

문서번호 APCC-출장-16-0594(2016-06-13)

TRAVEL REPORT FORM

출장보고서

결 재	선임연구 원	팀장	부서장	원장
	06/13	06/13	06/13	06/13
협 조	김광형	김옥연	김형진	정홍상

I. Reporter 보고자

Department 소속	Position 직위(직급)	Name 성명	Travel Date 날짜	Note 비고
연구본부 대외협력실	선임연구원 프로젝트매니저	김광형 Christianne Aikins	5/27-6/5 5/27-6/4	*정유란 선임연구원은 작물 모형워크숍의 일정이 연기되 어 6/3-6/10기간 출장

II. Major Activities 주요업무 수행내용

1. Main Contents and Activities 주요내용 및 활동

- 1) Handover Ceremony (DB management system, Automatic weather station, Digitization equipments)
- 2) Meetings about the Tonga Climate Services for Agriculture (ToCSA) with TMS and AgroMet Working Group
- 3) Meetings with commercial farmers for the development of a farming diary mobile application
- 4) A meeting with MAFFF staffs at the Vaini Research Station for a field trial of powdery mildew on squash
- 5) Develop ToCSA with EPINET (Mr. Jong Sun Park, Mr. Jae Won Choi), TMS, and MAFFF

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

- 1) ToCSA was introduced to Tonga stakeholders and feedback was gathered on technology- and application-related matters for further development of its beta version (see meeting notes)
- 2) Enhanced the farm diary mobile application based on conversations with commercial farmers and exporters
- 3) Developed the field trial protocol for powdery mildew on squash with MAFFF staff, and based on the protocol, the field trial was started with sowing on Jun 2
- 4) Enhanced understanding of stakeholder interests and increased project visibility through the dissemination of ToCSA factsheets and presentations
- 5) Successful handover of agriculture database and equipment to MAFFF

(자세한 내용은 첨부된 출장보고서-Tonga Agri_Travel_201605_Report_Final.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: Tonga

[2016.06.08. Prepared by Kwang-Hyung Kim @ Research Department and Christianne M Aikins @ External Affairs Department]

☐ Travel summary

1. Name and position of traveler(s): Kwang-Hyung Kim (Research Fellow, Research Department), Christianne Aikins (International Project Officer, External Affairs Department)

2. Destination and travelling period: Tonga, Tongatapu Island; 27 May – 10 June, 2016

3. Purpose of Travel:

- Handover Ceremony with Ministry of Agriculture and Food, Forests and Fisheries (MAFFF) to official cede ownership of the Automatic Weather Stations (AWS) and other equipment
- Meetings about the Tonga Climate Services for Agriculture (ToCSA) with Tonga Meteorological Service (TMS) and AgroMet working Group
- Meetings with commercial farmers for the development of a farming diary mobile application
- A meeting with MAFFF staffs at the Vaini Research Station for a field trial of powdery mildew on squash
- Coordinate with EPINET staff to develop ToCSA

4. Outcomes:

- ToCSA was introduced to Tonga stakeholders and feedback was gathered on technology- and application-related matters for further development of its beta version (see meeting notes)
- Enhanced the farm diary mobile application based on conversations with commercial farmers and exporters

- Developed the field trial protocol for powdery mildew on squash with MAFFF staff, and based on the protocol, the field trial was started with sowing on Jun 2
- Enhanced understanding of stakeholder interests and increased project visibility through the dissemination of ToCSA factsheets and presentations
- Successful handover of agriculture database and equipment to MAFFF

5. Meeting Notes:

Sunday May 29, 2016

Nishi Trading

Location: Seaview Lodge

Participants: Josung Park & Jaewon So (EPINET), Kwanghyung Kim (APCC), Christianne Miko Aikins (APCC), Minoru Nishi (MN, Nishi Trading)

