



Final Project Evaluation Report

EU-GIZ ACSE Land Use and Coastal Vulnerability Assessments, Kiribati

FA: 81208394

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Project visibility during Quantum Leap Week on Tarawa 2018

Table of Contents

Purpose of Evaluation	3
Context	3
Session 1 – Review Methodology	4
Session 2 – Achievement Summary	4
Session 3 - Expenditure Review	5
Session 4 - The Objective	6
Session 5 – Outcomes Achievement and Project Impact.....	10
Session 6 –Output Achievement.....	13
Session 7 - Project Management	19
A. The Team	21
B. Communications	22
<i>B.1 Government</i>	<i>22</i>
<i>B.2 External Stakeholders</i>	<i>22</i>
<i>B.3 Contract holder</i>	<i>23</i>
C. Decision-making processes within the team and with others.....	23
D. Processes for recording and managing issues and risk	24
E. Financial controls and budget management	24
F. Record keeping.....	25
G. Annex 7 Technical Reporting.....	25
Session 8 - Gender	25
Session 9 - Products.....	26
Session 10 - Media and Visibility	26
Session 11 - Sustainability.....	27
Session 12 - Legacy	27
Annexes	27
Annex 1: Project Outputs	28
Annex 2: Project Visibility Products.....	Error! Bookmark not defined.

Purpose of Evaluation

The purpose of the final project evaluation was to confirm how effectively the project delivered and achieved its commitments set out in the project financing agreement and associated project design document (PDD).

Context

The Land Use & Coastal Vulnerability Assessments, Kiribati project (KI9) is an initiation by the Government of Kiribati under the EU-GIZ Adapting to Climate Change & Sustainable Energy (ACSE) Programme.

The project therefore aimed to enhance the capacity and update the skill level of the competent agencies to enable them to use applicable GIS assessment tools and methodologies to map coastal land use vulnerabilities.

The project also used a community participatory approach that utilized local knowledge to map and assess existing vulnerabilities to guide development of adaptation measures at the community level.

The objective of the project was to:

Strengthen the capacity of the government GIS officers and select communities to undertake land-use and coastal vulnerability assessments.

The planned outcomes were:

1. Strengthened institutional capacities to undertake land use & coastal vulnerability assessments.
2. Land-use & coastal vulnerability assessments undertaken on 3 islands with vulnerability maps produced.
3. Island communities engaged through the use of GIS community participation model on at least one of the islands model to map affected sites at the village scale.

Session 1 – Review Methodology

The evaluators of this project were:

1. Tarakabu Tofinga – Project Manager, Land Management Division, Ministry of Environment, Lands and Agriculture Developments
2. Craig Bohm – Technical Advisor, GIZ

The ‘project team’ consisted of a core group of six government-employed GIS technicians, who were also part of the broader 14-person project trainee group. The Kiribati National Expert Group for Climate Change and Disaster Risk Management (KNEG) provided higher-level government oversight of the project but was not involved in the detail of delivery.

At the time of the evaluation however, core project team was committed to preparing for a major conference, so was unavailable to participate in the evaluation workshop. The evaluators further decided that the KNEG members had not been sufficiently close to the detail of the project to warrant their involvement in this detailed review process.

To compensate for the lack of direct participation in the project review process, the evaluators designed a questionnaire, which they distributed to all government officers who participated in the project.

The evaluators designed the questionnaire to gauge the level of skills improvement from each project participant, as well as to seek their feedback on aspect of the project that could have been done better. The project manager also interviewed some project participants to increase the depth of the feedback to the questionnaire.

The evaluators integrated the summary of results from the questionnaires into this review. The summary is included as Appendix 1.

Further, in preparation for the EU-GIZ ACE programme-level *Peer Learning Workshop* held in Suva in November 2018, the project team had already gathered lessons learnt, best practices and success stories from the project, and had presented these at that workshop. The lessons learnt were particularly valuable and included here as Annex 2.

Session 2 – Achievement Summary

- *Brainstorm the major achievements and list them.*

Project Outcome	Major Achievement
Outcome 1 Strengthened institutional capacities to undertake land use & coastal vulnerability assessments.	<p>The Land Management Division, Ministry of Environment, Lands and Agricultural Development (MELAD) has benefited:</p> <ul style="list-style-type: none">• New GIS server and computers• IT Support Officer for 5 months• Staff training in Quantum GIS open-source software applications• Theoretical training in software use, data processing and modern survey equipment. <p>The Minerals Development Division, Ministry of Fisheries and Marine Resources Development (MFMFD) benefited from:</p>

	<ul style="list-style-type: none"> • Participating in trainings with MELAD staff • New high speed laptop and desktop to enhance GIS data processing • Community participatory mapping • On ground field work and data processing work <p>The Civil Engineering Unit, Ministry of Infrastructure and Sustainable Energy benefited from:</p> <ul style="list-style-type: none"> • Senior surveyor participating in all training activities including field work • Data processing • Application of QGIS • Analysis and presentation of data • Community participatory mapping <p>Environment and Conservation Division, MELAD staff benefited from:</p> <ul style="list-style-type: none"> • Exposure to GIS technologies and their use • Land use and coastal mapping field work and community participatory mapping • Inspiration to pursue further training in GIS applications, which GIZ is currently delivering under a separate project.
Outcome 2 Land-use & coastal vulnerability assessments undertaken on 3 islands with vulnerability maps produced.	Land-use & coastal vulnerability assessments were undertaken on 3 islands: Makin island (northern group of islands) Kuria island (central group of islands) Tabiteuea North (southern group of islands) <p>The project developed a set of maps for each of the aforementioned islands.</p>
Outcome 3 Island communities engaged through the use of GIS community participation model on at least one of the islands model to map affected sites at the village scale.	Island communities were directly engaged in mapping activities through a structured community participation approach. <p>The approach included focus group work, information sharing and gender disaggregated consultations.</p> <p>Affected sites were mapped and results presented to each of the 3 communities towards the end of the project.</p>

Session 3 - Expenditure Review

Finance Management field	Key budget points
Status	The allocated budget of 138,700 euro was expended.

