INTRODUCTION

Amravati division is one of the six divisions of Maharashtra state with total geographical area of 46090 sq. km. Amravati and Nagpur divisions constitute the ancient Vidarbha region. Amravati Division is bound by Madhya Pradesh state to the north, Nagpur Division to the east, Andhra Pradesh state to the southeast, Marathwada region (Aurangabad Division) to the south and southwest, and Nashik Division to the west. Area under irrigation in the Amravati division is 2,582.02 km². The well density is 4.3. While there is significant unexplored groundwater development (that is, annual drawal of water as percentage of annual recharge) is low at about 15 per cent. The annual rainfall in the region varies from 750 to 1700 mm. The main crops grown are Kharif jowar, bajra, pigeonpea, soybean, Kharif groundnut and cotton. The cropped area covered by these irrigation sources is inadequate and therefore rainfed farming is still predominant in this region.

MATERIALS AND METHODS

In the present study an analysis has been made regarding the temporal variation in sources of irrigation and their impact on the rainfed agriculture of Amravati division of Vidarbha. The data were collected from the Agricultural Statistical Information Maharashtra State, Pune. The data pertained to a period of twenty five years i.e. from 1980-81 to 2004-05 and were subjected to compound growth rate analysis. It may be concluded from the results presented in the study that there has been a very little increase in the total irrigated area in the study period. The cropping pattern of Amravati division is shifting from cereals to pulses and oilseeds due to better returns.

RESULTS AND DISCUSSION

Compound growth rate of area irrigated by different sources in the Amravati division of Vidarbha are presented in Table 1. A negative trend was recorded in the growth of area irrigated through surface irrigation (0.01 per cent). High positive trend was observed in the growth of area under well irrigation (4.12 per cent). In well irrigation,
the exploitation of ground water was high as it is exploited at more places than surface water. The same positive growth rate was found in case of net irrigated area (3.58 per cent), area irrigated more than once (1.17 per cent) and gross irrigated area (3.07 per cent). The surface irrigation included canals, tanks, lift, ponds etc., as sources of irrigation.

Area under surface irrigation and well irrigation was seen increasing continuously. Growth in irrigated area was due to the efforts of government in construction of irrigation projects. Construction of irrigation tanks, watershed, canals, project work, well, etc., led to increase in area under irrigation. Regular efforts were made through various Irrigation Corporations and Directorate of Groundwater Development for development of irrigation potential, which resulted into an increase in irrigated area in the Maharashtra state.

Compound growth rates of cultivated area and irrigated area of different crops are presented in Table 2. From the table, it is seen that very little crop in the Vidarbha region has irrigation facilities. In cereals, rice recorded negative trend in growth of cultivated area (4.61 per cent) and irrigated area (9.74 per cent). Wheat crop registered negative trend in growth of their acreage, while the reverse trend was observed in the irrigated areas.

In pulses, chickpea recorded positive trend in the cultivated area (6.06 per cent) and irrigated area (3.62 per cent). Whereas in oilseed crop, groundnut has noticed a negative trend both in the cultivated and irrigated areas. Among commercial crops, sugarcane showed highest positive growth rate in cultivated area (6.56 per cent) as well as in irrigated area (6.48 per cent). Remunerative price of sugarcane might have caused such result. Cotton has noticed a negative trend both in cultivated area and irrigated area. The high incidence of pests and diseases was causing heavy crop losses, due to which the yield of this crop is decreasing.

Oilseed crop registered high positive growth trends in both cultivated and irrigated areas. Oilseeds recorded positive trend in cultivated area and a negative trend in irrigated area. Whereas, cereals recorded negative trend in cultivated area and a positive trend in irrigated area of their acreage, while the reverse trend was observed in the irrigated area.

Borkar and Patil (2009) and Alibaba et al. (2002) also conducted. Similar type of investigations in Amravati division of Maharashtra and Telengana region of Andhra Pradesh, respectively.

Conclusion:

It may be concluded from the results presented in the study that there has been a very little increase in the total irrigated area in the study period. The growth of well irrigation was observed to be higher than surface irrigation. The cropping pattern of Amravati division is shifting from cereals to pulses and oilseeds due to better returns.

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LITERATURE CITED
