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A study on waterlogging and drainage problems in Gandak river system, Bihar

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Abstract

When the soil pores in the crop root zone get saturated with water, the land is said to be waterlogged. This is usually caused by a rise of the ground watertable. Waterlogging can also be caused by excess soil moisture due to periodic flooding, overflow by runoff, over irrigation, canal seepage, artesian water and impeded subsurface drainage. Shallow water table, heavy rainfall, Perennial irrigation and flat nature of the terrain all add to the cause of waterlogging and makes drainage difficult. The most effective answer to waterlogging is a properly designed drainage system. The aim of drainage is to remove oxygen deficiency from root zone. The solution to drainage problem may involve surface drainage or subsurface drainage. Although the basic objective of surface and subsurface drainage is to provide a drier soil for plant growth the way this is achieved is quite different.

The river Gandak is a perennial river with high discharge. The soil type of catchment is mostly alluvial and is suffering from drainage and waterlogging. Status of drainage and waterlogging in the river system with various remedial measures suggested/adopted by various central and state government organisations are discussed in the present report.

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