



RAIGAD DISTRICT RIVER WATER MANAGEMENT WITH THE HELP OF GEOINFORMATIC

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Abstract

Raigad district have heavy rainfall, also so many rivers flows. Raigad district have plate slope to the western site because of it have good water availability and with the availability Raigad district have natural seen and good Geographical landform. In monsoon season the rivers in Raigad district is always overflow. And it other season there is a problem to water in Raigad district most of river in Raigad district are to be dry and there is need to be make river water management. Every year in Raigad district there is a flood. Most of river is to be overflow. This overflow water is and a disaster of Raigad district, so if we convert this overflow water to the nearest dam. This overflow water can make over development of some part of area is means to make river management.



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Introduction:

Raigad district is a whole part of the coastal low land. It is drained mostly by short west word flowing parallel streams originating from the Sahayadri mountain ranges. The district receives seasonal rainfall from south west monsoon during June to September and the district have heavy rainfall and good water availability in the rivers and there tributaries. As a impact of this, every year in the most of Raigad district towns and villages have facing the problem of flood. This flood desist the routine life of local people during rainy season. Thus there is a need of systematic study of availability of water and its management in the rivers of the district.

Objectives

1. To analyze annual water availability and overflow (flood) water in the district
2. To prepare a digital elevation map of drainage systems for water management
3. To suggest the measures for the river water management in the district.

Data base

The present study is based on the primary as well as secondary data. The primary data .

Primary Data is collected through satellite imageries and observation.

Secondary data is collected from District Gazetteer, District Socio-economic Abstract of Raigad district, published data of water conservation department, published research articles, Journals, etc.

Methodology

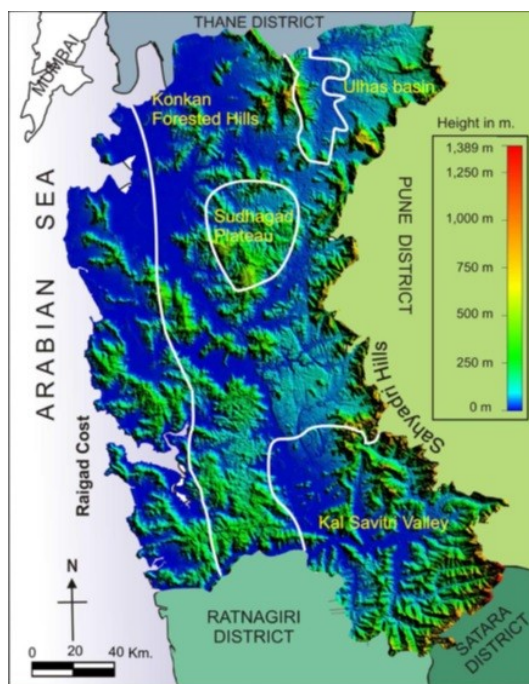
The data is collected through primary and secondary sources were processed and represented by statistical and cartographic technique. also GIS software is used for analysis of secondary data and GPS Instrument is used for collecting data of location of river spots.

Drainage

Drainage is the most important compound of physical environment which affects on agriculture and human life directly and indirectly. Surface water is by far the most important means for providing sustaining irrigation which stabilized and improves agro economic life system that has otherwise lengthy of land and potential because of the uncertainty in the flow of water it is potable that the any attempt to improve the agricultural land use planning with many problem with the help of shallow deep water table is found in the entire region.

Raigad district Drainage

Amba, Savitri, Gandhari, are the main river in the study area. It has flows from northwest to West direction and a number of tributaries flows entire the region. Patalganga and Bhogawati is the Sub river is tributary of Amba, Patalganga is originated from Western part of Khandala..



North Raigad Drainage

In the north of Raigad, between the Nagothna river in the West and the Patalganga in the east, is a low-lying salt swamp full of winding slimy tidal creeks, into which, about 5 miles from the mouth of the Patalganga, drains alter a course of about 16 miles across the north-east of Raigad. About five miles further west after a north-west course of about twenty miles through central Raigad, the Bhogaeshvari, Bhogavati, or North Raigad River, loss itself in a network of tidal creeks.

South Raigad Drainage

Raigad has six large reservoirs, of which four at Konkan, once at Vasi, and one at Vadav. The Kasar lake at Raigad district, built without masonry about 1627, had an area of about six acres. There is much silt, and, at the end of May, only 2 or 3 feet of water remain. The Khavandal reservoir, built about the same time also without masonry, has an area of about three acres. At the end of May only two or three feet of water is left. The Chambhar reservoir, built about 1750, has an area of about five acres and a depth of about seven feet. The water works reservoir, formed by damming a small valley in the hills near Pen, has an area of about five acres and a greatest depth about twenty-five feet. There is no silt and it holds water throughout the year. There is an earth dam finished in 1876 with a puddle wall several feet thick in the center, faced on the inside with stone pitching. Its water is carried about half a mile by a line of earthen and iron pipes. The Vasi reservoir, built about 1777, has an area of thirty acres and a greatest depth of twelve feet. The Vadav reservoir, built in 1862, has an area of ten acres and a greatest depth of eight feet.