Major points

- Consultation on ToCSA and farm diary features and usability

Actions

- MN to discuss with Ella regarding ToCSA and updating crop diary
- Tell MN when the website is ready to test out farm diary (aka when they can get usernames and password)

Tonga Meteorological Service

Location: TMS

Participants: EPINET, Kwanghyung Kim (APCC), Seluvaia 'Llolahia (TMS), Reginald Phillip Hingano (TMS)

Major points

- ToCSA server was installed and connected with TMS intra network

Actions

- Demonstration and training of ToCSA to TMS staffs were scheduled

Monday May 30, 2016

Tonga Meteorological Service

Location: TMS

Participants: EPINET, Kwanghyung Kim (APCC), Christianne Miko Aikins (APCC), Nobuo (TMS), 'Ofa Fa'anunu (TMS), Laitia Fifita (TMS)

Major points

- Manual updating of weather unfeasible as it duplicates work – already TMS staff use the program Nobuo created to edit the GFS model prediction (with images), as sometimes it generates wrong information

- Utilization of CSV file for website input necessary

Actions

- Nobuo will figure out how to get a CSV file from the edited image version of the weather. This will take about two months
- In the meantime, EPINET will use the unedited CSV as the forecast input on the website, to be switched to the edited CSV file that Nobuo will create

Database Equipment Handover Ceremony

Location: MAFFF new building

Participants: EPINET, Kwanghyung Kim (APCC), Christianne Miko Aikins (APCC), Losaline Ma'assi (MAFFF), Prime Minister 'Akilisi Pōhiva, Manaia Halafihi (MAFFF), Sesalina Lavemai (MAFFF)

Major points

- Handover documents signed by Prime Minister

Actions

- Address the sustainability of DB updating

Tuesday May 31, 2016

Vaini Research Station

Location: Vaini Research Station

Participants: EPINET, Kwanghyung Kim (APCC), Christianne Miko Aikins (APCC), Dr. Viliami Manu (MAFFF)

Major points

- Installed mesh filter for rainfall gage
- Delivered seeds to Selu Kali (MAFFF, plant pathologist)

Actions

- Return to discuss field trial

Tonga Meteorological Service

Location: TMS

Participants: EPINET, Kwanghyung Kim (APCC), Christianne Miko Aikins (APCC), Seluvaia 'Llolahia (TMS), Nobuo (TMS), Reginald Phillip Hingano (TMS)

Major points

- Technical problems for the web system installation and internet connection were discussed
- Inputting tailored forecast information on the ToCSA was discussed

Actions

- Technical problems need to be solved and forecast information was agreed with TMS

Wednesday June 1, 2016

Nishi Trading

Location: Seaview Lodge

Participants: EPINET, Kwanghyung Kim (APCC), Christianne Miko Aikins (APCC), Ella Gabriel Kafalava (Nishi)

Major points

- Discuss how to merge (other expert)'s template
- Overview of Farm Diary – want to solicit input from Nishi (through Ella)
- Cost analysis: need to be able to sum all of the inputs (cost of fertilizer , man hours, etc)
- Labour: Important to have the name – because the rate is different, but also for accountability (particularly spray and tractor). But you could have the names of the key people and “Casual Worker” for those who come a couple times only
- However sometimes there are multiple people: multiple selection possible?

Actions

- To discuss further

Agriculture and Meteorology Working Group

Location: Seaview Lodge

Participants: EPINET, Kwanghyung Kim (APCC), Christianne Miko Aikins (APCC), 'Ofa Fa'anunu (TMS), Manaia Halfihi (MAFFF), Afeaki Pousima (Tinopai Farm), Semisi Palei (Farmer, chair of AgMet Working group), Seluvaia 'Llolahia (TMS)

