

FUNCTIONS OF GWD, RAJASTHAN

1 DRILLING WORK

One of the deptt's. function is Construction of Tubewells & Handpumps for Government, Semi Government and for public in Hard Rock and Alluvium Strata by departmental drilling rigs - Rotary, DTH & Combination (1- Combination Drilling Rig, 3 - Heavy Duty DTH drilling rigs, 27 - Rotary Drilling Rigs, 9 - Hand pump drilling DTH rigs, Development Units, Pump Units, Welding and generating sets, etc.), on the rates prescribed by the Government of Rajasthan. The work of construction of tube wells and hand pumps as carried out by department is quality work, compared to the work of other private entrepreneur / rig owner / operator due to following facts :

- a Free of cost feasibility report and site selection for bore wells by experienced and expert Hydro-geological and geophysical survey as per requirement.
- b Deployment of technically suitable and capable drilling rig as per recommendation of Hydrogeologist and field experience of Engineers and technical staff of the department.
- c Availability of proper type of drilling rig including imported drilling rigs having all the required accessories, tools and equipments to handle critical cases of drilling.
- d Availability of all the required accessories and equipments to bail out any kind of drilling accident with fishing experts.
- e Capacity to drill the bore-wells in cumbersome conditions of drilling like mud loss, cavity, collapsible formation, hard strata with detrimental rates of drilling.
- F Proper Assembly designing from expert hydrogeologists to tap good quality of ground water with optimum discharge.
- g Well Logging of borewells as per requirement through loggers and expert geophysicist (on the rates, approved by the Government)
- h Cement sealing and Plugging in borewells as per requirement, technically assessed by expert engineers of the department.
- i Proper gravel packing and development of bore wells to obtain optimum yield from the borewell.
- j Pumping test as per requirement for proper selection of pump and depth to which pump to be lowered.
- k Use of ISI marked IS:4270 & IS:1239 standard MS Pipes of different size having recommended thickness of pipes to increase the life of borewell.
- l Facility of telescopic drilling with different size of bits
- m Use of strainers (slotted pipes) having open area of 15 to 20% placed against the aquifer as per assembly design and requirement.
- n Availability of service, after sales to attend complaints.
- o Facility of chemical analysis of ground water, free of cost for tubewells constructed by department, through fully equipped chemical

laboratories and experienced chemists.

- p Proper maintenance of data of borewells drilled by the department, and their use in hydrogeological survey and research.
- q All the rules and regulations are observed in construction of borewells.
- r Provide facilities in situation of emergencies and crisis.

2 BLASTING WORK

Department conducts work of blasting by the departmental, blasting units - 30 units in south Rajasthan for deepening of wells of tribal & schedule caste farmers on 100% subsidy schemes (TADA, MADA, SCP, SST, SAHARIYA VIKAS), run by the concerned department like TAD, SCDC and Zila Parishads. The work of deepening of wells through blasting in hard rock areas of the state is being implemented where blasting is the only solution to provide availability of ground water for drinking as well as minor irrigation. The schemes of deepening of wells by blasting is very popular & useful for these areas farmers (marginal & small-marginal farmers) to fulfill their minimum requirement of ground water in a traditional manner for survival of life. This scheme serves as a lifeline for poor families. The work of blasting is also done on cash basis to any farmer or party at the rates, prescribed by the Government of Rajasthan. Use of blasting units in excavation work for road construction dam construction, canal construction etc. for govt. semi govt. and for private people is available in the department.

3 HYDROGEOLOGICAL SURVEY & GROUND WATER ASSESMENT

It is one of the most important function of the department, which is imperative for development of the state in each sector. Department has a network of ground water monitoring stations in the entire Rajasthan which includes wells and piezometers [termed as District Key Well (DKW)] and regular monitoring of these monitoring stations is done by departmental hydrogeologist, every year which includes pre- monsoon and post - monsoon monitoring. Based on the data of ground water monitoring, rainfall, crops and other data, department prepares annual ground water assessment report, considering block, a unit for entire Rajasthan as well as district wise. This assessment report is prepared on the basis of Ground Water Estimation Committee (GEC) guidelines issued by CGWA and as per requirement / direction of CGWB the report is re-examined and checked by CGWB after which report is presented before State Level Ground Water Assessment Committee which approve the report and it becomes part of ground water assessment report of that particular year for India. This report is widely used in many sectors like planning, economic, industrial, agriculture, drinking water, infrastructure development etc. Apart from this report, department interpret the data of pre - monsoon survey to identify critical areas for drinking water crisis in summer and this interpretation is helpful for PHED to plan the contingency schemes for drinking water supply in summer or in case

of delayed/deferred monsoon. This function of the department is an asset for the entire state and is available for various stakeholders as a service lucrative to the peoples of the state, free of cost.

4 IDENTIFICATION OF GROUND WATER SOURCE FOR DRINKING WATER

As per requirement of any government department, specifically for PHED, department has identified feasible sources of ground water for construction of ground water abstraction units to meet drinking water supply requirements, or to face crisis in particular area. This function is done free of cost to the government departments/ organizations by expert hydrogeologist and geophysicists, using different hydrogeological and geophysical techniques and instruments

5 CONCEPT DESIGN FOR RAIN WATER HARVESTING STRUCTURES

Department also provide concept design for construction of rain water harvesting structures to the govt. / semi govt. and peoples of the State as per requirement without any fee or cost. These structures include Roof Top Rain Water Harvesting Structures (RTRWHS), Construction of Sub - Surface Barrier, Anicuts, Tanka, Storm Water Harvesting Structures etc.

6 GROUND WATER QUALITY ANALYSIS AND MONITORING

Department collects water samples from ground water monitoring stations every year in pre - and post - monsoon and chemical analysis of these samples is done in departmental chemical laboratories and variation in quality of ground water with the depletion of ground water level is also interpreted and analyzed and is made available to the end users

7 IEC ACTIVITIES

Department also plays important role for mass awareness of the State about gruesome situation of ground water through IEC activities like distribution of pamphlets / brochures, convening workshops etc.

8 IMPLEMENTATION OF GROUND WATER MANAGEMENT THROUGH COMMUNITY PARTICIPATION

Department is also working in the sector of ground water management through community participation in the entire state. The department has successfully implemented Rajasthan Water Sector Restructuring Project in three pilot areas namely Osian – Mandore in Jodhpur district, Piprali in Sikar district and Khamnor in Rajsamand district. Like wise many management activities has been incorporated in European Union – State Partnership Programme (EU – SPP) and the project still continues. Under World Bank aided Rajasthan Agriculture Competitiveness Programme (RACP) work in three sectors is going on.