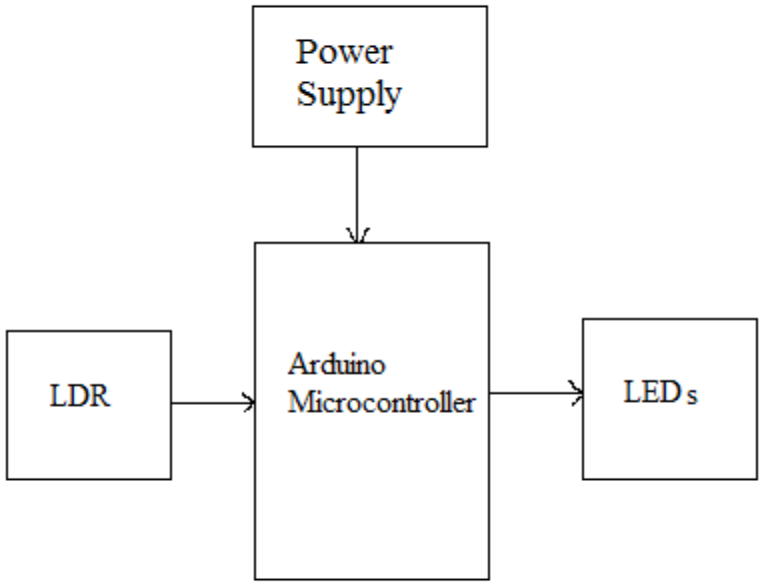
Abstract

The use of High Intensity Discharge (HID) lamps as streetlights has a major drawback. It consumes more energy. As a substitute to HID lamps we use Light Emitting Diodes (LEDs). It consumes less energy compared to HID lamps.

This project uses LEDs as streetlights to save energy during non-peak hours. A Light Dependent Resistor (LDR) is used to sense the environment light and cause suitable voltage to be dropped across microcontroller ADC pins. The microcontroller then drives the LEDs according to the light conditions. When it turns dark more voltage is dropped across LDR and the LEDs are turned on.

Block Diagram



The project uses LEDs as streetlights. An LDR is used to sense the atmospheric light conditions. When it is dark, the LDR has high resistance and a high voltage is dropped across the microcontroller ADC pins. This voltage is converted to its digital value and it is used to drive the LEDs ON. When there is sufficient lighting, the LDR has low resistance and a low voltage is dropped across ADC pins. This keeps the LEDs in OFF condition.