



Topic: Cropping pattern and Groundwater: A study of Panipat District of Haryana

“Mahima” Department of Geography, M.D.U. University Rohtak

Abstract: Over the last 20 years, major changes have occurred in agricultural activities - cropping patterns, crop combination and land use in Panipat district. Due to expansion of ply board industries in the region the area under wheat and rice has been replaced by new crop named Poplar (tree). The crop combination of the village i.e.sugarcane-wheatrice in 1990-1992 has been replaced by sugarcane-wheat-poplar in 2014-2016.Increasing cropping intensity has experienced a change in accordance with decline in waterlogged area. In fact, sugarcane is water demanding crop but the groundwater has not depleted due to the location of village along Yamuna River. In this village shallow water is not suitable for drinking purpose from last few years due to the excess use of chemical fertilizers and insecticides in the agricultural field and the leaching of contaminated water of Panipat city and industrial waste in Yamuna River. In shallow ground water conductivity and TDS is high and turbidity and DO is low from the normal values. The village has sandy and salty loam soil with low organic carbon, phosphors, sulpher and medium potash contents.

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Key Words: Crop pattern, crop combination, crop intensity, soil, ground water.

Introduction: Agricultural development is an interlinked process of agro climatic condition, implementation of modern inputs in farming related to high yielding varieties of seeds, chemical fertilizers, insecticides, herbicides, pesticides and irrigation. The scope for expanding the net sown area having already reached a saturation level in study area and the potential for raising the yield nearly exhausted in many crops and regions, stepping up of the incidence of multiple cropping will be necessary to augment agricultural production (Hayami et al, 1971). Both human and environmental factors contributed to the intensification process and changing cropping patterns remain central to it (Ali, 1987). Expansion of new crops will change the existing cropping patterns and increase total agricultural output although productivity per agricultural worker may tend to decline as more and more family laborers would engage in farming (Brush and Turner, 1987; Grigg 1982).