance of NOC have not been implemented in certain localities it may be relaxed by SGWA based on the recommendations of the concerned DLEC for specific areas as per site specific condition.
- e) Categorization of certain industries as 'Water intensive industry' have been made with effect from 15.04.2018. Since then groundwater withdrawal by such industries is not permitted in OE areas. Renewal of NOC for those water intensive industries to which NOC was issued for groundwater withdrawal prior to 15.04.2018 and are now falling in Over- exploited and Notified areas will be done by SGWA initially for two years and subsequently for every three years. For Notified areas, the District officer shall forward his recommendations to SGWA with recommendations of DLEC. The renewal would be limited to 50% of the recharge quantity or the earlier permitted quantity whichever is less.
- f) Processing fee prescribed if any, from time to time shall be charged for issuance and renewal of NOC and the same shall issue in Form No.11.

7. ISSUANCE OF NOC TO EXISTING INDUSTRIES

All existing Industries/ infrastructure projects which are drawing groundwater and have not obtained NOC for groundwater withdrawal from State Groundwater Authority, either due to its coming into existence prior to formation of DLEC or due to exemption from obtaining NOC as per earlier guidelines, shall apply to SGWA for NOC for ground water withdrawal with immediate effect. The application has to be submitted online. The grant of NOC would be considered as per prevailing guidelines.

It would be mandatory for these industries/projects to submit water quality report of effluents, if any, vetted by PCB. The industry/project should have valid EC or 'consent to operate' under water act or referral letter issued by the Local Bodies.

8. PROCESSING FEE

A Processing fee* of Rs. 1000/- as per new NOC and Rs. 500/- per renewal of NOC shall be applicable for issuance of NOC or its renewal. For limited Groundwater extraction projects a fee of Rs.500/- per new certificate and Rs.250/- per renewal shall be applicable for obtaining Certificate as User of Groundwater.

Note: * are subject to modification from time to time