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Short Communication

Navigation with Indian Constellation (NavIC), will be advantageous in the field of Agriculture

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Many natural calamities have affected our country in recent years, such as the draught in Maharashtra and Gujarat, flood in Kerala, cyclone (fani) in Orissa, flash flood in Uttarakhand and several other part of the country. Continues monitoring of soil moisture can predict this situation well in advance to take corrective measure. Reliable, durable, and automated systems for measuring soil moisture content have long been recognized as being highly helpful, if not necessary, in hydrologic, environmental, and agricultural applications. The amount of moisture in the soil determines how well the region's soil supports plants and crops. Plants may rapidly absorb soil water if the moisture content of the soil is optimal for plant growth. Plants do not have access to all of the water trapped in the soil. Even after rain, there's still a thin layer of water on the earth. When salts are dissolved in soil water, they form the soil solution, which is vital as a medium for adding organic matter to crop growth. Fig 1. shows the importance of soil moisture in agriculture.

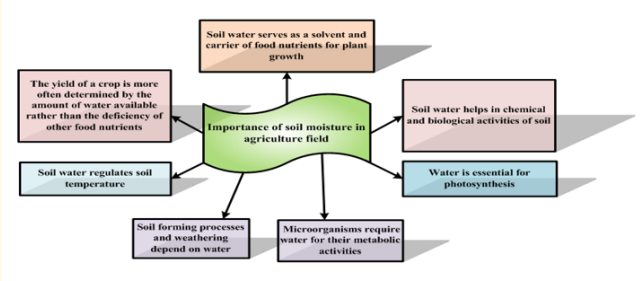

Figure 1: Importance of Soil Moisture in Agriculture.

Many techniques are used for the soil moisture estimation as shown in fig .2.

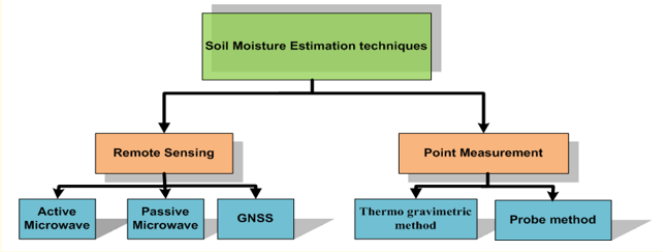

Figure 2: Different types of Techniques used for Soil Moisture Estimation.

The investigation of NavIC multipath signal sensitivity toward soil moisture over bare land and agricultural land is our primary motivation for utilizing India's indigenous GNSS technology, i.e., NavIC. Estimation of a target's position was the primary goal of GNSS system development. The pervious study has demonstrated that the signal reflected from the soil surface would be used to estimate the moisture content of the soil. Currently we had published some work-related sensitivity of the soil moisture in bare land and vegetated land using NavIC [1-6]. These research results show that NavIC will be useful for research in the field of agriculture.

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