

# DEVELOPING TOOLS FOR DECISION SUPPORT SYSTEM FRAMEWORK FOR TEA PRODUCTION SYSTEM USING A WIRELESS SENSOR NETWORK (WSN)

► A Sub-project under the DIT funded eAgriEn Program ◀



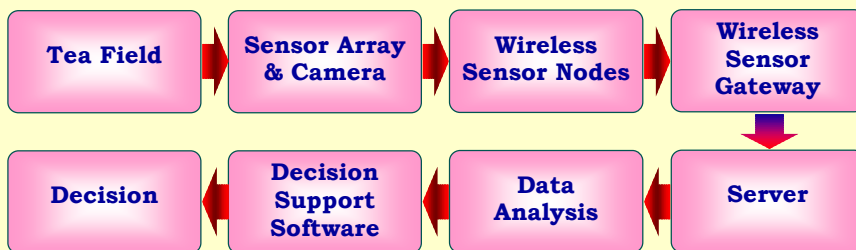
Implementing Agencies:  
C-DAC, Kolkata & TRA, Tocklai



## OBJECTIVES

1. Development of database of important soil physical, chemical and physico-chemical properties as well as tealeaf surface properties and physiological parameters determined through Wireless Sensors.
2. Development of computer aided tools for Decision Support System (DSS) framework for making important decisions for different farm level (tea garden) operations.

### ◀ Block Diagram of WSN System ▶



WSN Sensor Module at field

### ● Features & Benefits:

- Fully automated, real time, round the clock, online wireless field data collection system for tea plantation along with Decision Support System (DSS) software.
- Field parameters: Ambient & Soil Temperature, Soil Moisture & pH, Solar Radiation, Leaf Moisture, Humidity, Insect invasion, diseases, etc.
- An efficient system for tea production management with quick availability of accurate data on hourly basis with repeatability.
- Provides an online Decision Support System (DSS), which includes scheduling of agronomic practices/operations at tea section and garden level.
- Monitoring of field parameters by online image capturing (infra red imaging even in night) for disease detection and other associated decisions.
- Computerized data acquisition enriches the database with accurate data within very short time interval.
- User-friendly DSS Software can handle and analyze multiple input parameters at the same time, which is difficult in a manual decision making process.
- Quick and quality decision-making can enhance tea production through a robust decision making process.
- Removes elaborate laboratory and field procedures and expenses.



Demonstrative Installation of WSN Sensors



Software Screen of the WSN DSS for Tea Plantation