iCARE Innovation Fund

Project Name

Monthly Progress Report

Reporting Period *(05, 2024)*

Prepared by: Dr Saqib Ali/Dr Sultan Habibullah Khan
Centre for Advanced Studies in Agriculture and Food Security, University of Agriculture,

1. Project Information

Project Title:	High Throughput Crop Monitoring using Computer Vision for Climate Smart Agriculture
Project Code:	WBCAR
Partner Organisation:	Centre for Advanced Studies in Agriculture and Food Security, University of Agriculture Faisalabad, Pakistan Guangzhou Institute of Software Application Technology, P.R. China
Reporting Period:	May 01, 2024 to May 31, 2024
Date of Submission:	Jun 05, 2024
Contact Name:	Project Manager - Prof. Dr. Sultan Habibullah Khan
Contact Position:	Centre for Advanced Studies in Agriculture and Food Security, University of Agriculture Faisalabad, Pakistan
Contact Email Address:	sultan@uaf.edu.pk
Contact Telephone Number:	+92 333 9917733
Status of project progress in this reporting period	☐ Significant delay ☐ Delay ☒ On Track
Report sign Off	☒ I have reviewed all the information provided for each section including number of beneficiaries. The information provided for each section of the report is complete. Name: _____ Designation: _____

2. Key Achievements

1. Backend Design has been completed.
2. Data acquisition and validation from weather stations is completed.
3. Third weather station installed at UAF campus in Okara.

3. Implementation Progress

Activity Title	Last Month Progress	Current Month Progress	Activities, and Events, planed for the subsequent month
Activity 1.1.1: Preparation of clear job description and advertisement (Dec 2023)	Completed	Completed	N/A
Activity 1.1.2: Interview, Selection, and orientation of candidates (Dec 2023)	Completed	Completed	N/A
Activity 1.2.1: Preparation of tenders and advertisement for bidding (Dec 2023- Jan 2024)	Completed	Completed	N/A
1.2.2: Screening of bidding documents and preparation of supply orders (Feb-Mar-2024)	In progress	Completed for 02 items, in progress for 02 items which have to be re-tendered	We initiated tender process of 4 equipment (01 weather station, 01 Soil sensor, 01 water quality sensor and 02 computers). Two items, Computer and Soil Sensor will be re-tendered because of higher bidding price than available funds. Process has already been initiated. Timeline has been attached in the Annex detailing the procurement process as per PPRA rules. It is

			requested that activity may please be shown on-track on the ADPC portal.
Activity 1.3.1: Install and configure the equipment at relevant locations (April-2024)	In-Progress	In-Progress	3 weather stations are installed. One remaining, once delivered will be installed.
Activity 1.3.2: Data acquisition (May - 2024)	In-Progress	In-Progress	3 out of 4 weather stations are installed and data is being transmitted; next month, we plan to complete the installation and initiate data analysis.
Activity 1.3.3: Data validation (June-2024)	In-Progress	In-Progress	Data from 3 out of 4 weather stations has been validated. If 4rth weather station is delivered by then, we'll complete installation and validate its data.
Activity 1.4.1: Design and development of online portal and mobile app (Feb-Aug-2024)	In-Progress	In-Progress	Backend Design is completed. Basic GUI will be designed to perform simple functions like Vegetation Index mapping and Clipping to Area of Interest (AOI).

Activity 1.4.2: Data integration (Jun-Sept-2024)	In-Progress	In-Progress	Once GUI and databases are linked, progress will start on this activity.
Activity 1.4.3: Testing (Aug-Nov-2024)	In-Progress	In-Progress	Once the app and portal are ready, progress will start on this activity.
Activity 1.5.1: Development of training materials and resources (Aug-Nov-2024)	In-Progress	In-Progress	Once the app and portal are ready, progress will start on this activity
Activity 1.5.2: Training of stakeholder on using the online portal and mobile app for crop monitoring (Nov 2024- Jan 2025)	In-Progress	In-Progress	Once the app and portal are ready, progress will start on this activity
Activity 1.5.3: Organize awareness seminars, workshops and conferences (Nov 2024- Jan 2025)	In-Progress	In-Progress	Once the app and portal are ready, progress will start on this activity
Activity 1.5.4: Policy for the potential of scaling up of technology for the South Asian region (Feb 2025)	In-Progress	In-Progress	Once the app and portal are ready, progress will start on this activity