What were the main advantages of the financial management system?	The finance management system was straight forward because the finances were managed outside of the complex government finance management system. The project benefited from maintaining a separate bank account, with two high-level government officials signatories to that account.
What were the main challenges of the financial management system?	<p>The project really needed a separate financial controller, with experience in managing donor projects. This work was left to the In-Country Coordinator with little government support received.</p> <p>The high level of transparency needed in the accounting system, meant it was a big task collecting invoices and receipts, booking and managing the financial accounting of project teams participating in workshops or travelling to outer islands to undertake fieldwork.</p> <p>The process of settling funds with GIZ and making calls for disbursement was complex and required a high level of experience in accounting to ensure compliance with the GIZ accounting standards.</p>
Did you encounter any major problems with the financial management system?	<p>Financial settlements were very time consuming and needed a lot of 'back and forward' discussion with GIZ in Suva. This sometimes became quite confusing.</p> <p>In Kiribati, there is still not a strong culture of providing written quotes and receipts for goods or services. This made it extremely difficult, at times, to collect the required accountability documentation.</p> <p>Their systems of procurement in Kiribati are also much less stringent and there was often extra work to explain procurements.</p>
What did you do to overcome these challenges?	Patience and persistence, and teaching everybody about the importance of transparent accounting and reporting, or at least receipting.

Session 4 - The Objective

Achieving the objective of the project as set out in the Financing Agreement, or subsequent amendment thereto, is the core responsibility of the contracted implementing partner but is a responsibility shared by all in the project team.

Questions	Responses
What was the stated objective in the Financing Agreement?	Strengthen the capacity of the government GIS officers and select communities to undertake land-use and coastal vulnerability assessments.
Is the project today, at its conclusion, consistent with the objective as set out in the Financing Agreement?	Yes
If so, in what ways is the project consistent with the objective?	All project outputs and activities were carefully designed, and then achieved to deliver against the stated objective.

<p>Were there any risks to achieving the stated objective? If so, list them.</p>	<p>The sub-contract between the Government of Kiribati and the Pacific Community (SPC), who was engaged to deliver technical trainings and to procure technical equipment, was not delivered as well as hoped.</p> <p>SPC staff failed to appear for some field trips, they did not provide adequate reports, these had to be produced by the ICC, and failed to procure project equipment against specification and in a timely way.</p> <p>SPC also failed to deliver acquittal records for the purchases they made. This undermined the project significantly, causing delays and the need to call for a project variation.</p>
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Project Descriptions	Indicator	Baseline	Target	Total Achieved	Validation	Validation Reference
Objective Strengthen the capacity of the government GIS officers and select communities to undertake land-use and coastal vulnerability assessments.	Improved enabling environment to undertake land use & coastal vulnerability assessment Institutional & individual capacity of targeted stakeholder levels strengthened	Capacity of key agencies to undertake vulnerability assessment and applications of applicable GIS tools & methodology is low with communities having limited knowledge on impacts of cc & adaptation measures	More than 10 staff are competent to use upgraded GIS platform for vulnerability assessment at end of Project	10 staff had their skills significantly upgraded	Demonstrated by their high level of participation in project trainings. Self-assessment results of trainee skills assessment questionnaires. High standard of maps produced through the group data processing workshops.	190906 KI9 - Final Skills Assessment Report Results in above report 180923 KI9 - Kuria Trip 1 - GIS Training Exercise Report 180630 KI9 - Tab North - Trip 2 - GIS Training Exercise Report 190401 KI9 - Makin Trip 2 - GIS Training Exercise Synthesis Report
			GIS platform upgraded & relevant tools adapted for	LMD office infrastructure for GIS work upgraded, new	Procurement reports	190830 KI9 - Land Management

			vulnerability assessment	GIS equipment, purchased and IT technician to support installation and management of new system.		Division Infrastructure Upgrade Report 191030 KI9 - Assets Register
			Local communities demonstrate application of adaptation models	Island communities actively engaged in the mapping feedback presentations offering more detail to the mapping results.	Community Feedback Presentation Workshops	190516 KI9 - Project Results Mission Report - Combined

Session 5 – Outcomes Achievement and Project Impact

The projects outcomes are those set out in the Financing Agreement. The IMPACT discusses how the outcomes have changes the lives of beneficiaries (positive and negative)

Project Descriptions	Indicator	Baseline	Target	Total Achieved	Validation	Validation Reference
Outcome 1 Strengthened institutional capacities to undertake land use & coastal vulnerability assessments.	Upgraded GIS platform & management system placed at focal agency with staff capability improved	Deficient institutional capacity to perform land use & coastal vulnerability assessment	Compatible, cost-effective GIS system installed and used for coastal land use vulnerability assessment	Installations completed and in operation	Procurement Reports	190830 KI9 - Land Management Division Infrastructure Upgrade Report 191030 KI9 - Assets Register
Outcome 2 Land-use & coastal vulnerability assessments undertaken on 4 islands with vulnerability maps produced.	Well-coordinated effort to undertake land use & coastal vulnerability assessment at the central level Island communities including Council are fully aware of island vulnerabilities	Absence of well documented/presented land use & coastal on vulnerability assessment	Well executed & documented vulnerability & adaptation assessments for informed decision making both at the central and local levels	Land-use & coastal vulnerability assessments were undertaken on 3 islands: Makin island (northern group of islands) Kuria island (central group of islands) Tabiteuea North (southern group of islands)	Synthesis reports	180923 KI9 - Kuria Trip 1 - GIS Training Exercise Report 180630 KI9 - Tab North - Trip 2 - GIS Training Exercise Report 190401 KI9 - Makin Trip 2 - GIS Training Exercise Synthesis Report

