STUDY OF FLUVIAL FLOOD

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ABSTRACT

Floods are recurrent phenomenon in India. Due to different climatic and rainfall patterns in different regions , it has been the experiences that , while some parts are suffering devastating floods, another part is suffering drought at the same time. And the government has to pay a lots of fund for this. Flood impact on both individual and communities, and have social, economical and environmental consequences as the intensity of flood was large and it has shown devastating effect on mankind and nature. As I am working on "Krishna River Basin Flood Mitigation in Sangli District" project. I have collected data like rainfall data, discharge management from Koyana, Radhanagari, Chandoli and Almatti dam and also maps of Sangli district, River basin and Catchment area. And studied this data and maps. I have suggested some point to reduce impact of flood and save government funds.

Keyword:- *Flood, Krishna river, Drought prone area, Dam, Catchment area, Sliting*

1. INTRODUCTION

Krishna River is fourth biggest river in terms of water inflows and river basin area in India. The river is almost 1400 km long and has catchment area of about 2,95,000sqkm of catchment area. It is one of the major sources of irrigation for Maharashtra, Karnataka, Telangana and Andhra Pradesh. The Krishna River originated in western Ghats near Mahabaleshwar in central India. After originating the course of Krishna River in Maharashtra is generally south flowing. Tributaries like Koyana, Warana, Panchganga and Dudhganga flow eastward from slopes of western Ghats to met Krishna in Maharashtra state. Krishna basin extends over an area of 2,58,948 sq.km. This large basin lies instates of Maharashtra (69,425 sq.km), Telangana Andhra Pradesh(76,252 sq.km), Karnataka (1,13,271 sq.km). The intensity and duration of rainfall in the catchment of Koyana, Warana, Krishna and Panchganga rivers is more as compared to southern parts of Maharashtra (Sangli district). There is large variation in annual rainfall. Since 2005 i.e. after 14 years heavy flood situation was observed in Krishna river basin. As the flood frequency is too less, people and government were not aware and fully prepared heavy flood situations. This was the cause of heavy loss of life, property and crops in Sangli district.

1.1 Effects of flood

Flood impact on both individual and communities, and have social, economical and environmental consequences as the intensity of flood was large and it has shown devastating effect on mankind and nature.

1. Thousands of people got migrated. Many people lost their lives. Large no. of animals and live stocks died in flood.

2. All educational institutes and other corporations, prisons ground floor got fully submerged under water.

3. 150 years of service celebrating head library of Sangli city got damaged, thousands of books, rare novels get destroyed.

4. City road and state highway got damaged.

5. Flood blocked drains and spread water in cities which spread epidemics and

other problems.

6. Rapid water runoff caused soil erosion and removed layer of fertile soil.

1.2 RELEVANCE

Recent flood situation in Krishna river basin, particularly Karad, Sangli and Miraj city are caused sever damage to life, property and crops. The flood disaster management was not planned and executed properly during flood. It is necessary to find cause of such flood and suggest remedial measures or propose the plan of action to mitigate future flood havoc. The possibility of diverting part of flood water towards the drought prone areas of Sangli district has to be studied. The literature review suggests flood mitigation measures particularly adopted in other countries, the applicability which can be assessed in Indian conditions.

