문서번호 APCC-출장-17-0097(2017-01-31)

TRAVEL REPORT FORM
출장보고서

결재	선임연구원	팀장	부서장	원장
	01/25 정유란	01/31 조재필	01/31 김형진	01/31 정홍상
협조				

I. **Reporter** 보고자

Department 소속	Position 직위(직급)	Name 성명	Travel Date 날짜	Note 비고
응용사업 응용사업 기후예측 대외협력	선임연구원 선임연구원(팀장) 선임연구원 사원	정유란 조재필 오지현 Christianne Miko Aikins	2017/1/9-13	

II. **Major Activities** 주요업무 수행내용

1. Main Contents and Activities 주요내용 및 활동

○ **주요 목적 (summary on main purpose)**

(1) 본 연구의 협력을 위해 태국 농업 및 수자원 국가연구기관에 **주요 담당자, 자료, 정보 등의 지원/협조**를 **요청**하고,

(2) 본 연구 제안의 적절성 (예, 연구지역 선정 등)에 대한 **자문과 후속 연구개발 등에 대해 논의하기 위해 방문**하였음.

○ **주요 결과 (summary of main outcomes)**

(1) 태국 농업 및 수자원 국가연구기관의 **의사결정자 (고위 직원)들로부터** APCC와 협력할 수 있도록 (예, 주요 담당자, 자료 수집 등) **승인 받았지만**, 후속 조치 (MOU 혹은 Letter of Intent)가 필요함.

(2) 연구 지역의 핵심 정보 및 **연구 내용에 대한 보완/필요 사항들을 확인**할 수 있었음.

(3) 특히, FAO와 HAII와의 미팅을 통해 그들의 활동 및 관심 정보를 획득함으로써 **후속 연구개발 및 협력 방법 (APCC의 지역 네트워크 확대 방법 등)을 파악**할 수 있었음.

(4) **Cli-WARA 프로젝트와 APCC의 인지도를 높였음**.

※ 빠른 보고를 위해 '국문요약'으로 작성하였으며, 각 일정에 대한 자세한 미팅 결과 (영문)와 참석자들 사진 및 발표 자료들은 **첨부한 파일**을 참고 바랍니다.

※ **Cli-WARA** (Climate Information based Agro-Water Risk Assessment)는 본 연구 제목을 간편하게 지칭하기 위해 만든 단축 이름임.

○ **상세 일정에 따른 주요 활동 결과 요약**

(1) FAORAP 와 HAII

▪ **주요 내용**

- FAORAP는 APCC와 Cli-WARA 프로젝트 팀이 태국 기관들 (본 출장에서 방문한 태국 정부기관들)이 주변 국가들 (필리핀, 네팔, 베트남)과 함께 참여할 수 있는 국제 웍샵 (예, 훈련 프로그램) 개발 등을 통해 프로젝트를 공유하면 좋겠다고 제안하였음.
- HAII는 관개 지역에 대한 연구 사업에는 관심이 크지 않았음. 저수지 (monkey cheeks ponds)와 같은 관개 시설을 통해 물 관리하는 사업들을 통해 관개가 어려운 지역들에 대한 사업과 telemetry station 설치 및 훈련 프로그램 등에 더 관심을 보였고, FAORAP와 같이 훈련 프로그램 등에 참여 의사를 표현하였음.
- 특히, HAII는 태국의 33개의 기관들과 협력하고 있는 큰 국가연구기관으로, community networks (일종의 end-user groups)를 통해 사업 서비스를 하고 정보 수집도 하고 있었음.

▪ **후속 조치**

- ***빠른 조치***:

① FAORAP와는 지속적으로 Cli-WARA에 대해 연락을 주고받을 것이고,

② RID가 추천한 Lam Takhong 유역에 HAII의 community group이 있는지 확인할 필요가 있음 (중요한 아니지만).

