

STUDY ON EFFECT OF NATURAL GAS FLARING (LIGHT POLLUTION) ON SOIL HEALTH/ENVIRONMENT OF PADDY FIELD OF ASSAM NEAR THE VICINITY OF OIL WELLS UNDER OIL INDIA LIMITED

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Abstract: Pollution caused by disposal of associated gases through flaring is the most prevalent problems in the crop as well as soil environment. The effect of natural gas flaring (light pollution) on soil chemical properties, soil temperature and dehydrogenase enzyme activity were studied in the year 2010 and 2011 in the vicinity of eight (08) numbers of flare pits located near Oil Collecting Station's (OCS's), Early Processing Setup's (EPS's) and Quick Processing Setup's (QPS's) under Oil India Limited, Duliajan, Assam. It has been achieved a distance 0-25 m, 25-50 m, 50-75 m, 75-100 m and 100-125 m from the flare pits and soil sample were collected from the five distances of each flare pits according to method and soil sample were analyzed for chemical properties. Results obtained showed variation in chemical properties of soil, soil temperature and dehydrogenase enzyme activity as distance increases away from flare pits. In respect of soil pH, the study does not show significant effect of natural gas flaring with increase in distance from the flare pits up to 125 m. Significant difference in respect of soil temperature, soil organic carbon, available N, Available P₂O₅, available K₂O and dehydrogenase enzyme activity was recorded with the distance from the flare pits which might be due to heat effect of natural gas flaring at the vicinity of flare pits. Correlation study revealed that soil temperature was negatively correlated with soil organic carbon, available N, Available P₂O₅, available K₂O and dehydrogenase enzyme activity of soil i.e. all these parameters found to be reduced nearby the flare pit and increases with the distance from it.

Keywords: Natural gas, Environment, Paddy Field, Assam

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