				The project developed a set of maps for each of the aforementioned islands.		
Outcome 3 Island communities engaged through the use of GIS community participation model on at least one of the islands model to map affected sites at the village scale.	A well-adapted community participation GIS model for vulnerability assessment at the local level	Absence of localized community participation model/toolkit for vulnerability assessment at the local level	A well define model that can be replicated and adapted at different community level	Model developed but not formally institutionalised, due to the lack of a mechanism to do so, only informally Island communities actively engaged in the mapping feedback presentations offering more detail to the mapping results.	Community Participation Model Mapping Reports discuss community participation	190725 KI9 - Guide to GIS Community Participatory Mapping. A Framework As listed under Outcome 2

Questions	Responses
Did any of the anticipated outcomes change during the project? If so, which ones? For each change, explain why.	Yes. The project intended to survey 4 islands but only surveyed 3 islands. The team reduced the number of islands from 4 to 3 due to an increase in travel costs putting pressure on the budget. Government DSA rates increased in May 2017 for outer island (Government MoU, May 2017) The cost of domestic flights increased in the same month (Air Kiribati airfares price list)

Session 6 –Output Achievement

List the project outputs and describe the quality of their achievement.

Outputs	Indicator	Baseline	Target	Total Achieved	Validation	Related Annex
Output 1.1 GIS Platform Upgraded Upgrade the government's existing GIS system using a cost-effective, open-source and compatible platform.	Upgraded GIS platform with analytical capability for vulnerability assessments	Inadequate capability of existing GIS applications for land use & coastal vulnerability assessment	A cost-effective and compatible GIS platform for stable land use & coastal vulnerability assessment	New server system purchased and installed at Lands Office. Migration of datasets and harmonization of GIS system with Kiribati Land Information System (KLIS)	IT Support Officer Report	190830 KI9 - Land Management Division Infrastructure Upgrade Report
Output 1.2 GIS Data Management System Upgraded The current GIS data management system is reviewed and a new system installed that integrates GIS information gathered, used, and housed in other agencies.	Centralized dataset system for land use & coastal vulnerability assessment established & upgraded	Existing dataset and baseline information housed at other department	A data management system in place that fully integrate existing dataset	Migration of newly acquired and existing datasets onto new server system completed	IT Support Officer Report Procurement Reports	190830 KI9 - Land Management Division Infrastructure Upgrade Report
Output 1.3 Land Use & Coastal Vulnerability Maps Produced The GoK has identified a strong need to progress the mapping of coastal land uses and	Land use maps integrating elements of sea level/inundation vulnerabilities for the islands covered under project	Absence of land use & coastal vulnerability maps for most of the islands	Number of land use & vulnerability maps produced and adopted for the covered islands by end of project	Individuals island reports incorporating coastal land use vulnerability maps to be developed based on conducted field assessment	Synthesis reports	180923 KI9 - Kuria Trip 1 - GIS Training Exercise Report 180630 KI9 - Tab North - Trip 2 -

hazards on selected islands and to use these as the basis for developing coastal vulnerability assessments.						GIS Training Exercise Report 190401 KI9 - Makin Trip 2 - GIS Training Exercise Synthesis Report
Output 1.4 GIS Decision Makers Workshop Facilitated Government decision makers including technical and non-technical groups or personnel, need to be made aware scope of Project and to calibrate expectations and action plans for the project.	Relevant stakeholders & decision makers fully informed on status of GIS infrastructure & role in project implementation	Decision makers and key stakeholders are unaware on potentials of new system and its applicability	A workshop is conducted with decision makers & technical personnel understand new system & endorse the community participation model for implementation	Workshop conducted	Workshop report	170830 KI9 - GIS Applications Seminar Report
Output 2.1 Data Acquisition This will enable GoK to acquire for collation relevant dataset to necessitate progressing of vulnerability mapping with ability to map sea level rise, tidal inundation and storm surge.	Relevant dataset acquired and readily available to necessitate assessment works	Dataset scattered with uncertainty on available baseline data for initiating work	Key agencies have access to relevant dataset by start of assessment phase	SPC has identified and collated existing dataset necessary for coastal mapping exercises stored with Lands office server system	Reports	170904 KI9 - Institutional Capacity Assessments & Situation Report 170911 KI9 - GIS Applications and Assessment - SPC Mission Report

<p>Output 2.2 Risk Categorization & Application to available data</p> <p>This will integrate coastal vulnerability assessment outcomes and defining risk categories for specific sites.</p>	Coastal management options not integrating GIS based vulnerability assessments	Best coastal management options determine at specific vulnerable area toward end of project	Risk categorization established and applied by end of project	Risk categorisation workshop conducted November 2018. The documented outcome of workshop will be used to integrate the GIS based assessments with the bests management options	Workshop report Workshop presentation	<p>181121 KI9 - Coastal Risks Categorisation Workshop Report</p> <p>181121 KI9 - Coastal Risk Categorisation Workshop Presentation</p>
<p>Output 2.3 Coastal Management Options reviewed</p> <p>The mapping of vulnerability is an important step for a government confronted with the threat of sea level rise and coastal inundation. Decision makers need to feel confident that they are abreast of the coastal management options available to them to address these challenges</p>	Trainee familiarity with coastal management options	Trainees unfamiliar with coastal management options	Trainees able to readily identify 3 coastal management options that are 'fit for purpose' in project case study situations.	Coastal management workshop conducted in August 2018 to enhance understanding of trainees on the concept to enable them to identify best management options for the different coastal features	Workshop report	180810 KI9 - Coastal Management Workshop Report