- ***시간을 두고 지속적으로 고려할 사항***:

① FAORAP와 HAII는 훈련 프로그램에 관심이 많으므로 프로젝트 내용 및 결과를 공유할 수 있는 세미나/웍샵 등이 포함된 연구사업 개발이 필요할 것 같고,

② HAII의 community network을 잘 활용할 수 있는 방안도 고민할 필요가 있음.

※ monkey cheeks ponds: 우리나라의 면/리에서 볼 수 있는 작은 저수지라고 생각하면 됨.

(2) DOA

▪ **주요 내용**

- 부서장인 Dr. Waraporn은 계절예측 정보의 해상도와 정확성에 큰 관심을 보였으며, 병해충 분야에도 적용 가능성이 있는지에 관심을 보였음 (이에 대응함으로써 Cli-WARA 이외 APCC의 다른 연구 분야에 대한 인지도도 높였음).
- MOU에 대해 긍정적이었으나 DOA 자체 포맷이 있으니 그것으로 진행했으면 좋겠다는 의사를 보였으며, RID와는 별도로 진행해 줄 것을 요청하였음.
- 또한, 우리가 프로젝트 수행을 위해 협력을 요청한 3개 기관 (DOA 포함) 중에서 DOA가 (우리와의 협력 네트워크에서) 태국내 리드 기관이 되었으면 좋겠다는 의사를 표현하였음.
- Pranburi도 연구 지역으로써 문제는 없지만 그 지역은 가뭄 이슈보다는 경제 작물 (파인애플, 코코넛 야자수 등)의 병해충 등의 문제 해결이 더 중요시되는 지역이라고 하였음.
- Kasetsart University (Dr. Cattleya Chatrtiang)도 참여하기를 원했음.

▪ **후속 조치**

- ***빠른 조치***:

① MOU 체결 준비 필요함.

② RID가 추천한 Lam Takhong 유역에 대한 DOA의 의견 확인이 필요함 (현재 기다리는 중).

③ 주요 담당자들에게 우리가 요구했던 자료들에 대해 더 상세한 정보를 제공할 것임.

④ Kasetsart University가 참여의사를 보였지만 불확실한 부분이 있으므로 확인 절차 (예, 어떤 방법으로 협력하기를 원하는지 등) 가 필요함.

- *시간을 두고 지속적으로 고려할 사항*:

① DOA는 병해충에 관심이 많았는데, 병해충 분야에서 무엇이 고려되었으면 좋겠는지에 대한 필요/정보를 수집하여 후속 연구를 개발하는데 활용하면 좋을 것 같음 (즉, 본 출장에서는 시간이 부족해서 병해충 정보에 대해서는 만족할 만한 정보를 획득하지 못했지만, 병해충에 대한 연구가 필요하다는 정보를 얻었기 때문에, Cli-WARA 프로젝트 수행하는 동안 병해충 정보도 수집할 수 있다면 후속 연구개발에 도움이 될 것임).

(3) RID와 TMD

▪ **주요 내용**

RID

- RID는 가장 적극적인 관심을 보였으며, 특히 APCC와의 협력 방법에 더 많은 관심을 보였는데, 단순히 자료나 정보를 제공하는 기관으로써의 역할은 싫다고 하였음. 프로젝트 수행 뿐만 아니라 웍샵/훈련 프로그램 등을 통해 정보/결과 공유할 수 있는 협력을 적극적으로 강조하였음.
- MOU에 대해서는 KRC와의 MOU 수정 방법을 통해 협력하는 방법을 제안했음.
- 연구 지역으로 Pranburi 보다는 동부의 Siyad reservoir와 북동부의 Lam Takhong basin을 제안하였음.
- 로드맵과 구체적인 일정 등이 추가되었으면 좋겠다고 하였음.

