

**AGRICULTURAL LAND USE AND MORPHOMETRIC ANALYSIS OF  
NANGAVALLI SUB-WATERSHED, NANGAVALLI AND TOPPAIODAI(NTSW),  
MATTURTALUK, SALEM DISTRICT**

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**Abstract**

Agriculture is one of prime resource and needs of the human mankind in the world. The many countries practiced their background of the climatic condition and land system too also. Climatic condition with man adoption is very essential for their potential of socio-economic condition within the zone. The present scenario of the century, agricultural activities based on the availabilities of water, soil with man power is very essential for their activities and also the methods. The Remote sensing and GIS techniques is very useful tools for monitoring, planning and management of the agricultural activities, is useful and supported to better economic activities. The present paper agricultural land use and study of morphological characters of the Nanagavalli-Toppai watershed, Mattur Taluk, Salem district.

**Keywords:** Agricultural Land Use, Morphometric of Watershed, Rural Development

**Introduction**

Micro watershed level planning requires a hast of inter-related information to be generated and studied in relation to each other remotely sensed data physical terrain parameters. Geographical information system (GIS) with its capability of integration and analysis of spatial, spatial multi-layered information obtained in a wide variety of formats both from proved to be effective tools in planning for micro watershed development. In this study an approach using remote sensing and GIS has been applied watershed development plans for a part of shetrunji rivers basin in Bhavaga's district, Gujarat, study of multi-data satellite data has revealed that the main land use/land cover in the plains and undulating land and scrubs forests with forest blanks on the hills, Due to paucity of ground water for irrigation, the rain fed agriculture area lacks sufficient soil and moisture to support good agriculture. The agricultural areas along the streams are constantly washed and undergo sheet erosion thus converting valuable agricultural land into unproductive wasteland, For a major part of the year, the hills remains barren except for few small areas displaying a variety of

thorny scrubs and few scattered trees growing along the less assessable slopes. The depredated ecosystem has affected the life of the residents within the micro-watersheds. There is always a scarcity of fuel, fodder and water for drinking and domestic use. The depleting vegetation covers has resulted in excessive soil erosion exposing barred rock waste. The steep rocky hill slopes facilitates high runoff leading to poor ground water recharge and increased siltation in the villages tanks and ponds. According to the local people even today shepherds from adjoining talks regularly visit to graze lands of sheep and cattle.

### **Study area**

The nangaveli and to origin extent western portion of the Metter hill with flowing diverted north eastern size of Metter ' mecheri other places the total area watershed his <sup>156km</sup> nearly 50 Revenue villages From foundry of watershed his calling from Salem District the major talk of the watershed his Metter and mecheri the watershed his one of the tributaries cover the study area except 77 45 to 78 0 East latitude and 12 0 to 11 45 of the major physiographic features controlled undulating , structural and pediplain of study area.(Map No .1). The present study area located North western portion of Salem district with drain nangavelli and toppai odai there watershed origine from west of study area in addition to the present study area the North portion only controlled by fluvial in nature. The controlling factors of the drainage with lineaments are parallels.

The sub surface geology of the or placed in the rock types his charnockide, Granite, Gneiss and Uttattur, thrichnopally and ariyalur in the fluvial system the drainage area controlled by structural linear fracture the major places occupied granite , charnockide and secondary kulialid rock type. The present study area major soil grapes are alluvial soil occupied along the river his potential crops the mecheri. Occupied brown with red is soils the North West portion at joining Metter hill soil the soil crop

### **Objectives**

The present study concentrated the Agricultural land use of Nangavallai and Toppai odai environment or follows

1. To collect the base information of study area around the Agricultural Land use and watersheds population with their habitués.
2. To delineated and Mapping of study area in manual tracing and interpretation, In addition to this Map prepares land use /land cover, Drainage with these characteristic conditions.

3.To concluded/ derived the status of the watershed / sub-watersheds condition and recent population states of the study area.

