# Interpreters

1. Mr. Buddhika (Curator – University of Wayamba)
2. 02. Prof. J.A.K.S. Jayasinghe (Senior Professor – ENTC, University of Moratuwa)
3. 03. Prof. Gamini Pushpakumara (Dean – Faculty of Agriculture, University of Peradeinya) (Department of Crop Sciences)
4. 04. Dasun Tharinda (Communication Consultant)
5. 05. AdaFruit (Suppliers – Waterproof Temperature and RH Sensor Modules)

Summary: Input from the Interpreters

Agricultural Side

Mr. Buddhika

* Temperature and relative humidity are the main factors to be controlled/monitored
* Propagators are used to keep the temperature above the outside temperature
* No standard temperatures have been published for different plants grown in propagators
* Usually the propagators are designed to main a temperature above the environment temperature (> 37 0C)
* High temperature (Around 45 0C) is an issue in the dry zone as it has high probability that the plants may be burnt
* Need two thresholds: High and low temperature thresholds to maintain the plants in the optimum range of temperature
* Propagators are designed to maintain around 100% relative humidity
* A lower threshold should be set (around 80%) to detect whether the RF goes below that
* No fertilizer is added to the plants in a propagator

Prof. Gamini Pushpakumara

* Light is also an important parameter
* No need to monitor the soil moisture level or soil temperature, because if the air humidity and temperature is sufficient, the soil conditions will also be ideal.
* Currently there are systems to control the light systems, using sensors and automatic openings.
* The type of covering depends on the plant being grown.
* The CO2 level does not need to be monitored during the time the plant is in the propagator.

Technological Side

Prof. J A K S Jayasinghe

* With the set up used in the dry zone areas, need portability for the product
* Battery powered sensors, display unit and alarm unit
* The thresholds (RH and the temperature) needs to be set manually by the farmer
* Either 3 sensors per propagator or a sensor per propagator should be installed and as per the installation plan the temperature values and RH values should be displayed in the display
* Wireless Communication between the modules need to there
* Modular Design is required
* Water proofed sensors/ a mechanism to easily remove and install the sensors should be there
* An Alarm and a light should be used to alert the farmer about any of the factors exceeding the thresholds
* Mechanism to record the data sampled on hourly basis for the two weeks’ time of the plant in the propagator should be present
* Better if the scalability is there even for a bigger greenhouse for monitoring and controlling system

Dasun Tharinda

* Near field communication for sensors
  + All sensors communicate only with the display unit
* Far field/ storage needed only for the central display unit