<p>Output 3.1 Kiribati GIS Community Participation Model (refined for testing)</p> <p>The project will explore avenues to undertake GIS mapping of coastal hazards at a village scale.</p>	<p>A GIS community participation model is utilized at the community level</p>	<p>Existing toolkits adapted into an applicable GIS community participation model</p>	<p>An innovative GIS community participation model adapted to meet respective community requirement</p> <p>Utilizing a GIS community participation model for community members irrespective of their gender</p>	<p>Three GIS community participation exercises conducted to test model with information acquired embedded into vulnerability model for the target islands. The model proved useful with verification of findings where local knowledge collaborates with scientific assessments.</p>	<p>Model</p> <p>3D model making training</p> <p>Synthesis reports</p>	<p>190617 KI9 - Guide to GIS Community Participatory Mapping - A Framework</p> <p>180920 KI9 - North Tarawa Trip 1 - 3D Map Modelling Report</p> <p>180923 KI9 - Kuria Trip 1 - GIS Training Exercise Report</p> <p>180630 KI9 - Tab North - Trip 2 - GIS Training Exercise Report</p> <p>190401 KI9 - Makin Trip 2 - GIS Training Exercise Synthesis Report</p>
<p>Output 3.2 Community Fieldwork completed</p> <p>Strengthen skills of</p>	<p>Land use & coastal assessment conducted at the selected project islands</p>	<p>Existing maps not capturing elements of land use & coastal vulnerability</p>	<p>Number of land use & coastal vulnerability assessment is conducted on 4 islands with vulnerability maps</p>	<p>Three community field exercises conducted entailing coastal & land use assessments with maps produced as part</p>	<p>Synthesis reports</p>	<p>180920 KI9 - North Tarawa Trip 1 - 3D Map</p>

implementing agencies, participating island governments with communities in GIS data acquisition to mapping coastal risks using the GIS community participation model.			established for covered islands	of the individual island reports.		Modelling Report 180923 KI9 - Kuria Trip 1 - GIS Training Exercise Report 180630 KI9 - Tab North - Trip 2 - GIS Training Exercise Report 190401 KI9 - Makin Trip 2 - GIS Training Exercise Synthesis Report
Output 3.3 Longer Term Plan Developed Develop an agreed operational framework for government which integrates the project results and prioritises the next action steps for MELAD, and others, where appropriate, beyond the life of the project.	Project evaluation report produced capturing way forward on future GIS technicians & vulnerability assessment	Project timeframe is fixed for a 2 year work plan	Project evaluation report compiled at end of project with recommendation for sustainability of & future project	The longer term plan for the Land Management Division, MELAD was not achieved. This reason was a lack of institutional support within LMD, partly due to a change in management after the project was formulated, and partly due to issues with the SPC sub-contractor which lost the project team	Long Term Plan is forecast to be developed during the next annual planning event of the Department of Lands, after the end of the project. Director confirms intent with formal letter to GIZ.	190912 KI9 - Letter of Commitment to Long Term Plan

				support from the LMD director.		
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5.2 Project Outputs and Validation Products

The table below all project related outputs including project M&E validation, communications and technical outputs in chronological order. Outputs not produced by project, but which validate project achievement, are presented in *italics*.

Outputs and Validation Products	M&E Validation	Comms Output	Technical Output
140912 KI9 - Concept Note			
141003 KI9 - Concept Note Evaluation			
151007 Kiribati MOU - GIZ - GOK A			
151007 Kiribati MOU - GIZ - GOK B			
151007 Kiribati MOU - SPC_GOK for ACSE			
161206 KI9 - Project Design Document			
170215 KI9 - Financing Agreement - 81208394 - English			
170215 KI9 - Financing Agreement - 81208394 - German			
170215 KI9 - Special Agreement to FA - 81208394			
170727 KI9 – Pacific Community Technical Services TOR			
170728 KI9 – Pacific Community Technical Services Contract			
170731 KI9 - Annex 7 Technical Progress Report No.1			X
170829 KI9 - GIS Applications and Assessment - SPC Mission TOR			X
170830 KI9 - GIS Applications Seminar Participants List			X
170830 KI9 - GIS Applications Seminar Report	X		X
170904 KI9 - Institutional Capacity Assessments & Situation Report	X		X
170911 KI9 - GIS Applications and Assessment - SPC Mission Report	X		X
171211 KI9 - Gender Workshop ToR			X
171212 KI9 - Gender Planning Workshop Participants List			X
171212 KI9 - Gender Planning Workshop Report			X
180101 KI9 – Brochure – Project Overview - English		X	
180101 KI9 – Brochure – Project Overview - Kiribati		X	
180201 KI9 - Annex 7 Technical Progress Report No.2			X
180301 KI9 - Banner - Project Promotion		X	
180301 KI9 - Tab North Trip 1 - Project Planning TOR			X
180310 KI9 - Quantum Leap Week Visibility Report		X	X
180326 KI9 - Tab North Trip 1 - Project Planning Report	X		X
180629 KI9 - Tab North Trip 2 - GIS Training Exercise TOR			X
180630 KI9 - Tab North - Trip 2 - GIS Training Exercise Participants List			X
180630 KI9 - Tab North - Trip 2 - GIS Training Exercise Report	X		X
180701 KI9 - IT Personnel TOR			
180701 KI9 - Kiribati National Conditions of Service			
180702 KI9 - IT Personnel Temporary Contract Copies			
180725 KI9 - Coastal Management Workshop TOR			X
180731 KI9 – Arthur Webb Coastal Workshop Services Contract			
180810 KI9 - Coastal Management Workshop Participants List			X
180810 KI9 - Coastal Management Workshop Report	X		X
180820 KI9 - Annex 7 Technical Progress Report No.3			X
180829 KI9 - Makin Trip 1 - GIS Training Exercise TOR			X
180830 KI9 - Makin Trip 1 - GIS Training Exercise Participants List			X
180830 KI9 - Makin Trip 1 - GIS Training ICC Trip Report	X		X