4. Results Framework Indicators Progress

PDO Indicator Description: Government agencies and Citizens who have access to climate-resilient solutions tested under the project (Number)				
	Baseline	**Actual (Previous)**	**Actual (Current)**	**End Target**
Value	Govt: 1 Citizens: 200 (M:100, F:100)	0	0	Govt: 2 Citizens: 1000 (M:500, F:500)
Date		30 Apr 2024	31 May 2024	15 Jan 2025
Comments				
Output Indicator Description: Number of people trained (in person) (by sex, country, topic, year, participant category)				
Value	Citizens: 200 (M:100, F:100)	0	0	Citizens: 400 (M:200, F:200)
Date		30 Apr 2024	31 May 2024	15 Jan 2025
Comments				
Output Indicator Description: Number of people trained (online) (by sex, country, topic, year, participant category)				
Value	Citizens: 200 (M:100, F:100)	0	0	Citizens: 600 (M:300, F:300)
Date		30 Apr 2024	31 May 2024	15 Jan 2025
Comments				
Output Indicator Description: Number of knowledge products provided (by type of product, theme, country)				
Value	3	0	0	6

Date		30 Apr 2024	31 May 2024	15 Jan 2025
Comments				
Output Indicator Description: Number of people / organizations provided with knowledge products (by recipient category, type of knowledge product, country, theme)				
Value	Citizens: 200 (M:100, F:100)	0	0	Citizens: 1000 (M:500, F:500)
Date		30 Apr 2024	31 May 2024	15 Jan 2025
Comments				
Output Indicator Description: Number of events supported (by type, year, theme, country)				
Value	Online: 1 Field: 1	0	0	Online: 2 Field: 2
Date		30 Apr 2024	31 May 2024	15 Jan 2025
Comments				
Output Indicator Description: Number of people participating in supported events (by participant category, sex, year, theme, country)				
Value	Citizens: 200 (M:100, F:100)	0	0	Citizens: 500 (M:250, F:250)
Date		30 Apr 2024	31 May 2024	15 Jan 2025
Comments				

5. Challenges, Lessons Learned and Way Forward

During our procurement process, we faced the challenge of higher-than-expected bidding prices, which limited our ability to secure all intended items. However, this has provided valuable lessons in market price fluctuations and the importance of flexible budgeting. Moving forward, we are re-tendering the remaining two items (One Computer and Soil Analysis Equipment) with refined specifications, ensuring alignment with our financial parameters and overall project goals.

Annexures:

Date initiated	Procurement process
08.12.23	Request sent to treasury for constituting
25.01.24	Tender Community Constituted
01.02.24	Tender document sent to DPIC
06.02.24	DPIC sent tender document to PRP for publication
	Tender appeared in newspapers
15.04.24	Technical Bidding documents were opened
09.05.24	Technical evaluation completed and Acceptance letters were issued to the lowest bidders
24.05.24	Supply orders will be posted

University of Agriculture, Faisalabad
Department of CAS-AFS

No. CAS-PAAL-7
Dated: 24-5-24

To

M/s Buraq Integrated Solutions Pvt. Ltd.,
11-D, 6th Road,
Rawalpindi.
Tel No.051-4840137

Subject: **SUPPLY ORDER AGAINST TENDER NO.13/2024**

Please refer to your quotation against Tender No.13/2024 opened on 15.04.2024.

The committee has approved your bid for award of the same as per following:-

Sr. No.	Name of Item with Specification	Qty.	Unit Price (with GST)
1.	**Weather Station:** **Make/Model: ATMOS 41 by Meter Group, USA** The ATMOS 41 weather station packages 12 weather sensors into a single, compact device for atmospheric conditions. **It was designed for continuous deployment in harsh climates, such as Africa, which means there are no moving parts to fail. Installation and maintenance have been simplified to the maximum because there's never any mechanical wear. No oiling or replacing bearings. Just reliability you can continue to count on.** **Measurement Specifications** **Solar Radiation** **Range:** 0 – 1750 W/m^2 **Resolution:** 1 W/m^2 **Accuracy:** ± 5% of measurement typical **Precipitation** **Range:** 0 – 400 mm/h **Resolution:** 0.017 mm **Accuracy:** ± 5% of measurement from 0 to 50 mm/h **Relative Humidity (RH)** **Range:** 0 – 100 % RH (0.00 – 1.00) **Resolution:** 0.1% RH **Accuracy:** Varies with temperature and humidity, ±1.5% RH typical. **Hysteresis:** ±0.80% RH, typical RH **Long-term Drift:** ±0.25% RH/year, typical **Air Temperature** **Range:** –50 to 60 °C **Resolution:** 0.10 °C **Accuracy:** ±0.60 °C **Humidity Sensor Temperature** **Range:** –40 to 50 °C **Resolution:** 0.10 °C **Accuracy:** ± 1.0 °C **Vapor Pressure** **Range:** 0 – 47 kPa **Resolution:** 0.01 kPa **Accuracy:** Varies with temperature and humidity, ±0.2 kPa typical below 40 °C. **Barometric Pressure** **Range:** 1 – 120 kPa **Resolution:** 0.01 kPa **Accuracy:** ±0.05 kPa at 25 °C **Equilibration:** <10 ms **Long-term Drift:** < 0.1 kPa/year, typical	01	**Rs.3,319,340/- Each**

