Action Plan

Topic: Dissemination of Weather, Climate, and Ocean Services in the Solomon Islands Using App-Based Method

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KOICA
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Presenters

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1. Background and Purpose

• Background

The Solomon Islands face significant risks from weather events, climate change, and ocean-related hazards such as tropical cyclones, floods, tsunamis, and marine disruptions. The Solomon Islands Meteorological Service (SIMS), under the Ministry of Environment, Climate Change, Disaster Management and Meteorology (MECDM), is responsible for providing these services, including daily forecasts, warnings, and marine information. However, current dissemination relies heavily on traditional methods like radio, websites, and community networks, with limited app-based tools.

• Purpose

To develop and implement a mobile application that disseminates real-time weather forecast s, climate data, ocean warnings (e.g., marine forecasts, tsunami alerts), and disaster prepared ness information to Solomon Islanders, particularly in remote provinces. This will empower communities to make informed decisions, reduce disaster impacts, and support sectors like agriculture, fisheries, and tourism. By leveraging lessons from Korea's integrated digital services, the project aims to modernize SIMS's outreach, fostering a more proactive approach to climate and disaster management while aligning with national goals under the Solomon Islands National Development Strategy (NDS) 2016-2035.

Current Problems and Issues of the Ministry/Government

Key challenges within MECDM and SIMS include geographical fragmentation, with is lands separated by vast oceans, leading to inconsistent monitoring networks and delays in data collection and dissemination. Extreme weather events, such as heavy rains, flash floods, strong winds, and cyclones (e.g., Tropical Cyclone Harold in 2020), overwhelm the system, causing loss of life, infrastructure damage, and economic setbacks. Climate change amplifies these issues through ocean warming, sea-level rise (7-10 mm/year in some areas), acidification, and altered rainfall patterns, threatening ecosystems like coral reefs and mangroves, which support livelihoods in fisheries. Limited funding and technical capacity hinder upgrades, while low internet penetration in rural areas (despite growing mobile access) restricts digital reach. Health impacts, such as increased vector-borne diseases during wet seasons and sanitation failures during floods further strain government resources.

2. Current Status and Issues – SWOT Analysis

Strength

- Currently SIMS has full access to the relevant NWP forecast data, and has the capacity to produce multi-hazard early warning information.
- A dedicated network of observers and strong regional partnerships (e.g., with the Regional Specialised Meteorological Centre in Fiji).

Weakness

- Lack of easy access to early warnings messages to inform early actions.
- SIMS lack the technical capacity in developing and managing the Early warning system Application.
- outdated dissemination methods, which fail to reach remote communities promptly, leading to inadequate preparedness

Opportunity

- SIMS will be able to have an early warning system application for providing multi-hazard early warnings
- . high mobile penetration (80%) and growing 4G/5G infrastructure, allowing for app-based innovations inspired by Korean models

Threat

- escalating climate risks, potential funding short falls, and cybersecurity vulnerabilities in digital shifts.

2. Current Status and Issues – Gap Analysis

Proposed Overall Goals (Objectives)

To Be

A digitized, app-centric system ensuring 80% of the population receives real-time alerts within minutes, integrated with national EWS.

Current status involves fragmented, analog-heavy dissemination, resulting in delayed alerts and uneven coverage across provinces.

As Is

SIMS uses radio, website, and emails to disseminate early warnings

Proposed Purpose

- To disseminate multi-hazard early warnings and updates to individuals for easy access to inform early actions
- To allow users provide verification of impact pictures via the application

3. Improvement Strategy

The project will transition SIMS from traditional to digital dissemination, solving iss ues like untimely information and limited reach. This involves developing a user-fri endly mobile app for Android and iOS, incorporating features like push notifications for weather alerts, interactive maps for ocean conditions, and community feedback modules. To address government issues, we will integrate the app with NDMO's disaster response systems and collaborate with telecom providers for offline acces s in low-connectivity areas.

4. Specific Action Plan

Strategies to promote cooperation include establishing a cross-departmental task force with senior officers from MECDM for policy oversight and subordinate officers for field testing and data input. Regular virtual meetings and joint training sessions will foster connections. To improve current duties (e.g., forecasting and monitoring), staff will receive app management training, combining these with other duties like climate education by embedding educational content in the app. This hybrid approach will streamline workflows, allowing meteorologists to focus on analysis while the app handles automated dissemination, ultimately enhancing efficiency and inter-departmental synergy.

4. Specific Action Plan

- **The steps to achieve your goals**

STEP 1

- SIMS-Stakeholders provided the details of the multi-hazard early warning needs

STEP 2

- SIMS identified experts/software engineers and funding agency to perform the coding.