180920 KI9 - North Tarawa Trip 1 - 3D Map Modelling Report	X		X
180920 KI9 - North Tarawa Trip 1 - 3D Mapping Exercise Participants List			X
180922 KI9 - Kuria Trip 1 - GIS Training Exercise TOR			X
180923 KI9 - Kuria Trip 1 - GIS Training Exercise Participants List			X
180923 KI9 - Kuria Trip 1 - GIS Training Exercise Report	X		X
180925 KI9 - QGIS Change Detection Manual			X
181001 KI9 - Poster - Vulnerability and Coastal Change		X	
181017 KI9 - North Tarawa Trip 2 - Coastal Landuse Mapping Workshop TOR			X
181018 KI9 - North Tarawa Trip 2 - Coastal Landuse Mapping Workshop - Synthesis Report	X		X
181023 KI9 - Peer Learning Workshop Lessons Learnt Report	X	X	X
181023 KI9 - Peer Learning Workshop Project Presentation		X	
181120 KI9 - Coastal Risk Categorisation Workshop TOR			X
181121 KI9 - Coastal Risk Categorisation Workshop Presentation		X	
181121 KI9 - Coastal Risks Categorisation Workshop Participants List			X
181121 KI9 - Coastal Risks Categorisation Workshop Report	X		X
190101 KI9 - Poster - Tab North Project Results - A1 Size		X	
190222 KI9 - Annex 7 Technical Progress Report No.4			X
190329 KI9 - Makin Trip 2 - GIS Training Exercise TOR		X	
190401 KI9 - Makin Trip 2 - GIS Training Exercise Synthesis Report	X		X
190411 KI9 - Community Feedback Results Field Missions TOR			X
190419 KI9 - Tab North Trip 3 - Community Feedback Results Presentation			X
190426 KI9 - Makin Trip 3 - Community Feedback Results Presentation			X
190516 KI9 - Final Project Evaluation ToR			X
190516 KI9 - Project Results Mission Report - Combined			X
190517 KI9 - Financing Agreement Amendment Proposal			
190517 KI9 - Project Manager Contract			
190517 KI9 - Project Manager_Amended TOR			
190517 KI9 - Request for Variation to FA - 81208394			
190617 KI9 - Guide to GIS Community Participatory Mapping - A Framework	X		X
190830 KI9 - Land Management Division Infrastructure Upgrade Report	X		X
190901 KI9 - Annex 7 Technical Report No.5			X
190906 KI9 - Final Skills Assessment Report			X
190912 KI9 - Letter of Commitment to Long Term Plan	X		X
191014 KI9 - Handing Over Press Release and Images		X	
191014 KI9 - Assets Register			X
191014 KI9 - Project Handover Report			X
191115 KI9 - Annex 7 Technical Report No.6			X
191120 KI9 – Final Evaluation Report			X
191125 KI9 – Final Project Report			X

Session 7 - Project Management

There are a great many things to think about when managing a project. Staff and team considerations, government systems and decisions, technical matters (risk management) interacting with stakeholders and departments, reporting, time management, financial management and accountability.

A. The Team

- *How productive did the team feel, individually and together?*
- *Were communications within the team strong, fair, not so good, needed improvement over time?*
- *How were the decision making processes in the team? Were they clear, agreed to, needed some change?*
- *Discuss what worked and what did not and make notes.*
- *Discuss what could have worked better.*
- *Summarise the lessons learnt from working in a team.*

What worked
The core team was very enthusiastic and fun
The core team was already quite good at GIS work.
Communicated well with each other
Shared information and concerns openly with each other
Team confidence became high and so one team member could take over some of the training tasks
Confidence and keenness to present results back to what can be quite judgemental communities
Engaged well with communities

What could have worked better
Better support from higher management in the divisions would have made it easier to get access to the staff time and to get higher level support for project activities
Core team could have been more focused on, and strategic about, how to overcome the impediments of institutionalising the Longer Term Plan into the Land Management Divisions processes. The director was not generally supportive of the project, so the team found it hard to find engagement points.
SPC could have worked better – being more reliable, engaged and accountable.
Some team members could have been better with their financial accountability, thus saving the ICC work in hunting down receipts and reports.
The team could have better considered the visibility aspects of the project, particularly as there were opportunities to promote the importance of GIS and the role of the

respective agencies more widely than was achieved. A more strategic approach could have been designed and implemented.

Key recommendations

Work closer as a team to reflect on the intended outcomes of the project and strategise how to achieve them. One key area was the need to strengthen understanding and enthusiasm of higher decision makers, who affect the project, and the need do so at an early stage and work harder throughout the project to ensure the support is continued.