Major points

- Put Drought Analyser (from TMS Seasonal Advisory) on Seasonal section
 - Include probability = confidence level (high, medium, low)
- Want to have information for watering level based on rainfall (real/prediction)
 - Suggest looking at studies on how much water is needed for various growing phases
 - Discarded as unfeasible for this project
- Management Recommendations: get feedback specifically on water levels
- Farm diary
 - Very useful for commercial and semi-commercial, but the average (subsistence) farmer and even some semi-commercial will not use. However still a useful function for those that do
- Include explanation of ENSO probability – also text version?
- Also a very simple printout for subsistence farmers ??
- 'Ofa confirmed that TMS is satisfied with Joint Ownership Agreement – no comments other than a change of signature to the Acting CEO

Actions

- Send TMS MAFFF Joint Ownership Agreement to Manaia

Thursday June 2, 2016

Field Trial Discussion

Location: Vaini Research Station (MAFFF)

Participants: Kwanghyung Kim (APCC), Christianne Miko Aikins (APCC), Sewa, Dr. Viliami Manu (MAFFF), Dr. Sela Kali (MAFFF, plant pathologist)

Major points

- Discussed details of spray for upcoming field trial
 - Subsistence farmers spray 3 , but commercial up to 8
 - Two treatment : one commercial farmers other is model risk result
- To focus on commercial farmer practices, because that accounts for around 80% of production
- Two types of fungicide: systemic or contact (topical/surface) – rain means systemic is better, while upcoming wind might mean contact is better?
 - Initial incidence will determine the fungicide type. SO if its high, then you use systemic, if its low use contact
 - Outside of Tonga they do tank mixes, and use both
 - Millennium used minimal spray this year, but had a high yield. Possibly due to the lower temperatures at night
- Briefed on ToCSA

Actions

- Get info from Ella on treatment/spray – get her in contact with them

Commercial Farmer Visit

Location: Vaini

Participants: EPINET, Kwanghyung Kim (APCC), Christianne Miko Aikins (APCC), Semisi Palei (Farmer, chair of AgMet Working group)

Major points

- Discussed relevance to ToCSA to traditional farming methods

Actions

- None

Friday June 3, 2016

Ministry of Meteorology Energy, Information, Disaster Management, Environment, Climate Change, and Communications Signing

Location: Ministry of Meteorology Energy, Information, Disaster Management, Environment, Climate Change, and Communications (MEIDECC)

Participants: EPINET, Kwanghyung Kim (APCC), Christianne Miko Aikins (APCC), Vatulele Tuputupu (Acting Chief Executive Officer, MEIDECC), Seluvaia 'Llolahia (TMS)

Major points

- The CEO noted that there should have been more time for MEIDECC to review the agreement, but this was due to a last minute change on TMS's side on the individual signing it.
- He also expressed interest in our center and other APCC projects in Tonga (water and prediction)
- Acting CEO signed the Automatic Weather Stations MAFFF/TMS Joint Ownership and Usage Agreement

Actions

- APCC signing of Agreement

Tonga Meteorological Service

Location: TMS

Participants: EPINET, Kwanghyung Kim (APCC), Seluvaia 'Llolahia (TMS), Reginald Phillip Hingano (TMS), Tong Siliva (IT company)

Major points

- Brief technical training for the ToCSA web system was conducted for a TMS staff
- Internet and intra network connection was solved through some technical assistance from an IT company person

Actions

- TMS staff should be trained for the web system maintenance

Commercial Exporter Visit

Location: PHARM office at Nukualofa

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

Major points

- Consultation on ToCSA and farm diary features and usability

Actions

- Present features of the farm diary is usable as long as additional features like compliance measure can be added by users (This will need to be addressed to TN as soon as possible)
- Beta version of farm diary will need to be tested by farmers and/or exporters before September for better feedback

Saturday June 4, 2016

Tonga Meteorological Service

Location: TMS

Participants: EPINET, Kwanghyung Kim (APCC), Seluvaia 'Llolahia (TMS), Reginald Phillip Hingano (TMS), Nobuo (TMS), Laitia Fifita (TMS)

Major points

- Further discussion about the web system development and wrap up

Actions

- Continuous communication with TMS and MAFFF