### **Research Methodology**

1. The following Research Methods based on the objectives on follows
2. To collect base line information of study area includes the population in all, watershed condition, Temperature, rainfall and other essential
3. To collect all other hydrological data s concern area.
4. To delineated and mapping base map with scale of 1:50000 on the linear scale, based on the base map, to feature draw and Interpretation other thematic Maps.
5. To visit and check the wherever doubt from the bases work of the study, remedy and correct based nature study
6. To collect the reference with based the present study compare and added the additional information
7. Final and summarized all the works.

### **Result and Discussion**

**Agricultural Land Use of the Nangavalli and Toppai odai environment of mattur taluk, salem District.**

#### **Introduction**

Land use refer to use the land with utilization via farming sue via system The present study of Nangavalli and Toppai odai, Mattur taluk salem District using marrval Mapping of land use/land cover.

#### **AGRICULTURAL LANDUSE**

The farming system are based on the resources of water with potential soil regarding the better climatic system Both Intensive and Extensive farming system of Nangavalli and Toppai odai environment of mattur taluk, salem District.

#### ***INTERTIVE AGRICULTURAL FARMING***

Intensive forming sites located along or nearer the river course or wet lands The present study Area Nangavalli and Toppai odai located at North-western of salem District **FOOD CROP**

The land are elevated at plateau level with semi-plain in nature the lands of wet crops surround into the food crop with other secondary crops like dry land area. The Map or food crops paddy with different variation

### **PLATATION CROP**

Several or nature of the study Area, the plantation crop sugarcane, Turmaric, cotton sunflowers, and other crop in the study area of the plantation crop found in the most nature portion of study Area.

### **FALLOW LANDS**

All the four sub watershed like pottaneri, Mettur, Malligudam and Nangavallai are 50% of the land area are fallow with waste land area. Some time, frequently very after continuing the Agricultural with available of water resources.

### ***EXTENSIVE AGRICULTURAL FARMING***

Most of the lands area for from the any water bodies or water resources or unavailable of ground water in this nature .for few the lands of Agriculture available rainfall or otherwise change of climate, elevation or rapid population growth in the state, not only all over the country.

### **DRY CROPS**

In general dry crops for from the wasteland or river course The mostly the first order stream site located The Nangavalli and Toppai odai located Northern portion in river or some lands are for from the river course. The southern portion is like southern occupied fallows or Dry land. The major food crops are Ragai, samba sholam, Thenai mazi and oil seeds.

### **OTHER CROPS**

The secondary aspects of crop for cattle's use or of the dry crops, In of the land were unitized to timely dry crop. Some the lands were un farming /unfavorable for the formers or cultivators.

### **LANDWITH OR WITHOUT SCRUB**

Mostly the open scrub land area or otherwise the land is initial or otherwise the most land with or without scrub are found in southern or southern of the Nangavallai and Toppai odai.

### **Conclusion**

Water resources is one of the prime source for every living and non-living organisms. The water source via river, canal and Tank in the entire environment. The many search for finding the potinential sources of water delineation through various techniques and tools. The

Man made activities through the new invention day by day and counting the additional and new approaches followed by Remote sensing and GIS techniques. The both classes of the Agricultural Land use like Intensive and Extensive agricultural farming of the watershed is moderate land use while the rainy season and other time will land utilization is favorable in the zone.

### **References**

1. Bhalla. G.S and Singh. G (2001), Indian Agriculture: Four Decades of Development, South Asia, Sages Publications, New Delhi.
2. Directorate of Agriculture, Tamil Nadu(1988), Agricultural Statistics: Tamil Nadu Government, Chennai.
3. Mohammad. N (1978), Agricultural Land use in India, Concept Publication, Delhi.
4. Mujtaba. S.M (1994)' Land use and Environment change due to urban expansion, Daya Publishing House, Delhi.
5. Ramesh. M (1990)' Land Utilisation in Tamil Nadu, Chennai.