The core team could continue beyond the life of the project to find opportunities to build on the successes of this project including training, mission planning and institutionalisation of any new work practices.

B. Communications

For each of the following target audiences, answer the following questions:

B.1 Government

Questions	Responses
Who were the main target audiences in government?	Participating ministries Target communities
Was information sharing good and consistent between the project and the rest of government?	KNEG has been well briefed and core project team members are also members of KNEG. Senior managers were updated monthly with a briefing and update to the senior management meeting.
Did the project produce the right/enough communication products and were they getting to the target audience in government?	The target audiences in government were kept updated and informed with briefings, brochures (in 2 languages), maps and reports, all which were also delivered back to the island councils and communities. Project would have benefited from its own communications officer to further raise the profile of the work and define and communicate some key messages, which raised the profile of GIS work, and particularly their knowledge of .
List any improvements that were made or could have been made.	As above

B.2 External Stakeholders

Questions	Responses
Who were the external stakeholders?	Island Council staff on target islands Island communities on target islets on islands
Was information sharing good and consistent between the project and external stakeholders?	The project manager visited the target islands prior the survey work missions to brief the island councils and communities about the nature of the project and to discuss participation in the project. During the project, relevant island council staff

	<p>and community members of the target islets participated in the land use survey and vulnerability assessment processes.</p> <p>After the results of the field missions were compiled, 2 members of the core project team returned to the islets and presented the results to the councils and communities.</p>
Did the project produce the right/enough communication products and did they get to the external stakeholders?	The island representatives were pleased with the results and received printed A3 maps, which showed the islands as well as changes to their island coastlines over time. Tab North Island Council requested an A1 map, so this is being produced for them.
List any improvements that were made or could have been made.	<p>Island participants would have liked T-shirts, or some other recognition, perhaps with a key message presented about the value of coastal mapping, or about the dynamic/changing nature of Kiribati's island coastlines.</p> <p>Perhaps more maps could always be produced and presented to the participating islands or to politicians or heads of government departments, to further promote the work achieved.</p>

B.3 Contract holder

Questions	Responses
Who is the contract holder/s?	GIZ European Union (EU)
Was information sharing good and consistent between the project and the contract holder/s?	There was regular communication from all sides throughout the project.
Did the project produce the right/enough communication products and did they get to the contract holder/s?	Perhaps more visibility for them would be important, particularly for the EU, as the project had a relatively low profile outside of government circles and the target island communities.
List any improvements that were or could have been made.	<p>Radio interviews with GIS officers</p> <p>Presentations to parliamentary sub-committee on environment</p> <p>Formal presentations to directors of relevant departments to engage them further.</p>

C. Decision-making processes within the team and with others

Questions	Responses
Write down what worked.	Team regularly discussed new ideas and challenges and planned actions in advance.

Write down what did not work.	Could be difficult for the ICC/Project Manager to coordinate across the three, main participating agencies, particularly at a director level, as director approval was required for the staff to participate in trainings and field trips.
Take time now to discuss what could have been done better to improve on decision-making processes.	Working closer with the directors, perhaps getting them more directly involved in some of the activity level designing and not just in approvals for participation and travel.

D. Processes for recording and managing issues and risk

Questions	Responses
Discuss how the team managed issues and risks.	Day-to-day and with discussion
Did the system work?	Written records were seldom kept, though the project manager did discuss risks often quite openly and reported these in emails to the GIZ technical advisor
Summarise what did not work.	Issues often differ for the different trips and islands visited that resulted in what works for one island won't necessary works at another project island. This is often experienced with booking of flights to project islands.
Did the project use an issues table to record and track issues, risks and solutions? If so, was it an effective project management tool?	No

E. Financial controls and budget management

Discuss how the financials are controlled and shared across the team.

Questions	Responses
Describe how the system worked.	<p>PM tracked expenditure against activities.</p> <p>PM managed budget</p> <p>PM sort signatories for banking purposes, when needed</p> <p>PM managed the acquittal and advance payment process</p> <p>GIS technical advisor provided significant support to the budgeting and accounting processes</p> <p>Some funds were allocated to SPC to undertake technical advisory work or to procure equipment.</p>
Write down what the main challenges were.	<p>Following GIZ financial settlement processes, which were very detailed and accurate.</p> <p>Formulating contracts that met the standard</p> <p>Ensuring procurements met international standards</p>

	<p>Getting SPC, as sub-contractor to submit settlement documentation</p> <p>Getting SPC to procure goods in a timely way, and to specification</p>
Discuss what you did to improve the system.	<p>Extensive liaison between PM and GIZ office</p> <p>Attempted to contract a finance officer to support the project, but this never materialised.</p> <p>Tried to get additional help from Ministry of Finance, but this never materialised.</p>

F. Record keeping

Questions	Responses
Where did the team keep its records?	<p>PM computer and back up external drive</p> <p>Copies of final technical documents and reports were regularly shared with GIZ technical advisor of ACSE finance manager who kept copies – copies of most things, but not all.</p>
Did the team centralise and backup the records?	Yes but not that regularly
Is there anything on individual computers that should go into a central project folder?	Yes and this will be part of the project closure process.

G. Annex 7 Technical Reporting

Questions	Responses
Were project reports submitted in a timely manner?	With reminders from GIZ, mostly yes.
What could the team have done to improve the efficiency of reporting?	The project expected the support of the implementing partner SPC in furnishing field reports, but this is not the case. Delegation of reporting roles between responsible offices will assist in improving efficiency of reporting.

