1. INTRODUCTION
Agriculturally soil is the region supporting plant life from which plants get their mechanical support, water and all the required minerals. Chemically soil contains a multitude of organic materials which are not observed in the underground strata. Soil is one of the most important dynamic sites of interactions and contains a vast array of microorganisms active in different ways. It is the region in which occur many of the biochemical reactions responsible for decomposition of organic matter, weathering of rocks and availability of nutrients for crops.

Phosphorus (P) is a vital and major nutrient for plants and microorganisms next only to nitrogen. Phosphorus is essential for plant growth. It accounts for about 0.1% of the terrestrial matter. Phosphorus plays a critical role in the life cycle of plants. It is an essential component of deoxy ribonucleic acid (DNA), the seat of genetic inheritance in plants as well as animals and of the various forms of ribonucleic acid (RNA) needed for protein synthesis.

Both organic and inorganic forms of phosphorus occur in soil. Both are important to plants as the source of this element. Soil compounds of P are conveniently classified into:

a. Compounds of calcium, magnesium, manganese, iron, aluminium and clay-silicates (alumino-silicates).

b. Organic compounds present in animal residues and those resulting from microbial synthesis.
c. Organic and inorganic compounds elaborated by living plant tissues which may be considered as links between a and b.

d. Primary apatites and other P bearing minerals.

Organic soil P may occur as a constituent of either living or dead matter.

Waksman (1936) classified soil organic phosphatic compounds as follows:

a. Nucleoproteins

b. Phosphatides including lecithin and

c. Phytin (or) calcium/magnesium salts of inosite phosphoric acid.

Other compounds include choline, inosite, casein and ovovitellin. Of these nucleic acid group is present in a major proportion. Nucleoprotein is the predominant among organic phosphatic compounds present in microorganisms. Phytin exits in seeds and constitutes about 75% of P content. The phospholipids, of which lecithin is well-known, are essential constituents of cells but generally represent only a very small portion of total P in plants.

Phosphatic fertilizers commonly used include superphosphate (single or triple). The triple superphosphate is relatively superior as it contains two and half-a-times more P than single superphosphate. The basic raw material for phosphatic fertilizer production is rock phosphate. Although substantial amounts of rock phosphate are available in India, its P content is very low. Moreover, its direct application is limited to acidic soils. Further, costs involved in its pulverization and transportation pose problems for their use in agriculture (Subba Rao, 1993).
Most of the phosphates available in soil are insoluble in water. Hence they are not available to plants. Under these circumstances, soil serves as an important and potential source of microorganisms capable of solubilizing phosphorus. Thus, several soil bacteria (particularly those belonging to the genera \textit{Pseudomonas} and \textit{Bacillus}) and fungi (belonging to genera \textit{Penicillium} and \textit{Aspergillus}) possess the ability to bring insoluble phosphates in soil into soluble forms by secreting organic acids such as formic, acetic, propionic, lactic, glycolic, fumaric and succinic acids. These acids lower the pH and bring about dissolution of bound forms of phosphate.

Although there are reports of phosphate-solubilizing microorganisms in soils, very little information is available on the phosphate-solubilizing organisms in soils of semi-arid regions like Anantapur. Hence the present study is aimed at the following:

- Isolation of phosphate-solubilizing bacteria from soils.
- Purification of the bacterial isolates and
- Estimation of extent of phosphorus solubilization by pure cultures of the bacteria.