

TRAVEL REPORT FORM

출장보고서

결 재	팀장	부서장	원장	
	10/18 김광형	10/19 김형진	10/19 정홍상	
협 조				

I. Reporter 보고자

Department 소속	Position 직위(직급)	Name 성명	Travel Date 날짜	Note 비고
사업기획팀	팀장	김광형	2016/10/05-15	

II. Major Activities 주요업무 수행내용

1. Main Contents and Activities 주요내용 및 활동

- Focus group meeting: Discussion with user groups for Tonga Climate Services for Agriculture(ToCSA) system, Feedbacks from user groups for more improvement
- Meetings with MAFFF, TMS and AgroMet Working Group for progress reporting and discussion about future project direction in 2017
- Attend a technical workshop for APSIM-taro model by CSIRO
- Development of ToCSA with EPINET (Mr. Jongsun Park)
- Discuss about possible contribution of APCC for Tonga National Climate Outlook Forum held in November
- Plan with partners a final workshop for the project in early 2017

2. Relevance to APEC Climate Center's Activities 결론 및 소감

- Introduced ToCSA beta version to Tonga stakeholders and got feedbacks on technology- and application-related matters, which will fortify the usefulness and out-scalability of ToCSA in Tonga and other countries (Further development need for extension use of Farm Diary was identified)
- Intensive communications with MAFFF and TMS regarding ToCSA maintenance and operation by two partners were made
- Through the CSIRO taro crop modelling workshop, many important information about agricultural management options based on various scenario-based simulations of

the model were acquired, and further support for Tonga community was discussed through existing structures like Farmer Field School

-Final workshop for Tonga AgroMet Project will be held with full support from MAFFF and TMS, and participation of private sector with sharing their experience with ToCSA and other project activities will make the final workshop productive. Other ongoing and coming projects from APCC will also be introduced during the final workshop

(세부내용은 첨부된 출장보고서(Tonga Travel_201610_Final Report.docx) 참조)

III. References 참고사항

(with attachment of any information or report in case of attendance of conferences, workshops and meetings) 학술대회, 워크숍, 회의 등 참석 시 관련 정보 및 문서 첨부

1. Presented and Collected Materials 주요 수집자료

2. Suggestions and Remarks 건의사항

Travel Report

[2016.10.17. Prepared by Kwang-Hyung Kim @ Climate Application Department]

☐ Travel summary

1. Name and position of traveler(s):

- Kwang-Hyung Kim (Research Fellow, Climate Application Department)

2. Destination and travelling period:

- Tonga; 5 Oct – 15 Oct, 2016

3. Purpose of travel:

- Focus group meeting: Discussion with user groups for Tonga Climate Services for Agriculture(ToCSA) system, Feedbacks from user groups for more improvement
- Meetings with MAFFF, TMS and AgroMet Working Group for progress reporting and discussion about future project direction in 2017
- Attend a technical workshop for APSIM-taro model by CSIRO
- Development of ToCSA with EPINET (Mr. Jongsun Park)
- Discuss about possible contribution of APCC for Tonga National Climate Outlook Forum held in November
- Plan with partners a final workshop for the project in early 2017

4. Major outcomes:

- Introduced ToCSA beta version to Tonga stakeholders and got feedbacks on technology- and application-related matters, which will fortify the usefulness and out-scalability of ToCSA in Tonga and other countries (Further development need for extension use of Farm Diary was identified)

- Intensive communications with MAFFF and TMS regarding ToCSA maintenance and operation by two partners were made
- Through the CSIRO taro crop modelling workshop, many important information about agricultural management options based on various scenario-based simulations of the model were acquired, and further support for Tonga community was discussed through existing structures like Farmer Field School
- Final workshop for Tonga AgroMet Project will be held with full support from MAFFF and TMS, and participation of private sector with sharing their experience with ToCSA and other project activities will make the final workshop productive. Other ongoing and coming projects from APCC will also be introduced during the final workshop.