TMD

- 역시, 가뭄 영향에 대한 연구 지역으로써 Pranburi보다는 Lam Takhong이 적합하다는 의견에 동의하였음.
- Rice Department (RD)가 태국내 쌀 관련 작물모형에 대한 정보를 가지고 있으니, RD 연락 정보를 제공하겠다고 하였음.
- APCC의 훈련 프로그램 (예, CLIK과 상세화 웍샵 등)에 적극적인 관심과 참여의사를 보였음.

▪ **후속 조치**

- *빠른 조치*:

RID

① 로드맵과 수정된 자세한 일정표를 보내야 함 (이미 보냈음).

② MOU 대신 LOI를 제안해 볼 것임.

TMD

① LOI 혹은 LOA 교환.

② in-situ data 요청.

- *시간을 두고 지속적으로 고려할 사항*:

RID & TMD

① 훈련 프로그램 개발

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

짧은 일정이었지만 5개 기관과의 미팅을 통해 많은 것을 획득함으로써 효과적인 출장을 수행했다고 판단함. **빠른 후속 조치를 통해 획득한 기회를 결과/성과 도출로 이어지도록 해야 하며**, 지속적으로 협력을 유지할 수 있도록 장기 후속 조치 (태국 기관들이 참여할 수 있도록 훈련 프로그램

개발 등)도 고려되어야 할 것임.

첨부된 자료는 총 5부:

(1) 1_20170109-13_Thai_Travel_Report_final.doc
(2) 2_20170109-13_Thai-travel_photos_namelist_v2.ppt
(3) 3_Cli-WARA_APCC Project Initiation Fact Sheet.pdf
(4) 4_Cli-WARA Project Proposal_V3.0.pdf
(5) 5_20170109-13_Cli-WARA_presentation_final.ppt (기관이름은 각각 상황에 맞게 변경해서 사용하였음).

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: Thailand

[2017.01.14. Prepared by Uran Chung @ Climate Application Team, Climate Application Department, Jaepil Cho @ Climate Application Team, Climate Application Department, Ji-Hyun Oh @ Climate Research Team, Climate Prediction Department, and Christianne Miko Aikins @ External Affairs Department]

□ Travel summary

1. Name and position of traveler(s):

- Uran Chung (Research Fellow, Climate Application Team, Climate Application Department)
- Jaepil Cho (Team Leader, Climate Application Team, Climate Application Department)
- Ji-Hyun Oh (Research Fellow, Climate Research Team, Climate Prediction Department)
- Christianne Miko Aikins (International Project Manager, External Affairs Department)

2. Destination and travelling period:

Bangkok, Thailand; 9(Mon)-13(Fri) Jan 2017

3. Purpose of Travel:

- The project, Climate information-based Water-Agriculture Risk Assessment (Cli-WARA): *Utilization of multi-range climate information for risk assessment on agriculture-water resources in Thailand,* is in its initiation stage. This trip enabled a consultation with key contacts to help develop the proposal and ensure that is both appropriate and relevant for Thai partners, as well as generate support for the project and APCC
- Meeting with the Royal Irrigation Department (RID) Deputy Director General for Administration Dr. Somkiat Prajamwong to discuss their method of water management, the project and access to data
- Meeting with the Department of Agriculture (DOA) Director General Mr. Suwit Chaikiattiyos to gain support and discuss linkages with the project and access to data
- Meeting with the FAO Deputy Regional Representative Mr. Jong-Jin Kim and Resilience Officer Ms. Hang ThiThanh Pham to discuss their work in the region, in particular their upcoming project with the Ministry of Agriculture and Cooperatives (MOAC), and gain insight into working with the Thai government and local organizations.
- Meeting the Hydro-Agro Informatics Institute (HAII) (which is under the Ministry of Science and Technology of Thailand) Deputy Director Dr. Royboon and International Cooperation Officer Ms. Jittiporn to discuss about our project and Thailand's agriculture and water resource systems.

