

iCARE Innovation Fund

Hyper-local medium-range weather forecasts to improve the climate resilience of smallholder coffee farmers in India

Monthly Progress Report

Reporting period: May 01, 2024, to May 31, 2024

Prepared by Precision Development (PxD)

1. Project Information

Project Title:	Hyper-local medium-range weather forecasts to improve the climate resilience of smallholder coffee farmers in India
Project Code:	WBCAR
Partner Organisation:	Precision Development (PxD), Coffee Board of India, and Climate Forecast Applications Network (CFAN)
Reporting Period:	May 01, 2024 to May 31, 2024
Date of Submission:	June 05, 2024
Contact Name:	Sannihit
Contact Position:	Program Associate
Contact Email Address:	sannihit@precisiondev.org
Contact Telephone Number:	+91 8190875722
Status of project progress in this reporting period	<input type="checkbox"/> Significant delay <input checked="" type="checkbox"/> Delay <input type="checkbox"/> On Track
Report sign Off	<p>I have reviewed all the information provided for each section including the number of beneficiaries. The information provided for each section of the report is complete.</p> <p>Name: Sannihit Designation: Program Associate</p>

2. Key Achievements

1. PxD has launched the weather forecast service with a sample of **1212** farmers. While the pickup rate has been 64.15%, among those farmers who answered the calls the listening rate has been impressive at 78.76%. Such engagement compared to the stated goals of achieving 55% pickup rate and 60% listening rate indicates that the service is performing well.
2. PxD has successfully automated the entire process of extracting the forecast data from CFAN portal, organizing and mapping the forecast data with farmer location, converting the forecast information to audio files and broadcasting them to users, resulting in faster sharing of time-sensitive forecast information helping farmers with timely decision-making and better planning.

3. Implementation Progress (Revised Work Plan)

	Activity Title	Last month progress (April, 2024)	Current month progress (May, 2024)	Activities planned for subsequent months
1.1.1,	Analysis of current seasonal cycle (Dec 2023)	Completed	Completed	NA
1.1.2	Incorporating findings from the lab-in-the-field (conducted prior to and outside of the scope of this project) to generate advisory calendar Deliverable: Finalized Coffee Crop Calendar (Dec 2023)	Completed	Completed	NA
2.1.1	Commencing receipt of forecasts from CFAN. Sample of the CFAN data (Dec 2023)	Completed	Completed	NA
2.1.2	Finalize set of probability triggers and alert frequencies for non-monsoon and monsoon periods (Dec 2023 - Feb 2024)	Completed	Completed	NA
2.1.3	In-depth analysis of skill for each alert template to arrive at accuracy scores (Dec 2023 - Feb 2024)	Completed	Completed	NA
3.1.1	Translation of forecast templates to Kannada (Jan 2024)	Completed	Completed	NA
3.1.2,	Recording of audio snippets for testing (Jan 2024)	Completed	Completed	NA
3.1.3	Final recording of voice snippets & quality checks Deliverable: Link to the library of audio files	Completed	Completed	NA

	(Jan - Feb 2024)			
3.2.1	Audio stitching technology is developed, configured, and integrated with PxD's in-house IVR system (Jan 2024)	Completed	Completed	NA
3.2.2	Audio stitching of recorded voice snippets is conducted for sample participants for a 5-day forecast period (Feb 2024)	Completed	Completed	NA
3.2.3	Audio-stitched recordings are tested in-house, refined, and adapted (Mar 2024)	Completed	Completed	NA
4.1.1	Finalize a set of KPIs and metrics critical for monitoring needs. (Dec 2023 - Jan 2024)	Completed	Completed	NA
4.1.2	Raw forecast data integrated into a data warehouse that the dashboard can access. (Dec 2023 - Jan 2024)	Completed	Completed	NA
4.1.3	Collected data cleaned, transformed, and processed into a format suitable for visualization. (Jan - Feb2024)	Completed	Completed	NA
4.2.1	Finalise UI and UX that is user-friendly, efficient and intuitive (Jan - April 2024)	In progress Research team has finalized inclusion of metrics related to forecast skill, such as Hit, Miss, Correct Negative, and False alarms	In progress Engineering team is working on including new metrics.	PxD will include skill related metrics and continue to add newer components such as IMD ground station and realization data in the coming months.

4.2.2	Finalise front-end and back-end components that include creating interactive elements, integrating data sources, and implementing user authentication and authorization (Jan - April 2024)	In progress	In progress	
4.2.3	Implement mechanisms for forecast real-time updates (Jan - Mar 2024)	Completed	Completed	
4.2.4	Thorough testing of the dashboard to ensure accurate data representation, responsive design, and functionality. Address any bugs, inconsistencies, or performance issues. (Feb - April 2024)	In progress	In progress	In the coming months, PxD will expand the dashboard's functionality to include features that will provide even deeper insights for users
4.2.5,	Conduct user testing to gather feedback on the dashboard's usability and functionality and make necessary adjustments (Mar - April 2024)	In progress	In progress We completed the first round of feedback, adding new metrics like Hits, Misses, False Alarms, and Correct Negatives to the dashboard for a more comprehensive performance overview. A second round of feedback is planned to further refine the user experience and ensure the dashboard meets user needs effectively.	
4.2.6	Deploy the dashboard on a suitable hosting environment ensuring it is accessible and secure (April 2024)	Completed	Completed	