STEP 3

- SIMS-Stakeholders-Expert finalizing the web applications based on feedback
- SIMS officers are trained to use, manage the application, and trainers of the application.

5. Outline of the Action Plan

- **Implementing Organization**
  - Name of the organization: SIMS

  - Nature or type of the organization: Government

  - Major functions of the organization:

  Only mandated Gov't Entity that provides Multi Hazard early warnings, weather updates, climate services, to the Solomon Islands Gov't, and communities

- **Duration of the Project : (3) Year(s)**

  - Date of commencement: 01/01/2026

  - Date of completion: 31/12/2028

※ Action Plan–Budget

Phase	Activities	Time Line	Estimated Cost (SBD)	Country Contribution (SBD)	KOICA Contribution (SBD)
Preparation	Needs Assessment, stakeholder consultation, policy formulation	01/01/2026 – 31/03/2026 (3 months)	$100,000 (Venue - $40,000, travel - $30,000, Materials - $30,000)	$50,000 (Government Officers Time and Logistics)	$50,000 (Expert consultations)
Development	Hire software company for app coding (design: $100,000, Coding: $200,000 Testing: $100,000) Procure servers and tools	01/04/2026 – 31/12/2026 (9 months)	$400,000	$100,000 (Local IT)	$300,000 (Manpower: KOICA) Experts(oversight)

※ Action Plan–Budget

Phase	Activities	Time Line	Estimated Cost (SBD)	Country Contribution (SBD)	KOICA Contribution (SBD)
Training & Workshops	Conduct consultation workshops & training in Honiara (Facilitators : $100,000; Participant allowances: $100,000; Materials & venues: $100,000) for 200 users/staff	01/01/2027 – 31/06/2027 (6 months)	$300,000	SIMS Transportation	$300,000 (Trainers from KOICA)
Implementation & Pilot	App launch, pilot in provinces, marketing campaigns	01/07/2027 – 31/12/20227 (6 months)	$300,000 (Marketing: $150,000; Pilot monitoring: $150,000)	$50,000 (Government media partnerships)	$250,000 (Donor-funded ads)
Monitoring & Scaling	Nationwide rollout, updates, impact evaluation	01/01/2028 – 31/12/2028	$350,000 (Maintenance : $200,000; Evaluation: 150,000)	$50,000 (Staff support)	$300,000 (Additional manpower: 5 experts)
Total			**$1,450,000**	**$250,000**	**$1,200,000**

- **Duration : 3 Years Work Plan: 2026-2026**

Year 1 Work Plan: 2026

No	Item	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Fund SBD$
1	Preparation	■	■	■										$100,000
2	Development				■	■	■	■	■	■	■	■	■	$400,000

Year 2 Work Plan: 2027

No	Item	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Fund SBD$
1	Training & Workshops	■	■	■	■	■	■							$300,000
2	Implementation & Pilot							■	■	■	■	■	■	$300,000

Year 3 Work Plan: 2028

No	Item	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Fund SBD$
1	Monitoring & Scaling	■	■	■	■	■	■	■	■	■	■	■	■	$350,000
2	Total												**$1,450,000**	

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6. Expected Results – Outputs/Outcomes

• Economic Effects

The app will enable timely alerts, reducing agricultural losses from floods/cyclones by 25%, saving an estimated SBD 10 million annually in fisheries and farming sectors. Enhanced tourism through reliable weather data could boost revenue by 15%, while efficient resource allocation in disasters minimizes government recovery costs.

• Technical Effects

Introduction of a robust app platform will modernize SIMS's infrastructure, incorporating AI-driven forecasts (inspired by Korean tech) for accurate predictions. This includes offline caching for remote access, improving data reliability and integrating with global systems like WMO's, enhancing overall technical capacity.

• Social and Environmental Effects

Socially, the app will empower vulnerable communities (e.g., women in rural areas) with accessible information, reducing health risks from weather events and fostering education on climate adaptation. Environmentally, it will promote sustainable practices by disseminating ocean health data, aiding coral reef protection and reducing overfishing during adverse conditions.

6. Expected Results – Challenges/Solutions

• Challenges and Risks

Potential problems include low initial adoption due to digital literacy gaps, technical glitches in app functionality, data privacy breaches, and funding delays. Risks also encompass uneven internet access in outer islands and resistance from staff accustomed to traditional methods.

• Solutions

To manage these, conduct targeted digital literacy campaigns in workshops, partner with telecoms for subsidized data bundles, and implement rigorous testing with backups. Privacy will be addressed via encrypted protocols from Korean models. For funding, secure contingency donors; for resistance, involve officers in co-design to build buy-in. Regular evaluations every 6 months will allow adaptive adjustments.