Session 8 - Gender

Questions	Responses
How did the project integrate gender considerations into its work?	The project organised for the Department of Women to host a workshop for the GIS trainees

	<p>to discuss gender and ways gender can be integrated into GIS mapping and vulnerability assessment work.</p> <p>On each of the 3 participating islands, women, and youth were separated from men.</p> <p>The community participatory mapping exercise were staged in a way that catered for the 3 gender groups – women, youth and men and for the groups to openly share their views</p>
Did the team disaggregate the project data by gender?	All project reports and data were gender disaggregated
Did the team make any proper analyses from these disaggregated data? Was this data subsequently used in the project afterward?	The gender segregated data were useful in analysis of the community feedbacks and project reporting, which determine the level of participation for the gender groups and respective views

Session 9 - Products

Questions	Responses
What were the products? Please list them.	<p>The project produced 32 outputs, which were also presented as products. These are listed as Annex 1.</p> <p>The project was designed with the production of products in mind, so these were developed according to plan and mostly in a timely way.</p>
Is there something in the way you produced products that you would have done differently?	All project products were produced in the format that its presentable (reports & printed plans/posters) and understandable by all beneficiaries including community members
Did you learn anything in particular from the process of producing products?	To produce products and it is important to know the beneficiaries so that the products developed is to be tailored to your beneficiaries' advantages/purposes

Session 10 - Media and Visibility

Questions	Responses
Please list your projects media outputs, events and visibility actions.	These are included as Annex 2.
What could the team have done in terms of media and visibility	<p>Radio interviews, postings on Facebook</p> <p>The project lacked key messages. With key messages, the project could have been projected to a wider audience than those</p>

	within the inner circle of government or within the specific target island communities.
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Session 11 - Sustainability

Questions	Responses
What should sustainability look like in this project?	The mainstreaming of project work as part of agencies work plan and budgeted so that activities embedded as the agencies (annual) program and activities
What elements of this project are you sure will help ensure the sustainability of the outcomes?	<p>The capacity enhancement of government staff will motivate the agencies and staff to undertake the activities beyond project life.</p> <p>Training and getting the GIS staff to work together as a team will even encourage team spirit among the GIS users</p>
What elements may not be sustainable?	The project avoided purchase of sophisticated GIS equipment that are expensive and hard to fix in country
What else can the team do to create sustainability in the project?	Incorporation of project activities as part of the GIS user program for maintaining interest among the team

Session 12 - Legacy

Questions	Responses
What do you personally feel is your legacy in this project?	<p>Getting the GIS officers from different sectors to work collaborate work as a team and produced plausible results can be regarded as a legacy.</p> <p>Getting to work with the community members and for them (communities) to appreciate the project work and output can also be a legacy</p>

Annexes

Annex 1: Summary of training outcomes and feedback (from skills questionnaire)

Annex 2: Summary of lessons learnt

Annex 3: Project outputs

Annex 4: Project visibility products

Annex 1: Summary of training outcomes and feedback (from skills questionnaire)

		Learning Area					
	Participant	GIS software	Handling Digital Data Sets	Remote Sensing	Land survey techniques	Unmanned Aerial Survey techniques	Coastal Change Detection
1	Alistair Maruia	Yes	Yes	Yes	Yes	Yes	Yes
2	Tentao Takaio	Yes	Yes	Yes	Yes	No	Yes
3	Kirabwa Redfern	Yes	No	Yes	Yes	No	Yes
4	Tewaea Keariki	Yes	Yes	Yes	No	Yes	Yes
5	Buraoranti Tokanikai	Yes	Yes	Yes	No	No	Yes
6	Etaa Abureti	Yes	No	No	No	Yes	Yes
7	Tunete Bauira	Yes	Yes	Yes	Yes	No	Yes
8	Bwatiua Tenea	Yes	Yes	Yes	Yes	No	Yes
9	Kotee Bauro	Yes	Yes	Yes	No	No	Yes
10	Lawrence Neemia	Yes	Yes	Yes	Yes	Yes	Yes
11	Fay Tiata	Yes	Yes	Yes	Yes	No	Yes
12	Kaiea Ribanataake	Yes	Yes	Yes	Yes	Yes	Yes
13	Catherine Paul Tatirea	Yes	Yes	No	Yes	No	Yes
14	Puta Tofinga	Yes	Yes	No	Yes	No	Yes

		Learning Areas					
	Participant	Value of Community Participation	Most impressive thing learnt	Gender considerations	What could we have done better in the project?	Did you learn something that particularly surprised you?	Was there something you wished you could have learnt more about?
1	Alistair Maruia	Yes	Developing a 3D map is one of the impressive thing	Yes	Use of other GIS software to compare results produced from each of the various software	The lively interactions with openness between team members makes learning fun and enjoyable	Exploring use of other GIS applications – ERDAS etc
2	Tentao Takaio	Yes	Potential of GIS as mapping tool with capability of officers to learn new mapping techniques	Yes	GIS specialist placed in-country for continued data processing	Success achieved working as a team	More training on drone operations

