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Summary and Conclusions
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SUMMARY AND CONCLUSIONS

The Belgaum district is located in North - Western part of the Karnataka State. It lies between 13° 22' to 16° 38' North latitude and 74° 13' to 75° 23' East longitude. The district's total area is 1,34,382 sq kms which is 6.99 per cent of total geographical area of the Karnataka State. The district has a population of 42,072,00 (2001) distributed in 10 talukas in 25 towns and 1130 villages.

The western part of the district is a mountainous region, receives a fairly high amount of rainfall and it has rivers and many streams rest of district slopes gently to the east and forms a vast plateau, covered by black soil. Climatically the Belgaum district is cool. In summer temperature varies between 41°C to 10°C in winter. The average rainfall of the district is 708mm. the distribution of rainfall of the district varies from 1780mm in Khanapur taluka to 519 mm in the Raibag taluka in eastern parts of the district. The district lies in Karishna basin, drained by its tributaries Ghataprabha and Malaprabha, across these two rivers dam's were constructed to provide irrigation and water supply to nearby urban centers. Besides these rivers there are many small streams many of each are nonperennial. Only west flowering streams like Tavara, Mahadayi and Pandhari are perennial.

The soils of the district are black, red, mix red and black and laterite soils. The soils are generally fertile.
The district is deficient in natural vegetation, forest area accounts for only about 14.32 per cent of the total area. The major types are semi-evergreen, Deciduous and Scrub and thorny forests.

The total population of the district is 42,072.00 (2001) and Rural-Urban ratio is 75.93 per cent and 24.66 per cent. The sex-ratio was 959 per thousand males and literacy ratio of the district is 64.42 per cent. The density of population in the district was 314 person per sq. km.

As human population is increasing, demand for water resource is increasing. On a global scale water resources are distributed unevenly this leads to scarcity of water. There fore there is need for proper assessment of water resource for its effective use.

The assessment of surface water resources is a difficult task and proper data of stream flow is rarely available. The water balance technique indicates that there is water deficit in only four months from January to March, recharge is in months of heavy rainfall during March to July water surplus is in only July to October. The data for present analysis are from Belgaum city with is in Malnad region. But most of area of the district lies in semi-arid tract where there is water deficit.

The reservoirs constructed on Ghataprabha and Malaprabha rivers have potential of 46 TMC and 78 TMC respectively.

Tanks can play an important role in local water supply if they are properly managed. Presently in the district there are 40 major tanks with above 25 hectares area, 79 medium with 10 to 25 hectares area and 480 small tanks
with less than 10 hectares. It is estimated that tanks with above 25 hectares have a storage capacity of 3622.92 Ham, medium tanks 16.52 Ham and small tanks store 819.70 Ham, total water potential of various tanks is 6166.92 Ham.

The underground water resources play an important role in national economy, especially in rural economy, the underground water is a major source for drinking and for irrigation. Presently in the district the total potential of underground water is 1,10,602.1 Ham. Utilization is estimated to over 18.85 per cent the highest utilization is in Chikkodi taluka with 49.65 per cent and lowest in Khanapur taluka with only 1.31 per cent. In recent years the use of underground water for irrigation has brought prosperity, at the same time it has depleting the ground water resources. The fluctuation underground water in district is significantly influenced by rainfall, seepage from reservoirs, streams. During the rainy months the water table rises and it recedes from October to Mid-June. The reckless exploitation of underground water for irrigation purposes has caused lowering of water table. Over a decade 1990-91 to 2000-01 there is decrease by 1 meter annually in wells and similarly in tube-wells there is decrease by 10 meters annually.

Agriculture without irrigation facilities is uneconomic in most parts of the district. The increased demand for food may be met by providing adequate irrigational facilities. Presently in district 40 per cent of the cultivated area is irrigated. The maximum irrigational intensity is in Raybag taluka with 95 per cent of cultivated area is irrigated and least in Belguam taluka.
Canals are the major sources of irrigation in Gokak, Raybag, Ramdurg, Soundatti and Hukkeri talukas, but there is need of proper management of canals in the district.

India has invested much of effort to supply safe and clean water to rural areas of the country. The major source of rural drinking water is underground water. Presently in the district there are about 13,774 tube-wells for the drinking purposes, even then the rural areas of the district face acute water shortage because of the fall in local groundwater table. The excessive drawal of water for irrigational purposes has resulted in non-performance of many tube-wells dug for drinking water purposes. During two years period [1999-2001] about 710 of tube-well dug for drinking purposes have failed. A special case may be mentioned here to highlight this problem. The first drinking water tube-well was dug in Hirebagewadi village in the 1960’s, today the village has more than 60 tube-wells all of them are non-functioning stage, the villagers buy water from surrounding villages at Rs.5 per pot!. The taluka wise estimates of per capita of water availability is far below that of National Standard Specifications of Water Requirement in rural areas, except for few villages which get sufficient drinking water.

The chemical, physical and bacteriological analysis of water samples shows that, out of 70 samples only 26 are potable for drinking purposes and remaining 54 samples are not potable for drinking purposes.

The present need is conservation and management of water resources, as the demand for water is bound to increase in the years to come, planning
and conservation should include conjunctive use of surface and ground water and management depends on the combination of naturally occurring water conditions and water selected needs of the population as determined by the prevailing socio-economic conditions.

A clear water policy has to be adhered to both at the state and national level. The wells should be dug at specified distance so that water underground water is not depleted. Village cooperatives should be formed to desilt and maintain tanks. Awareness campaigns are necessary to conserve and maintain quality of water and also the management of water resources.