

DIGITAL MAPPING OF RUBBER AREA USING IRS DATA

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The possibility of utilizing remotely sensed data in mapping of rubber area was studied. As a case study IRS-1A LISS-I data of Trissur region was selected and the digital mapping was done. The classification efficiency was for 90 per cent. Digital mapping using IRS data can be used for easy estimation of the area occupancy of crops and pattern of distribution with reasonable level of accuracy.

Key words: Natural rubber area, Remote sensing, Digital mapping, Kerala/Trissur.

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INTRODUCTION

In recent years a number of investigators have used remotely sensed data for mapping vegetation (Jadhav, 1988; Ranganath, 1985; Saxena *et al.*, 1990), land use (Rao, *et al.*, 1991), soil (Karale, *et al.*, 1991) and waste land (Rao, *et al.*, 1991) and for preparing crop inventory (Navalgund, *et al.*, 1991). There are also reports of IRS-1A applications in forestry (Unni, *et al.*, 1991). Very little work has been done on specific theme like rubber mapping (Gopinathan and Samad, 1985). The use of Indian remote sensing satellite data for such studies are relatively recent and the present study was undertaken to evaluate the utility of IRS data for mapping with special reference to the rubber area.

The rate of conversion of other crop lands to rubber plantations is much high in Kerala. Nearly 15,000 ha are being converted to rubber plantations annually in the State since 1980. In India about 88 per cent of the total area under rubber is in Kerala State and around 90 per cent of India's production is also from that State. Out of the total

area under rubber in the State, the estates cover about 15 per cent only. The rest, i. e., around 85 per cent comes under small holdings. The fast change in rubber area, especially the small holdings, makes the conventional mapping procedure more complex. Hence, a study was conducted to map the rubber area in Trissur District using IRS-1A LISS-I CCTs by digital processing technique.

METHODOLOGY

The Indian remote sensing satellite IRS-1A LISS-I data, path 25 row 61 of 23 December 1988, pertaining to Trissur District and its environs had been utilised for the digital processing (Fig. 1). The information collected on ground and interpreted aerial photographs were used for identification of training sets. The digital analysis of satellite data was carried out on a VAX 11/780 system at Regional Remote Sensing Service Centre (RRSSC), Bangalore, using VIPS-32 software. A supervised classification approach using maximum likelihood algorithms was adopted for stratification, on the basis of cover types and physiognomy.