- Meeting with Dr. Songkran Agsorn in Thailand Meteorology Department (TMD) to gain support for collecting of weather station data of the research area and discuss about the project.
- Identify sources of data and method of access

4. Outcomes:

- Approval was given from senior staff to allow their organizations to collaborate with APCC, but more work must be done to formalize the institutional arrangements with an MOU or letter of intent (LOI)
- Focal points were identified for both project coordination and technical aspects for FAO, HAII, DOA, TMD and RID
- Data availability and access was explored
- Input was given from all partners on project design and eventual outputs
- Increased awareness about APCC and the project among key stakeholders and government partners
- APCC's regional network has been expanded to Thailand

5. Meeting Notes:

Tuesday January 10, 2017

FAO

Location: UN FAO Regional Office for the Asia and the Pacific (FAORAP), Bangkok

Participants:

- Dr. Uran Chung, Dr. Jaepil Cho, Dr. Ji-Hyun Oh, Ms. Christianne Aikins (APCC)
- Mr. Jongjin Kim (Deputy Regional Representative, FAORAP)
- Ms. Hang ThiThanh Pham (Resilience and Climate Change Officer, FAORAP)

Major points

- FAO expressed their interest in beginning this dialogue between FAORAP and APCC and their confidence that the Thai government would be interested in the project. They noted that FAO's comparative advantage is technical assistance as well as policy support, so while they are happy to play a supportive role through technical or organizational assistance, they are not a funding body.
- Ms. Hang[1] shared their work in the region on National Adaptation Programmes of Action (NAPAs) and was interested to see how this investigation of water resources could help inform the development of these plans in Thailand, as well as other areas.

[1] In Thailand, people are generally referred to by their title and first name. This convention will be used in this Travel Report.

- FAO also proposed using the lessons learned and capacity building focus of the project to deliver an international workshop where APCC and the Thai partners can share their knowledge with the broader region (specifying Philippine, Nepal, Vietnam).
- Ms. Hang was designated as the focal point for Cli-WARA.
- Mentioning about importance of transboundary Mekong river basin, Ms. Hang questioned about the selected study area (Pranburi river basin) of the Cli-WARA project.

Actions

- Short-term: Continue dialogue on Cli-WARA
- Long-term: Potential collaboration with FAORAP on capacity building

Hydro and Agro Informatics Institute (HAII)

Location: FAORAP, Bangkok

Participants:

- Dr. Uran Chung, Dr. Jaepil Cho, Dr. Ji-Hyun Oh, Ms. Christianne Aikins (APCC)
- Dr. Royboon Rassameethes (Deputy Director, HAII)
- Ms. Jittiporn Chantarojsiri (Head of Collaboration Management Section, HAII)
- Ms. Tantima Tungjaipongtham (International Affairs Officer, HAII)
- Ms. Hang ThiThanh Pham (Resilience and Climate Change Officer, FAORAP)

Major points

- HAII shared information on their institution's history and current work, explaining that they bring together data from 34 national organizations and focus on a bottom-up approach to climate application. Their interest is in how to successfully communicate this data to communities.
- HAII also shared the website (http://thaiwater.net/) where this data can be found.
- HAII work with over 900 villages through water resource management and communicating directly over the instant messaging app, Line.
- Regarding the proposed study area Pranburi: They noted that they do not have a community contact there nor are they interested in starting up a network, but are happy to share information.
- Dr. Royboon also wanted to know if APCC would install telemetry stations in Thailand and along the Mekong River, and train local specialists to support one of their projects.
- Ms. Hang also noted that APCC should choose a basin with national implications and suggested that the best combination would be to work with HAII and DOA.
- Due to the current severe flooding in southern Thailand, it seems that HAII is more interested in flood.

- In addition, HAII does not have that much interest in irrigated area, which accounts for 20 % of Thailand. They put more emphasis on computing water balance for regional management of small "monkey cheeks[2]". (Coca-Cola Foundation supports this project.)