5.1.1,	Prepare sample for pilot based on stratification parameters (Feb 2024)	Completed	Completed	
5.1.2	Agronomists and agro-met design advisory based on upcoming forecasts (Feb 2024)	Completed	Completed	
5.2.1	Relevant advisories are audio recorded (Feb 2024)	Completed	Completed	
5.2.2	Tech team audio stitches advisory snippets (Mar 2024)	Completed	Completed	
5.3.1	Disseminate forecast + advisory with 1000 sample farmers (Mar - April 2024)	Completed	Completed.	
6.1.1	Identify parameters for data collection (Mar 2024)	Completed	Completed	
6.1.2	Prepare questionnaire (Mar-May 2024)	In progress	Completed	
6.1.3	Survey translation to local language, coding on SurveyJS and surveyor training (Mar-May 2024)	In progress	In progress	Survey translations and coding completed. Training will happen in first week of June

6.2.1	Phone based survey data collection (April-June 2024)	NA	In progress	Phone based data collection, and Testimonial collection in June
6.2.2	Testimonial collection on the field (April-June 2024)	In progress	In progress	Farmers identified. Testimonials to be collected in June
6.3.1	Clean and analyze collected data (April-June 2024)	In progress	In progress	Data cleaning and analysis to begin in June
6.3.2	Summarize findings in a report (May - June 2024)	In progress	In progress	Report to be submitted in June
7.1	Scaling to 25,000 farmers (May - June 2024)	NA	In progress	

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	NA	1212	1212	50,000
Date	NA	April 30, 2024	May 31 2024	January, 2025
Comments	The service was launched on April 21, 2024			
Output Indicator Description: Number of people trained (in person) (by sex, country, topic, year, participant category)				
Value	NA	NA	NA	NA
Date	NA	NA	NA	NA
Comments	PxD is arranging only online training. With over 4 years of experience in remote training farmers, PxD finds that online training helps reach a wider audience across different geographies.			
Output Indicator Description: Number of people trained (online) (by sex, country, topic, year, participant category)				
Value	NA	1212	1212	1500
Date	NA	April 30, 2024	May 31 2024	January, 2025
Comments	A total of 1,212 farmers underwent online training to interpret probabilistic forecasts . Among them, 309 were women , and 903 were men . The training was conducted in August 2023, in Karnataka, India . The service has been pilot launched with all the trained farmers.			
Output Indicator Description: Number of knowledge products provided (by type of product, theme, country)				
Value	NA	1	1	3
Date	NA	April 30, 2024	May 31 2024	January, 2025
Comments	A video has been developed to train farmers on the concept of 'probability', including interpretation of probabilistic forecasts			

Output Indicator Description: Number of people / organizations provided with knowledge products (by recipient category, type of knowledge product, country, theme)				
Value	NA	1212	1212	1500
Date	December, 2023	April 30, 2024	May 31 2024	January, 2025
Comments	The audio-visual material was used for training the farmers.			
Output Indicator Description: Number of events supported (by type, year, theme, country)				
Value	NA	0	0	3
Date	NA	April 30, 2024	May 31 2024	January, 2025
Comments	A blog post announcing the launch of the service is under development and will be published shortly after getting the necessary approvals from iCare.			
Output Indicator Description: Number of people participating in supported events (by participant category, sex, year, theme, country)				
Value	NA	0	0	150
Date	NA	April 30, 2024	May 31 2024	January, 2025
Comments				
Output indicator: Pickup rate (percentage of the scheduled calls answered by farmers)				
Value	NA	61.43%	64.15%	55%
Date	NA	April 30, 2024	May 31 2024	January, 2025
Comments	Automation of broadcasting ensures regular broadcasting every 5 days. As farmers get used to the forecast schedule, pickup rates are likely to go up.			
Output indicator: Listening rate (percentage of the average length of the forecast listened to)				
Value	NA	78.20%	78.76%	60%
Date	NA	March 31, 2024	April 30, 2024	January, 2025
Comments	The impressive listening rate suggests that most farmers find the information valuable. The high listening rate may also be due to the short message length, typically 27-28 seconds.			

5. Challenges, Lessons Learned and Way Forward

Challenge	Lessons Learned	Way Forward
Finalising the dashboard for tracking weather-related metrics within 2-3 months is challenging because PxD sees the need to include more parameters as the project progresses.	Products such as the dashboard are best developed iteratively throughout the project. Therefore, it's beneficial to allow longer timelines for creating several versions with incremental improvements.	Adjust the timelines so that each version of the dashboard is deployed in shorter intervals, while still aiming for the final product to be ready by the end of the year..

Glossary

Project Title	Exact and full name of the project as defined in the Sub Grant Agreement
Project Code	A five-digit code assigned by ADPC
Partner Organization	The lead agency(ies) responsible for the implementation of the project
Key Achievements	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	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	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	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.



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