3	Kirabwa Redfern	Yes	Change detection using QGIS	Yes	Nil	Nil	Nil
4	Tewaea Keariki	Yes	Terrain mapping using QGIS plug-ins	Yes	More training on use of drone and other concepts on mapping changes	With all the challenges, the project eventually succeed	More into land use change detections to complement coastal change detection
5	Buraoranti Tokanikai	Yes	3D mapping and easier data rectification using QGIS	Yes	More field exercises and data processing	Involvement at the field exercises – data collection	Training on advance GIS and other GIS softwares
6	Etaa Abureti	No	The use of QGIS as a mapping tool	Yes	More training on use of QGIS	Nil	More on the use of QGIS
7	Tunete Bauira	Yes	Using a drone as RS to complement satellite images	Yes	More hands-on training on use of drone	Exchanges between technical officials enables learning new coastal survey techniques	More training and field exercises
8	Bwatiua Tenea	No	Use of QGIS application to determine rate of change	Yes	Nil	Nil	More field exercises to be conducted
9	Kotee Bauro	No	Processed data depict realistic results – rate of change at 3 islands	Yes	More training on QGIS	Collaboration between team members	Data processing and analysis
10	Lawrence Neemia	Yes	Engineering applications of QGIS plug-ins for 3D mapping & contouring	Yes	Advanced training on QGIS and more UAV training	Team collaboration that make project possible	More on QGIS and use of drone
11	Fay Tiata	Yes	Coastal change detection	Yes	More training – field & data processing	Team work and peer learning	More on QGIS with drone hands-on
12	Kaiea Ribanataake	Yes	3D modelling – applications of beach profiling	Yes	More training for better practice on change detection & 3D mapping	Team collaboration	Advance modelling & rate of change

			datasets using QGIS				
13	Catherine Paul Tatireta	Yes	Integration of community elements (Participatory mapping) into GIS work	Yes	More practical/field training for more exposure	Team effort & high level of accomplishment	More field training
14	Putu Tofinga	Yes	Change detections	Yes	More UAV exposure & coordination with trainer (SPC) for effective results	Team play & field work	Change detection mapping for environment roles

Annex 2: Summary of lessons learnt

Lessons Learnt

What are the 5 main lessons you and your colleagues have learnt directly from implementing the project?

1. Coastal vulnerability assessment and mapping is a complex process that requires dedication coupled with necessary skills, especially with use of a new software - QGIS

Most involved staff has insignificant part or never been involved in any data collection exercise before but during course of project most officials now appreciated the significance of these steps especially accuracy and right type of datasets for best results.

The datasets acquired from the field works are merely raw datasets and with the use of applicable software that will produce expected results, in this case QGIS.

Using QGIS requires special skills and acquaintance with its function.

The project in overall has helped to developed the necessary understanding and skills of involved staff to progress vulnerability mapping and demonstrate high level of competency and confident in area

2. Importance of GIS/RS – QGIS & UAV as powerful application having potential to revolutionizes understanding of mapping in particular vulnerability mapping–coastal change detections, 3D modelling & contouring among GOK geospatial officers

The use and knowledge with skills gained on QGIS with its multiple functions has changed the teams understanding of mapping.

Previously team members use QGIS for simple mapping works include plotting common land and coastal features – structures, roads, vegetation and now, with hands on training and proper guidance are able to undertake various modelling methodologies.

“...the processing & analysis part of the training was very helpful and we learned so much in terms of new QGIS potentials especially modelling methodologies for example extracting beach profiles data & presentations as 3D and the various change detection techniques – line or polygons...” a statement by Kaiea Awira of Minerals Division

Even officers with limited or even no prior knowledge of QGIS once introduced and thoroughly guided through for a day or two can now easily utilize and develop models of their preference – if its coastal change detection using lines, polygons, 3D models and contouring or plotting sites to name a few.

“...we found that image rectification through geo-referencing is much easier using QGIS compared to ERDAS making learning faster and even data processing simpler...” said Lawrence Neemia, a civil engineer-coastal with MISE 3

3. Overall process for data collection leading to processing and analysing of GIS/RS

The field trips exposed team members to procedures on data collection with use of advance GPS instruments and survey techniques for beach profiling with use of RTK GPS (real time kinetic GPS) compared to earlier traditional methods using dumpy levels.

Comparing dumpy levels and RTK GPS, the former requires manual entry of data as well as processing which is time consuming compared to latter in which data were automatically collated and feeds into the GIS platform for processing and presenting data with minimal errors and more accurate results.

The use of the UAV introduced team members to next generation of technologies for acquiring images which is essential for capturing and depiction of real time images for interest areas. There are however limitations for use of UAV having to be licensed and fly at certain approved areas all of which can be address with familiarity with regulations and proper consideration of procedures.

4. Coastal changes can be scientifically assessed and analyse using QGIS platform with degree of changes calculated and risks zones identified using the various GIS methodologies

The project has provided an opportunity for the involved staff to undertake the required steps in undertaking vulnerability mapping. The training on the various data collection, processing and analysis methodologies has proved to be useful and has broaden the understanding on carrying out scientific assessment and analysis of changes occurring along the coast determining risks zones.

The specific methodologies require certain level of skills in which the project encouraged that each involved staff is trained and gain experience on each of the distinctive steps, from data collection to processing and analysis.

5. Valuing contribution of community members as custodian of local knowledge adding value to data acquired scientifically

Engaging the community members not only elevate their understanding on concept of mapping but assist the project team members to gain awareness and able to map the important physical and natural features of their islands having significance to the community either for livelihood or recreations.

The contribution made by the different gender groups and amount of information gathered, mostly alien to the team members has assisted to identify the specific site of interest if its areas experiencing inundation, coastal erosion, accretion or cultural significance sites.

A classic example is the identification of a cultural shrine at Aiwa islet by the old men astonished everyone, even some community members didn't know the existence of such, 4

which the project can now mapped and capture as part of the islet (vulnerability) map – protection of cultural artefacts.

This add value to the work done by the team members by providing clues and explanation to the facts surrounding the islands, that can be used to collate to the data collected through the assessment.

“... I’m fortunate to be involved in the community based mapping where we have the opportunity to work collaboratively with local community members and value their thoughts and concerns illustrated on the island map...” a comment by Fay Tiata, a Environment officer with the ECD/MELAD
