

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: December 15, 2023, to January 31, 2024

Prepared by Precision Development (PxD)

2. Key Highlights

Finalized the coffee crop calendar, including identifying the high-priority, weather-sensitive agricultural practices. The calendar has been developed in consultation with the Coffee Board and the Central Coffee Research Institute. PxD has also incorporated the findings from the Lab-In-Field study (conducted prior to and outside the scope of this project)

Prepared the library of audio files required for composition of customized weather template messages. Simultaneously, PxD's engineering team has made significant progress in developing the audio-stitching technology which has already been integrated into the existing IVR service and is already pulling data from the CFAN portal. Sample weather template audio files have been generated. The integration between the existing IVR and the audio-stitching is being refined further.

PxD has initiated the necessary steps to renew the contract with CFAN and has started communication with the weather expert to discuss finalizing probability triggers.

3. Reporting on Project Activities

Activity Title	Previous Status	Current Status
<p>Analysis of current seasonal cycle</p> <p>Incorporating findings from the lab-in-the-field (conducted prior to and outside of the scope of this project) to generate advisory calendar</p> <p>Deliverable: Finalized Coffee Crop Calendar</p>	NA	Completed.
<p>Commencing receipt of forecasts from CFAN</p> <p>Sample of the CFAN data</p>	NA	Completed
<p>Finalize set of probability triggers and alert frequencies for non-monsoon and monsoon periods</p> <p>In-depth analysis of skill for each alert template to arrive at accuracy scores</p>	NA	<p>Delayed by 2 weeks.</p> <p>Communication with the weather expert initiated. To be completed by Mid-February</p>
<p>Translation of forecast templates to Kannada</p> <p>Recording of audio snippets for testing</p> <p>Final recording of voice snippets & quality checks</p> <p>Deliverable: Link to the library of audio files</p>	NA	Completed
<p>Audio stitching technology is developed, configured, and integrated with PxD's in-house IVR system</p>	NA	<p>Audio-stitching under development, but already integrated into PxD's in-house IVR system.</p> <p>Currently it is possible to generate stitched audio from the IVR interface</p>
<p>Audio stitching of recorded voice snippets is conducted for sample participants for a 5-day forecast period</p>	NA	In progress

Audio-stitched recordings are tested in-house, refined, and adapted	NA	In progress
Finalize a set of KPIs and metrics critical for monitoring needs.	NA	Completed
Raw forecast data integrated into a data warehouse that the dashboard can access.		Completed
Collected data cleaned, transformed, and processed into a format suitable for visualization.		Delayed by 2 weeks While PxD has started receiving forecast data from CFAN, a one-month delay in data analysis has impacted subsequent activities, such as data cleaning, transforming, and processing.

4. Challenges, Lessons Learned and Way Forward

Challenge	Lessons Learned	Way Forward
Delay in communication	Delay in communication with the partner organizations (CFAN and weather expert) can lead to a delays in the chain of tasks associated with such communication (analysis of the data, finalizing a set of probability triggers, evaluation of skill for each alert template)	Even though decisions are still pending finalization, PxD shall initiate communication to outline potential activities and express the necessity for collaboration.
Delay in technology development	Need to anticipate more buffer time when creating timelines for technical tasks	To expedite the progress on the concurrent tasks and ensuring they are ready to be implemented when we are prepared to integrate the technology



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