Actions

- Long term:
  - Investigate if HAII has community contacts in the new proposed study basins.
  - Consider how to capitalize on HAII's community network to implement results from Cli-WARA
  - As a national research institute, HAII seems to be another powerful local party to work with.

Wednesday January 11 2017

Department of Agriculture (DOA)

Location: Department of Agriculture, Kasetsart University, Bangkok

Participants:

- Dr. Uran Chung, Dr. Jaepil Cho, Dr. Ji-Hyun Oh, Ms. Christianne Aikins (APCC)
- Dr. Waraporn Pompoj (Deputy Director-General, DOA)
- Dr. Chutima Koshawatana (Director of Academic Group, Field and Renewable Energy Crops Research Institute, DOA)
- Ms. Vichanee Ormgubstn (Senior Agricultural Research Specialist, Field and Renewable Energy Crops Research Institute, DOA)
- Ms. Supattra Lestwatanalhict (Senior Agricultural Research Specialist, Horticulture Research Institute, DOA)
- Dr. Margaret C. Yoovatana (Senior Policy and Plan Specialist, Planning and Technical Division, DOA)
- Ms. Kannawee Trakoolsaeng (Policy and Plan Specialist, Planning and Technical Division, DOA)
- Ms. Phatthicha Plianphanich (Policy and Plan Analyist, Planning and Technical Division, DOA)
- Ms. Nutchana Pattaraphaiboonchai (Policy and Plan Analyist, Planning and Technical Division, DOA)
- Ms. Lawan Chanamporn (Agricultural Research Specialist, Horticulture Research Institute, DOA)
- Dr. Cattleya Chatrtiang (Kasetsart University)

Major points

[2] Monkey cheeks are a series of canals that store water. Through a system of gates, the water level can be controlled thus protecting crops from extremes of floods and droughts.

- Dr. Waraporn was very curious about APCC's seasonal forecasts and inquired about its accuracy, resolution, and applicability to pest and disease.
- DOA were amenable to the study area of Pranburi basin, but wanted to include other sites to the north or north east, where they are more concerned about drought and have greater relevance to national conditions. They noted that Pranburi mostly has economic crops (coconut, oil palm, etc) rather than rice, and generally has not suffered from a drought. However they are interested in addressing pest and disease issues using climate information.
- DOA shared the type of data they may have available and were curious about its applicability to generate predictions to allow crop planning, as well as address pest and disease.
- Focal points were set:
  - Mr. Margaret – main focal point for coordination and in addressing the MOU
  - Dr Supattra – focal point for Horticulture because the major crop is economic crops (fruit trees and vegetables) in Pranburi
  - Dr. Chutima – focal point for major information of Crops
- MOU is possible but would take many months as it needs to go through the Cabinet. They have their own format. They are willing to proceed in the meantime though were unclear on the level of commitment. They suggested having a separate MOU from RID.
- Dr. Waraporn wanted the coordination and institutional arrangements to be clarified. She suggested DOA to be the coordinating agency, as they consider climate and water to be supporting information to the actionable application to crops. Their interest in the project was reinforced by this request.
- They would also speak directly to RID, which is under the same parent ministry – Ministry of Agriculture and Cooperatives.
- Dr. Cattleya Chatrtiang was interested in Cli-WARA and wanted to discuss more about a way of participation of the project.

Actions

- Short term:
  - Follow up with MOU development
  - Confirm new study sites
  - Give more information on type of data needed and what can be done with it
  - Follow up or contact Dr. Cattleya (Kasetsart University): ask her how she want to participant to Cli-WARA.
- Long term:
  - Based on the DOA's interest in disease and pest control, the current project can be expanded combining with the disease/pest modeling framework done by Dr. Kwang-Hyung Kim in future

Thursday January 12, 2017

Royal Irrigation Department (Combined notes from Jan 11 and 12)

Location: Royal Irrigation Department

Participants:

