# Design of cattle health monitoring system using wireless bio-sensor networks

## Project Supervisor
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## Project Co-Supervisors
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Desig.1/ Desig.2

## Background and Motivation

This project will make use of Wireless Sensor Networks (WSNs) to cattle health monitoring. The proposed solution facilitates the requirement for continuously assessing the condition of individual animals, aggregating and reporting this data to the farm manager. The core of this solution overcomes the drawbacks in the existing approaches by using alternative cheap, low power consumption sensor nodes capable of providing real-time communication at a reasonable hardware cost. In this project, hardware/software will be employed to provide real-time data from dairy cattle whilst conforming to the limitations associated with WSNs implementations.

## Objectives

- Deploy sensors on the farm and at the animals
- Students will learn how to connect different sensors to make a reliable link for the monitoring
- Gathered data will be analyzed and necessary actions will be communicated to the concerned farm manager

## Societal Impact and SDGs

- Ensure sustainable consumption and production patterns (12).
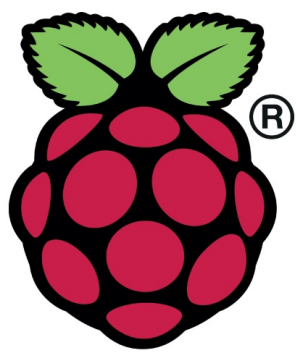- Protect, restore and promote sustainable use of terrestrial ecosystems, (15).

## Milestones with Priority

| Sr. # | Milestone | Priority | Estimated time |
|---|---|---|---|
| 1 | Learn to use different sensors | 1 | 2 months |
| 2a | Learn how to establish secure and reliable connection between sensors and sink node | 1 | 4-5 months |
| 2b | Collect and analyze data received from different sensors | 2 | 4-5 months |
| 3 | Extract useful information from the sensed data and communicate it to the farmer. | 2 | 1-2 months |

## Team Composition with Justification

- Student-1 (Electro/Comp/Telcom) → Study different types of sensors and install on the farm or animal as required
- Student-2 (Electro/Comp/Telecom) → Establish a link between the sensors and the sink/processor.
- Student-3 (Electro/Comp/) → Design/built an ap to be used by the farm owner to retrieve the desired information or receive alarms or other related information.

## Development Tools



**Raspberry Pi**