BY ADJUSTABLE CAPACITY OF PUMP 24 X 7 WATER SUPPLY BY USING EXISTING RESOURCES

Dharane Sidramappa Shivashaankar
Assistant Professor in Civil Engineering Department SVERI’s College of Engineering Pandharpaur, Maharashtra India

Patil Raobahdur Yashwant
Assistant Engineer Grade I, Public Works Projects (pvt) Subdivision Pune, Maharashtra, India

ABSTRACT

24 x 7 water supply is possible by existing resources. In India there are so many bore wells (tube wells) which are not working effectively because of its small supply of water (i.e. inlet discharge) due to summer, drought or any other reason. This small supply of water can be used effectively for various purposes such as domestic, industrial, agriculture etc. with sound technical knowledge. This small supply of water can be used effectively by designing proper capacity of pump, pipe diameter and by using one regulatory valve. Also new type of pumps can be designed by using one regulator to adjust the capacity of pump as per the supply of water in the bore wells which will be maintained the continuity of flow.

Keywords: Water Supply, 24x7, Bore Wells, Tube Wells and National Economy.

INTRODUCTION

India is agriculture country and facing the great problem of water for various purposes though so many big projects are coming to fulfill the need. Even though it is not possible to supply the water in every corner of the country by means of big projects only. But if we make of use of existing resources up to its optimum use, then it is possible to supply the water effectively in every corner of the world.

The one of the existing major resource is a bore well/ tube well. The bore wells which are not in use because of its small supply of water can be used effectively by sound technical knowledge. If this small supply of water is made available effectively then defiantly 24 x 7 water supply is possible with minimum investments and saves billions of Rs of the nation.
In India the numbers of bore wells are not functioning effectively because of its small supply of water. The supply of water in the bore wells varies because of less rainfall, summer, draught etc. this small supply of water can be used by designing the capacity of pumps and pipe diameter for minimum discharge and one regulatory valve can also be used to maintain the continuity of flow. But because of this when the inlet discharge in the bore wells becomes more in rainy season we cannot make use of excess water. And if we design the capacity of pump for maximum inlet discharge there will be fluctuation of water when the inlet supply becomes less in summer and draught and the continuity of flow cannot be maintained which leads to less availability of water for use. So to make use of optimum water, the capacity of pump and diameter of pipe should be such that outlet discharge should be less than or equal to the inlet discharge which maintains the continuity of the flow. But here also the inlet discharge will not remain constant because of more or less rainfall, season, draughts etc. And also it is not possible to change the pump and pipe diameter as per the inlet discharge. But in such case the continuity of flow can be maintained by using one regulatory valve which can be operated manually up to some extent.

The new approach to adjust the capacity of pump as per the inlet discharge plays very important role for effective water supply and economy. In this case the capacity of the pump should be designed for maximum discharge and one regulator can be used to adjust the capacity of the pump so that we make use of maximum and minimum inlet discharge so that every bore well will start to function as per their capacity. This approach of designing new pump along with regulator to adjust the capacity of pump leads to effective water supply and economy.

SALIENT FEATURES AND CONCLUSIONS

1. Effective 24 x 7 water supply
2. Water can be made available in any corner of the country with minimum investment.
3. Existing bore wells which are not in use can be used effectively.
4. Deeper bore wells can be automatically avoided and thereby water table can be maintained at higher level.
5. Saves billions of Rs of the nation for major projects.
6. Overall economy and development can be achieved.

REFERENCES