- Dr. Uran Chung, Dr. Jaepil Cho, Dr. Ji-Hyun Oh, Ms. Christianne Aikins (APCC)
- Dr. Somkiat Prajamwong (Deputy Director General, RID)
- Mr. Kanching Kawsard (Executive Advisor on International Cooperation, RID)
- Mr. Kanchadin Srapratoom (Director, Foreign Projects Management and International Affairs Division, Projects Management Bureau, RID)
- Dr. Somkiat Apipattanavis (Water Resources Engineer, Office of Research and Development, RID)
- Mr. Lerphan Sukyirun (Chief of Water Management Branch 2, Water Management Division, Bureau of Water Management and Hydrology, RID)
- Mrs. Thayida Siritreeratomrong Van Corstanje (Foreign Relations Officer, RID)
- Dr. Wimolpat Khamkanya (Economist, RID)
- Mr. Chun-Jin Kim (Embedded Representative to RID, Korea Rural Community Corp.)

Major points

- RID expressed their interest in the project and how they looked forward to working with APCC. They seemed eager to share information and transfer knowledge.
- Mr. Kanchadin explained that developing and approving a new MOU would take between 6-8 months and suggested pursuing alternative options. He suggested revising the KRC MOU with RID to include a new study site for Cli-WARA, since the MOU is already general enough to allow for such additions.
- RID appeared confused over why DOA would want to be the coordinating agency.
- Since the Pranburi Basin does not suffer from drought and also does not have rice, RID suggested two options:
  - East Thailand: Siyad Reservoir in the Chachoengsao Province (420 million m^3) east of Bangkok.
  - North-east: Lam Takhong Dam in the Ratchasima Province (314 million m^3). RID would prefer if we chose this one as there is rice farming and the area has suffered from droughts.
- DDG Somkiat explained that they are currently applying for GCF funds to perform an impact analysis on management and adaptation in water management for irrigated areas. He noted that they need to be prepared well in advance, more than a single season, as they have to allocate about 40% of the annual storage for the dry season, as well as the early rainy season in case the rain comes late. As this is an issue, they wish to expand their weather forecasting. In terms of real-time forecasting, they try to forecast on a weekly basis (and change the weather demand analysis and supply every week). He explained that they need longer-term forecasts than are currently available from TMD. They are also interested in being able to predict runoff.

- DDG Somkiat also explained that they are going to have a new water management center in RID, and they may need to install new technology.
- DDG Somkiat stressed that this relationship should be more than just handing over data, and that he wanted to see collaborative work to ensure that RID can learn and grow from this, which APCC agreed with.
    - He also noted that we need to discuss at an early stage what kind of data is needed but also what it will be used for, to ensure that the data given can be interpreted correctly. This way they can separate the data as appropriate.
- Dr. Cho also suggested that RID take advantage of YSSP or do something similar, to facilitate the knowledge transfer by hosting an RID scientist at APCC.
- Two focal points were assigned:
    - Project formulation: Mrs. Thayida Siritreeratomrong Van Corstanje
    - Technical aspects: Mr. Lerphan Sukyirun
- DDG Somkiat also explained that it is okay for us to proceed with sharing information and preparing the project in parallel with getting official approval. However they need to have a workplan with milestones to be able to begin the approval processes. The documentation is the first step for launching (and can do MOU/MOU later on). Any contribution (financial etc) will need to have an approval at least a year in advance.
    - In specific, they need some clarification on contribution from each side, a timeframe, more information on procedure, and a roadmap so they can inform their minister in the first stage. This should be given during the week of January 16.
- The current management system was also discussed, as Dr. Cho noted APCC would be happy to try and match RID. However DDG Somkiat also noted that they would be looking to apply new technology and expressed interest in the mentioned SWAT+
- RID also noted that they have crop yield data they can share, which is collected for every irrigation project, and mainly focuses on rice.
- RID agreed (informally) to host a workshop for downscaling and are willing to provide a venue and some institutional support. The end of June was the earliest timeframe given from APCC.
- RID inquired if there is an economist involved. They felt that this is important, as to modify any chain management or make other changes, there needs to be robust economic justification given.