5. Itinerary:

6-Oct	Thr	20:55	Arrival in Tongatapu	
7-Oct	Fri	AM	Meeting with TMS	
		PM	Focus group meeting with extension, met officers and farmers in Vavau	
8-Oct	Sat	A/PM	Meetings with commercial farmers for ToCSA Farm Diary in Vavau	
10-Oct	Mon	AM	Meeting with MAFFF Minister	
		PM	ToCSA development in TMS office	
11-Oct	Tue	A/PM	CSIRO workshop (1 st day)	ToCSA development in TMS office
12-Oct	Wed	A/PM	CSIRO workshop (2 nd day)	ToCSA development in TMS office & Commercial farmer meeting
13-Oct	Thu	AM	Meeting with MAFFF CEO and staffs & Meeting with TMS	
		PM	Commercial farmer meeting and AgroMet Working Group meeting	
14-Oct	Fri	13:45	Departure → Arrival in Busan (15-Oct)	

6. Meeting Notes:

Friday Oct 07, 2016

Focus Group Meeting

Location: Vavau MAFFF Office

Participants: Jongsun Park (EPINET), Kwanghyung Kim (APCC), Leody Vinikolo (MAFFF), Sekilini Havili (MAFFF), Mikaele Siopai (MAFFF), Sione Vula (MAFFF), Uili Ulingaitolo (Farmer), Faiosita Loloai (Farmer), Siuika tutoe (Farmer), Mataiasi Moala (Farmer), Salesi Kouvaka (Farmer), Nate Kula (Farmer)

Major points

- Introduction of ToCSA and getting comments from participants
- Demonstration of data collection using Farm Diary in ToCSA and getting comments from participants
- Discussion about seasonal climate forecast with TMS Director
- Discussion about how to utilize climate information for agricultural decision making
- Planning on agro-data collection volunteering by extension workers in 2017

Actions and Lessons learned

- Discuss with MAFFF Minister and CEO for agro-data collection using Farm Diary in 2017
- Consider alternative ways of communicating high tech products with developing country farmers (most of farmers expressed the presented ToCSA is too technical for them to understand)
- Focus more to target users of ToCSA, such as commercial farmers and extension workers

Tonga Meteorological Service

Location: TMS Vavau Office

Participants: Jongsun Park (EPINET), Kwanghyung Kim (APCC), 'Ofa Fa'anunu (TMS), some officers (TMS)

Major points

- Discussion about current status of seasonal climate forecasting in TMS and possible adaptation of APCC PIF-CLIPS products in 2017
- Discussion about NCOF in Nov

Actions

- Discuss with APCC PIF team about possibility of operationalizing the CLIPS products in a national level before project completion in 2017

Saturday Oct 08, 2016

Commercial Farmer Meeting

Location: TMS Vavau Office

Participants: Kwanghyung Kim (APCC), 'Ofa Fa'anunu (TMS), Uili Ulingaitolo (Farmer), Salesi Kouvaka (Farmer)

Major points

- Detailed demonstration of data collection using Farm Diary in ToCSA and getting comments from participants
- Asking about volunteering in agro-data collection using Farm Diary in 2017 (Both farmers have volunteered for the agro-data collection)

Actions

- Improve Farm Diary based on comments from farmers
- Inform volunteering farmers once the development of ToCSA is completed in around November or December

Monday Oct 10, 2016

Meeting with the Ministry of Agriculture (MAFFF)

Location: MAFFF Head Office

Participants: Kwanghyung Kim (APCC), Minister Semisi Fakahau (MAFFF)

Major points

- Introduction of ToCSA with detailed explanation of each function embeded
- Discussion about possible use of ToCSA by MAFFF Extension Division for data collection and extension activities to farmers
- Asking about project final workshop held in early 2017 for his presence and support for preparation work

Actions

- Since Minister mentioned he is fully supportive for the use of ToCSA in Extension works, we need to make a usage examples (manual) of ToCSA for different purposes. This will need to be included in final report of Tonga AgroMet Project
- Start preparing final workshop with designated focal point in MAFFF (currently Manaia Halafihi, the Head of Corporate Services in MAFFF)

