Part 1 - Summary Project Details

Final Report

Report Due Date: 29-Sept-00

CRDC Project Number CSP112C

Project Title: (< 15 words) Providing continuous and reliable weather data collection at the Australian Cotton Research Institute

Part 2 - Project Contact Details

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(Name of organisation that will be administering the funding)

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Aim:

To replace the aging automatic weather station at the Australian Cotton Research Unit

Staff: Dr M.P. Bange, Mr G. Rapp, Mr T. Pfeiffer

Background and Industry Significance

This project is requesting assistance to fund a new weather station at the Australian Cotton Research Unit at Narrabri. Essentially the problem is that the collection of weather data at the institute is at risk because of aging instruments and dataloggers.

Collection of weather data at the institute is a vital activity because of the numerous research projects conducted at or around the station requiring this information for comprehensive data analyses. The practice at the station has been to maintain two independent weather stations to collect information. The reason for the two stations is to enable continuous data collection in case one station was to fail, which can regularly happen during the season especially when electrical storms are present.

Like all the other weather stations funded by the CRDC they are getting old. Our primary station is requiring much more maintenance to enable it to function properly. The other backup station is over 10 years old, moreover it is not year 2000 compliant.

The request for assistance is to help purchase a new high quality automatic weather station to serve as the primary station, and to use the existing functional station as backup. The station would collect the following information:

- Maximum and Minimum Temperature
- Relative Humidity
- Rainfall
- Solar Radiation
- Soil Temperature
- Wind Speed and Direction

The cost of purchasing and installing a new system will be $8,165, a Campbell's Scientific weather station.

This type of station is highly recommended by Perry Poulton of APSRU who has been using this equipment for over 10 years. The sensors attached to this station are high quality. Moreover the supplier is from Dubbo and can respond to servicing and maintenance needs.

While an automatic weather station of this type is not the penultimate when compared with those supplied by the Bureau of Meteorology, it is satisfactory for the needs of the research station. In addition if a Met Bureau station was purchased in the future, the station requested in this proposal could be easily relocated to other research sites.

Summary of Outcomes:

The purchase and installation of a new high quality automatic weather station was completed in September 2000. The station collects the following information:

- Maximum and Minimum Temperature
- Relative Humidity
- Rainfall
- Solar Radiation
- Soil Temperature
- Wind Speed and Direction

Issues considered when selecting a particular station were:

- Known quality and reliability of equipment.
- A comprehensive warranty on all equipment.
- The ability to connect to our existing computer network to improve accessibility and remove the need for modems and phone connections which has caused problems in the past.
- Reliable and easily accessibility of service and backup.

Three quotes were obtained from suppliers who provided stations on known high quality for the provision of an automatic weather station, software and communications, they were:

- **Pacfic Data Systems $6408** which only included the station and software, no communications, or direct support.
- **Measurement engineering Australia (Standard AWS) $8725.** They were unable to provide direct network connection or support.
- **Hydrodata $7970** which included the ability to link the station into our computer network, direct support, and had sensors similar to those stations above.

All stations had a three-year warranty and met the needs of climate parameter collection.

Hydrodata was selected for a number of reasons:

- They provided a station of similar quality for less cost when considering the communications aspect.

- Hydrodata's cost included installation and training in operation and maintenance.
- Satisfied the need to connect to ACRI network.
- Local and accessible back up and service.
- Provide a service to calibrate and service stations annually.

Plain English Summary

Project Title: Maintenance of Cotton Industry Weather Station Network

Principal Researchers: Dr M.P. Bange, Ms. D. Johnson, Mr G. Rapp

Project Aim: To replace the aging automatic weather station at the Australian Cotton Research Unit

Summary:

This project requested assistance to fund a new weather station at the Australian Cotton Research Unit at Narrabri. Essentially the problem was that the collection of weather data at the institute was at risk because of aging instruments and dataloggers.

Collection of weather data at the institute is a vital activity because of the numerous research projects conducted at or around the station requiring this information for comprehensive data analyses. The practice at the station has been to maintain two independent weather stations to collect information. The reason for the two stations is to enable continuous data collection in case one station was to fail, which can regularly happen during the season especially when electrical storms are present.

Like all the other weather stations funded by the CRDC they are getting old. Our primary station is requiring much more maintenance to enable it to function properly. The other backup station is over 10 years old, moreover it is not year 2000 compliant. The request for assistance was to help purchase a new high quality automatic weather station to serve as the primary station, and to use the existing functional station as backup.

The purchase and installation of a new high quality automatic weather station was completed in September 2000. The station collects the following information which is made freely available to all personnel at the Institute:

- Maximum and Minimum Temperature
- Relative Humidity
- Rainfall
- Solar Radiation
- Soil Temperature
- Wind Speed and Direction