Actions

- Short term:
    - Review proposed basins (Dr. Cho)
    - Deliver roadmap with milestones by Jan 20
    - Propose LOI or LOA as proof for APCC
- Long term:
    - Develop training workshops/future projects for continued collaboration between RID and APCC

Thai Meteorological Department

Location: Thai Meteorological Department

Participants:

- Dr. Uran Chung, Dr. Jaepil Cho, Dr. Ji-Hyun Oh, Ms. Christianne Aikins (APCC)
- Dr. Songkran Agsorn (Deputy Director General, TMD)
- Mr. Boonlert Archevarahubrok (Specialist on Meteorological Research and Development, TMD)
- Mr. Porrames Amatayakul (Director, Agrometeorological Division, TMD)
- Ms. Chalalai Jamphon (Director of Climatological Center, TMD)
- Mr. Tawin Jomtha (Meteorologist, Agrometeorological Division, TMD)
- Mr. Chatchai Chaiyasaen (Meteorologist, Weather Forecasting Bureau, TMD)
- Ms. Kannika Jaikham (Meteorologist, Climatological Center, TMD)
- Mr. Anurat Saringkalpasit (Meteorologist, Agrometeorological Division, TMD)
- Ms. Apanthree Yuttaphan (Meteorologist, Agrometeorological Division, TMD)
- Dr. Ruthaikarn Buapheam (Meteorologist, Agrometeorological Division, TMD)
- Ms. Kamolrat Saringkalpasit (Meteorologist, Agrometeorological Division, TMD)
- Mr. Rungwrote Klinthrap (Meteorologist, Agrometeorological Division, TMD)
- Ms. Phanumat Lewcharoenthrap (Head, International Relations Division, TMD)

Major points

- Presentations from TMD and APCC were given on their respective institutions, as well as a detailed overview of Cli-WARA
- DDG Songkran gave input on the study sites. He said that while Pranburi does not have a drought problem, Lam Takong is good and it is a major supplier of water for the region. He felt that Siyad is too small and not as important.
- Mr. Boonlert was curious if other crops besides rice can be modeled, and also suggested that APCC also discuss with the Rice Department. DDG Songkran said that TMD would connect APCC with the Rice Department.
    - They noted that they give seasonal forecasts to the Rice Department, which they depend on for their monthly rural planning. They must report to the Minister.
- Dr. Cho inquired about their climate zoning and current methods for downscaling. He brought up the possibility of hosting the downscaling workshop in Thailand with RID and TMD.
- Ms. Chalalai clarified that the seasons for Thailand are rain (mid-May to mid-October), Winter (mid-October to mid-February) and Summer (min-February to mid-May)
    - She also noted that their climate is mostly influenced by two major monsoon systems: Southwest monsoon from mod-May to mid-October, and Northeast monsoon from October to mid-February.

- DDG Songkran expressed their interest in learning more about and potentially gaining an agricultural model.
- DDG Songkran explained that an MOU would be too lengthy a process, and suggested simply using letters. While it looks less formal it is more effective and flexible. They are amenable to signing other MOUs, but stated that a letter is sufficient.
- Three focal points were assigned:
    - Mr. Boonlert Archevarahubrok (main)
    - Mr. Porrames Amatayakul (Agro-Meteorology)
    - Ms. Chalalai Jamphon (Climatology)
    - (Ms. Phanumat, who coordinated the meeting from the International Relations Division, will still be involved for coordination)

Actions

- Short term:
    - Follow up about LOI or LOA
    - Request meteorological data and ask for advisory role for regional climate in Thailand
- Long term:
    - Develop training program