2. Data Collection

We have collected data like rainfall data of Monsoon season i.e. Juneto October, discharge management from Koyana, Radhanagari, Chandoli and Almatti damand also maps of Sangli district, River basin and Catchment area. And studied this dataand maps.
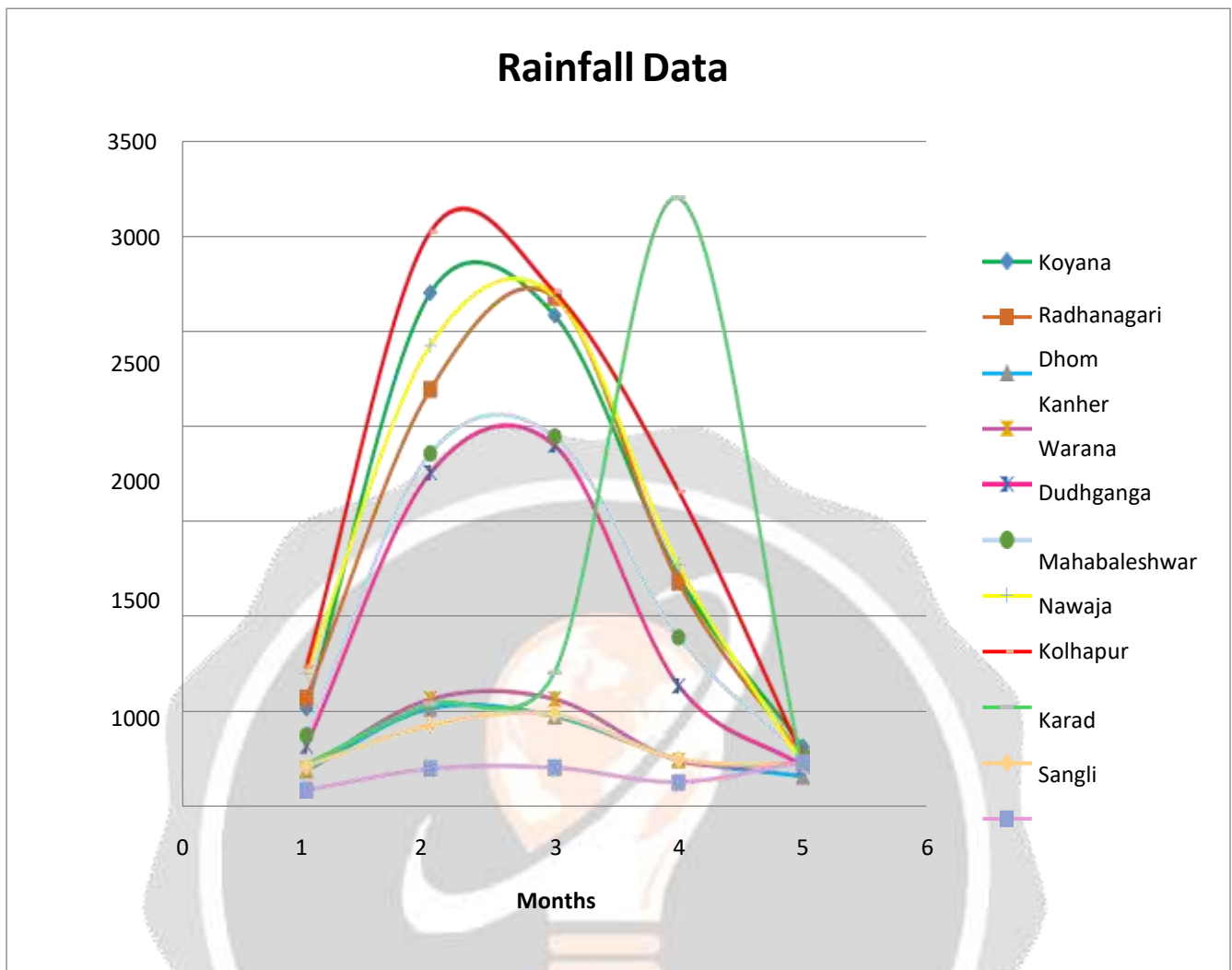
3. Identification of causes of flood

Illegal constructions, unauthorized sand pumping ,construction in flood line area, 2 months rain collapsed in just 10 days ,Large discharge from Koyana and other dams and deficient discharge through Almatti dam, high density sugarcane crops , 16 destroyed streams and river drainage and silting in river are some causes of flooding situation.Due to change in climate conditions rainfall in Kolhapur, Sangli andSatara exceeded the average precipitation by 70%, 60% and 78% respectively. In the same period, when these districts were getting high rainfall, the dams in these districts started releasing large quantities of water, which played a major role in creating the flood disaster. The dam operators are likely to turn around and say that but the dams were fulland we had no option to release water.

4. Result

Flood causing extensive damages to agricultural production, loss of property and livestock and loss of human life. In addition, in the aftermath of flood, the environment, rivers and drinking water become contaminated. Animals also get affected by flood water. Floods are recurrent phenomenon in India. Due to different climatic and rainfall patterns in different regions , it has been the experiences that , while some parts are suffering devastating floods, another part is suffering drought at the same time. And the government has to pay a lots of fund for this. Flood impact on both individual and communities, and have

social, economical and environmental consequences as the intensity of flood was large and it has shown devastating effect on mankind and nature.
We suggest Following are remedial measure

Combined study of Koyana and Almatti dam.
The accuracy of forecasting to be increased.
River level monitoring and flash flood warning.
Excavation of silt.
Room for river Initiative.
Diversion of flood water into drought prone area.

5. Conclusion

Floods are recurrent phenomenon in India. Due to different climatic and rainfall patterns in different regions , it has been the experiences that , while some parts are suffering devastating floods, another part is suffering drought at the same time. And the government has to pay a lots of fund for this.Flood impact on both individual and communities, and have social, economical and environmental consequences as the intensity of flood was large and it has shown devastating effect on mankind and nature. To fight against such devastating such natural calamity, along with government, all NGO's and peoples of Sangli should take stand.

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