Tonga Meteorological Service

Location: TMS Main Office

Participants: Jongsun Park (EPINET), Kwanghyung Kim (APCC), 'Ofa Fa'anunu (TMS), Seluvaia 'Llolahia (TMS), Reginald Phillip Hingano (TMS)

Major points

- Web system installation for upgraded version of ToCSA and some miscellaneous technical problems were solved
- Brief training of inputting seasonal climate forecast and advisory information and technical maintenance work about ToCSA to the TMS staffs (Found that TMS doesn't issue seasonal temperature forecast and tercile probability ENSO forecast, which need to be inputted in ToCSA to run agro-models. So we discussed about using APCC MME products for the required forecast products by TMS)
- Discussion about NCOF organization (Still need to discuss with SPREP for the date and detailed schedule)

Actions

- Keep testing ToCSA within TMS and input data by TMS staffs. If there is any problem, TMS will inform us about the problems and other relevant comments
- Need to make a final decision on officially issuing seasonal temperature forecast and ENSO tercile forecast through ToCSA by TMS

Tuesday Oct 11, 2016

CSIRO Taro Crop Modelling Workshop

Location: USP Tonga campus

Participants: Kwanghyung Kim (APCC), Steven Crimp (CSIRO), John Hargreaves (CSIRO), About 10 participants (MAFFF, NISHI, MORDI, TINOPAI FARM, farmers)

Major points

- APSIM taro model training
- APSIM simulation trouble shooting and simulation results presentation

Actions

- Expect a final report from CSIRO regarding taro model development and simulation by the end of 2016

Tonga Meteorological Service

Location: TMS Main Office

Participants: Jongsun Park (EPINET), Kwanghyung Kim (APCC), Reginald Phillip Hingano (TMS)

Major points

- ToCSA development (bug fixing and improving based on comments from Tongan stakeholders)

Actions

- Keep updating ToCSA until the end of project in Dec. 2016

Wednesday Oct 12, 2016

CSIRO Taro Crop Modelling Workshop

Location: USP Tonga campus

Participants: Kwanghyung Kim (APCC), Steven Crimp (CSIRO), John Hargreaves (CSIRO), About 10 participants (MAFFF, NISHI, MORDI, TINOPAI FARM, farmers)

Major points

- APSIM simulation results presentation and planning on further application of the taro model in agricultural decision making in Tonga
- Briefing seasonal climate forecast through ToCSA and introduction of detailed of ToCSA
- How to bring this modelling into extension effort: Through Farmer Field School in Tonga
 - 1) Very strong entry point as information dissemination from this workshop
 - 2) Standalone document from some of the results of APSIM simulation (by June 2017)

- ✓ SCF (APCC): looking at varying sowing times, planting density, fertilizer(at sowing and topdressing), irrigation (it is all about taro)
- ✓ Some description of climate variability in Tonga (APCC)
- ✓ Climate Change adaptation (ACIAR): different rotations(mucuna and taro intercropping results in drought tolerance, straight taro with minimal inputs. Vs taro and mucuna rotation with minimal inputs), crop calendar (all years: planting window, pre-1980 vs post-1980's planting windows, 2030, 2050, 2070's planting window change), importance of irrigation (pre-1990, post-1990, 2030), different tillage(slash and burn, incorporation of mucuna in soil)
- ✓ Translation of document into Tongan language (by Nishi)

3) APSIM training for trainers (April 2017)

- ✓ First workshop training manual, working with stakeholders, training for trainers, another APSIM workshop next year (after translation of the APSIM materials)
- ✓ Face to face meeting to discuss training material (Nov to Dec)

Actions

- Participate in developing the standalone document for Farmer Field School
- Utilize any planned training opportunities to advertise ToCSA to Tongan farmers

Tonga Meteorological Service

Location: TMS Main Office

Participants: Jongsun Park (EPINET), Kwanghyung Kim (APCC), 'Ofa Fa'anunu (TMS), Reginald Phillip Hingano (TMS)

