

**LANDUSE AND LANDFORM STUDIES OF THE MAHANADI RIVER DELTA WITH
THE HELP OF SATELLITE MSS BAND**

ABSTRACT

INTRODUCTION: The present study is confined to the lower course of The Mahanadi river after the Satkosia gorge. The Mahanadi river is one of the major rivers of the northern peninsular India which drains to the Bay of Bengal. It is here that the Mahanadi has carved out of Satkosia gorge through which it descends down as rapid. Near Naraj the Mahanadi debouches in the coastal plains and below Cuttack city it throws off a number of distributaries which combined to make a sizeable delta. In the imagery four major landforms are identifiable which are follows:

- (1) Residual hills termed highlands.
- (2) Intermediate lands.
- (3) Lowland.
- (4) Flood plains.

GEOLOGY:

Geological characteristics are the offshoots of Cuddapahs and surrounded by granite and gneisses. Structural disturbances are not observed. The residual hills are composed of khondalites and charnokites.

LANDUSE:

The main river Mahanadi in the lower course now carries little volume of water due to the Hirakud Dam in upper course. Two main canals of the Hirakud Dam i.e. the Bargarh and Bason take major quantity of water for irrigating the land in Sambalpur and Bolangir districts of Orissa, India. In the lower course the Naraj Dam helps in irrigating the adjoining areas. The arable land is confined in the lowland and it is easy to demarcate low land by False Color Composite consisting of yellow, magenta and cyan. The hills are covered with forest. Combined with high incidence of rainfall, rice is growing predominantly in the low lying areas. Besides canals in the Mahanadi river basin, small tanks have been a very common source of surface irrigation. According to retention capacity of the soil some portion of the land is subjected to double cropping. Settlement with trees are clearly demarcated by linear stretching in the FCC:

LANDFORMS:

It is already pointed out that four types of landforms are clearly demarcated in FCC which are as follows:

- (1) Highlands, the residual hills of Dharwar consisting mainly of khondalites and charnokites.
- (2) Intermediate land known as medium land subjected to agriculture in patches between scrubs and bushes.
- (3) Lowland These are part of erosional feature of residual hills agriculture depends on vagaries of monsoon.
- (4) Flood plains of Mahanadi Delta, this region is called deltaic one. Good number of linear settlements and arable land are found in MSS scene

CONCLUSION: The area is under the influence of deltaic environment and coastal vegetation is confined in swampy areas with a big lake nearby known as Chilka lake. Transport facility is meager in comparison with industrial region near Cuttack and Bhubaneswar which is the capitals of Orissa.

By

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