On the three chief Roha reservoirs one is it Ashtami, one at Sangada, and one at Mehda. The Ashtami lake across the creek from Roha, has an area of about eight acres and a greatest depth of twenty feet. It holds water throught the year. The Sangads reservoir, about three miles west of Roha, has an area of about seven acres. It is shallow and its water is used for cattle drinking. The stone pond at Mehda, about three miles north of Roha, was built in the time of Peshwa Bajirav II (1796-1818). [Beside the many smaller ponds are scattered over the district. In 1854 there were in Angria Kolaba 160 ponds holding water from 5 to 12 months, and varying from 2240 to 112 feet in circumference. Of the whole number 143 were mere excavations without built sides, ten were in complete repair with stone mortar sites , and of seven the sides were only partly built. Bom. Gov. Sel. New Series. (1854) VII. 38, 39]

Dam's



Special Major Dam:- Bhira, Nathuwadi

- Category (01)
- a) Height more than 30 m. or
 - b) Storage more than 60 Mm. or
 - c) Gated Spiliway or
 - d) Discharge Capacity more than 2000 cum/sec.

General Major Dam:- Shrigaon, Kodgaon, Kavle, Dolvahal,

- Category(02)
- Akoli,wapa,ghoyawade etc.
- a) Height more than 15 m
 - b) Storage more than 15 Mm
 - c) Discharge capacity more than 200 cum/sec.of
 - d) Length more than 2000 mt.

1) The above classification is done w.r.t. Dam safety guidelines 2) The Locations of Major Dams shown in this map do not cover all the major project.

Analysis

Raigad district has to bear some responsibilities of economic development in the upcoming era. Comparing to other region Raigad district has highest availability of water. But if we think only about agricultural water except Raigad the remaining Maharashtra has 3000 cubic meter water. Compare to this Raigad has 30,000 cubic meter water availability for per hector fertile land. It means Raigad has five times more water, for fertile land, than remaining Maharashtra. These may be question arise in your mind that why we should not able to utilize this water till now. In this respect we have some technical problems. We know that in countries like India, nature doesn't make available the rain for whole year. It provides water only for a period of 3 to 4 months. So far full year use, we have to make arrangement by building dams. So we have to assimilate the scientific technique of dam building, which is an important step in dam building, without it we can't able to increase the availability of water in our country.

We have some specific problems to store the rain water in Konkan region. Konkan is a narrow region, It can be divided into three divisions. First one at the lap of Sahyadri, Second at the foot of Sahyadri and third by the side of the sea. which is plane and where the rivers and channels are not so deep. Such region covered 20 to 30 K.m. area. The foot of Sahyadri is nearer to the east side of that region. We cannot build dams at the entrance of the Channels. Because it will drawn the highly cultivated land of rive farming. So, out of this 50 to 60 k.m. breathe region, we can use only 1/3 part of east to obstruct the water. Though we have 52 lach hectare.

So though we have 52 heactre lakh meter available water for dam storage but only we can use 19 lakh hectre meter, which can be converted into 500 cubic meter per head per year. We have only 7 to 8 lakh hectre cubic meter water for our use and 3.50 to 3.75 lakh hectre for agriculture. Today in Konkan region 8 lakh hectre land is for farming. But actually 15 lakh hectre cultivated land is available where we can take crops. So this is another feature of Konkan region, out of all 30 lakh hectre land near about 15 lakh hectre land is able to produce various crops. So vast non farming cultivated land is a big challenge to us.

Problems of Water Management

To spread wire network and to take care of it, is a costly process. It can be avoided in Raigad district by constructing small dams.

Conclusion and Suggestions

Basically Raigad district have more efficient of water and this water is used and wasted by various reason. Geomorphologic conditions like slop, soil are wasting the water, even though human nature and his development are wasting the water. Kundalika Savitri, Patalganga, Gandhari, Kal these River are main Raigad district. In rainy season these river are flooded but in summer the level of water is very low. When surviving this river I found a big change in water level in rainy season and summer season. Slop towards the western side and eastern side of the Raigad district is surrounded hilly region that way we found more water flows are towards to Arabian Sea. Most of the water is wasted by industrialization and increasing population. So we can to protect this flooded water. We can seal this flooded water to western ghat people. The air distance between Savitri and Mulshi dam is only 30 km and Kundalika and Mulshi dam air distance are also closer. For using P.K. Frankal method . Mr. P.K. Frankal who is a technological person with GIS and a Director of Irrigation and water management in USA shows simple method for shifting the water, compared to this method we can able to generate and shift these river water to Mulsi and Bhatghar dam. While shifting this flooded water we get so many cannels and water availability in our district which makes a development in agricultural and industrial area.

References

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