University of Agriculture, Faisalabad

Department of CAS-AFS

No. CAS-PAAL-08
Dated: 24-5-24

To

M/s New Chemical Center,
3-Syed Mauj Darya Road,
Lahore.
Tel No.0213-2737981

Subject: **SUPPLY ORDER AGAINST TENDER NO.13/2024**

Please refer to your quotation against Tender No.13/2024 opened on 15.04.2024.

The committee has approved your bid for award of the same as per following:-

Sr. No.	Name of Item with Specification	Qty.	Unit Price (with GST)
1.	**Water Quality Sensors** Make: Hanna Instruments Model No HI98194	01	**Rs.545,000/- Each**

SKU	HI98194-web
Product Name	Multiparameter pH/ORP/EC/TDS/Salinity/DO/Pressure/ Temperature Waterproof Meter - HI98194
Quote Required	Yes
pH Range	0.00 to 14.00 pH
pH Resolution	0.01 pH
pH Accuracy	±0.02 pH
pH Calibration	automatic one, two, or three points with automatic recognition of five standard buffers (pH 4.01, 6.86, 7.01, 9.18, 10.01) or one custom buffer
ORP Range	±2000.0 mV
ORP Resolution	0.1 mV
ORP Accuracy	±1.0 mV
ORP Calibration	automatic at one custom point (relative mV)
mV Range	±600.0 mV
mV Resolution	0.1 mV
mV Accuracy	±0.5 mV
EC Range	0 to 200 mS/cm (absolute EC up to 400 mS/cm)
EC Resolution	auto-ranging
EC Accuracy	±1% of reading or ±1 µS/cm whichever is greater
EC Calibration	automatic single point, with six standard solutions (84 µS/cm, 1413 µS/cm, 5.00 mS/cm, 12.88 mS/cm, 80.0 mS/cm, 111.8 mS/cm) or custom point
TDS Range	0 to 400000 ppm (mg/L); (the maximum value depends on the TDS factor)
TDS Resolution	manual
TDS Accuracy	±1% of reading or ±1 ppm (mg/L), whichever is greater
TDS Calibration	based on conductivity or salinity calibration
Salinity (PSU) Range	0.00 to 70.00 PSU
Salinity (PSU) Resolution	0.01 PSU
Salinity (PSU) Accuracy	±2% of reading or ±0.01 PSU whichever is greater
Salinity (PSU) Calibration	based on conductivity calibration
Salinity (Seawater Sigma) Range	0.0 to 50.0 σt, σ_0, σ_{15}

Glossary

Project Title	means	Exact and full name of the project as defined in the Sub Grant Agreement
Project Code	means	A five-digit code assigned by ADPC
Partner Organization	means	The lead agency(ies) responsible for the implementation of the project
Key Achievements	means	The actual outcome or impact of your work, such as reaching a PDO, or outcome or output defined in the final and agreed Results Framework.
Implementation Progress	means	Implementation progress means the steps or actions taken to achieve the PDO or outcomes or outputs. In this case it would be the list of activities defined in the final and approved work plan
Challenges	means	The most significant and persistent areas of risk that affect the project's ability to achieve its objectives. Challenges could be related to managing the Sub Grant, sustaining development gains, coordinating with stakeholders, and implementing core management functions. Please also discuss the solutions to mitigate these risks.
Lessons Learned	means	Lessons learned are contextual or operational information that may affect planning and future performance. They highlight the insights gained from the activity's implementation practices and progress, such as staff feedback, stakeholder interviews, data analysis, and success stories. They also include any changes required by or support requested from ADPC or partners.

Asian Disaster Preparedness Center

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