Major points

- ToCSA development (bug fixing and improving based on comments from Tongan stakeholders)
- Discussion with TMS Director about NCOF (Ms. Aikins from APCC will contribute by presenting ToCSA and other Tonga AgroMet Project products and other ongoing Tonga projects) and the Tonga AgroMet Project final workshop in early 2017)

Actions

- Keep updating ToCSA until the end of project in Dec. 2016
- Communicate with Ofa (a focal point for NCOF and final workshop) in preparation of NCOF (Nov. 2016) and final workshop (Early 2017)

Commercial Farmer Meeting

Location: Nishi Trading Office

Participants: Kwanghyung Kim (APCC), Minoru Nishi (Nishi Trading), Ella Gabriel Kafalava (Nishi)

Major points

- Overview of ToCSA and Farm Diary
- Discussion on field trials in 2017 for climate smart irrigation with a soil moisture model
- Beta test of Farm Diary by Ella for further improvement (Ella at Nishi Trading will use the current version of Farm Diary to manage their export crop management and will give us any comments for the Diary)

- Plan on a final workshop where private sector also present their experience with ToCSA (Nishi will be able to share their experience with ToCSA as one of the response from stakeholders)

Actions

- Keep communicating with Nishi regarding Farm Diary and overall ToCSA services and respond quickly to their comments
- Plan ahead about possible participation of Nishi in field trials for climate smart agriculture

Thursday Oct 13, 2016

Meeting with MAFFF

Location: MAFFF Head Office

Participants: : Jongsun Park (EPINET), Kwanghyung Kim (APCC), CEO Viliami Manu (MAFFF), Manaia Halafihi (MAFFF), Sesalina Lavemai (MAFFF)

Major points

- Introduction of ToCSA to MAFFF staffs
- Discuss with CEO about possible use of ToCSA by MAFFF Extension Division (agro-data collection and extension activities) and agro-data input into MAFFF data management system (Tonga Agricultural Information System, TAIS)
- TAIS was trained again to relevant MAFFF staffs as supported by CEO
- Ask CEO for full support for ongoing APCC projects

Actions

- Email CEO for further actions regarding Extension's use of ToCSA and Farm Diary for data collection and further request about the tools from MAFFF
- Keep checking out the status of the latest data input into TAIS (regular checking might be required)
- May need to provide a short training session for TAIS and ToCSA during the final workshop in early 2017

Tonga Meteorological Service

Location: TMS Main Office

Participants: Jongsun Park (EPINET), Kwanghyung Kim (APCC), Reginald Phillip Hingano (TMS),

Major points

- ToCSA development (bug fixing and improving based on comments from Tongan stakeholders) and final check-up for the system and server for stable operation

Actions

- TMS staff will inform APCC if there is any shutdown or problem with ToCSA during the beta test period

Commercial Farmer Meeting

Location: Tongatapu downtown area

Participants: Kwanghyung Kim (APCC), Tom Nakao II (Exporter, Director of PHARM)

Major points

- Overview of ToCSA and Farm Diary
- Beta test of Farm Diary by Tom and his farmers for further improvement
- Plan on a final workshop where PHARM as one of private sectors presents their experience with ToCSA

Actions

- Keep communicating with Tom regarding Farm Diary and overall ToCSA services and respond quickly to their comments

AgroMet Working Group Meeting

Location: Seaview Lodge

Participants: : Jongsun Park (EPINET), Kwanghyung Kim (APCC), 'Ofa Fa'anunu (TMS), Seluvaia 'Llolahia (TMS), CEO Viliami Manu (MAFFF), Manaia Halfihi (MAFFF), Minoru Nishi (Nishi Trading), Semisi Palei (Farmer, chair of AgMet Working group)

Major points

- Introduction of ToCSA and data collection and analysis with Farm Dairy for comments
- Discussion about seasonal climate forecast and any realistic agricultural intervention possible in Tonga
- Discussion about possible areas of further development in addition to ToCSA, climate smart irrigation and ground water irrigation by APCC
- Planning on agro-data collection volunteering by extension workers in 2017

Actions

- Send invitation letters to AgroMet Working Group for NCOF and project final workshop