FAO in Thailand, Tuesday (10 January) 2017

FAO meeting - from right to left: Ms. Jong-jin Kim (FAO), Ms. Ms. HangThiThanh Pham (FAO), Ms. Christianne Miko Aikins, Dr. Jihyun Oh, Dr. Uran Chung (photos by Dr. Jaepil Cho)

HAII meeting - from right to left: Dr. Royboon Rassameethes (HAII), Ms. Jittiporn Chantarojsiri (HAII), Ms. Tantima Tungjaipongtham (HAII),

Ms. Christianne Miko Aikins, Dr. Jihyun Oh, Dr. Uran Chung (photos by Dr. Jaepil Cho)

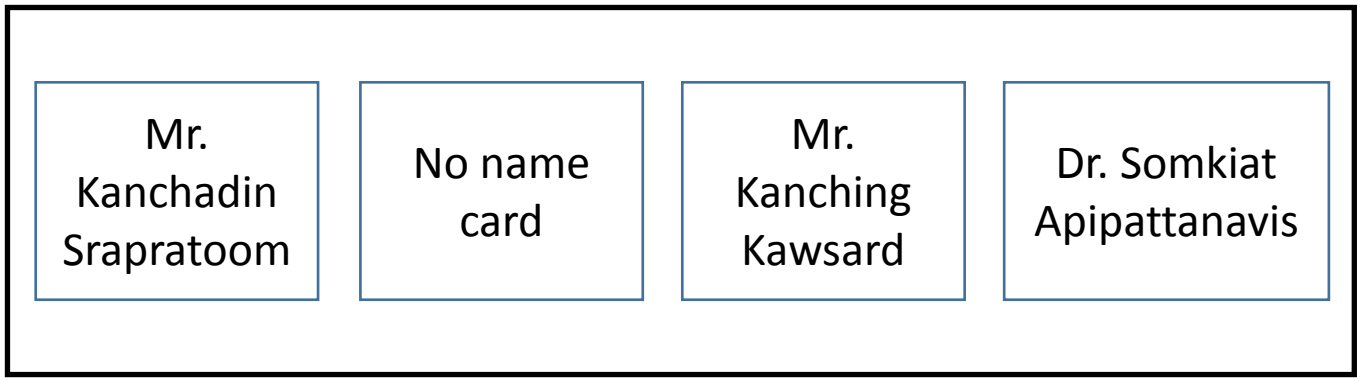
FAO

from right to left: Ms. HangThiThanh Pham (FAO), Dr. Uran Chung, Dr. Jihyun Oh, Dr. Jaepil Cho, Dr. Royboon Rassameethes (HAII), Ms. Christianne Miko Aikins, Ms. Jittiporn Chantarojsiri (HAII), Ms. Tantima Tungjaipongtham (HAII)

DOA

from right to left: (skip a lady in gray jaket), Ms. Margaret (a key person for international work, DOA), (skip three ladies), Dr. Supattra Lertwatanakiat (a key person for horticulture, DOA), Dr. Pichate Chaowattananwong (man, DOA), Dr. Chutima Koshawatana (a key person for crop, DOA), Dr. Waraporn Prompoj (Deputy DG of DOA), Dr. Uran Chung, Dr. Jihyun Oh, Ms. Christianne Miko Aikins, Dr. Jaepil Cho, Dr. Cattleya Chutteang (Kasetsart University)

RID



11 Jan meeting

1

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2 For project formulation

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3 For technical things

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Lerdphan Sukyirun
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from right to left: Ms. Phanumat Lewcharoenthrap (TMD), (skip three people of TMD), Dr. Jihyun Oh, Ms. Christianne Miko Aikins, Dr. Uran Chung, Dr. Jaepil Cho, Dr. Songkran Agsorn (Deputy DG of TMD), Mr. Boonlert Archevarahubrok (chief key person, TMD), (skip a man), Ms. Chalalai Jamphon (a key person for climatology, TMD), Mr. Porames Amatayakul (a key person for Agro-meteorology, TMD), no information for the rest of them (five people from left)

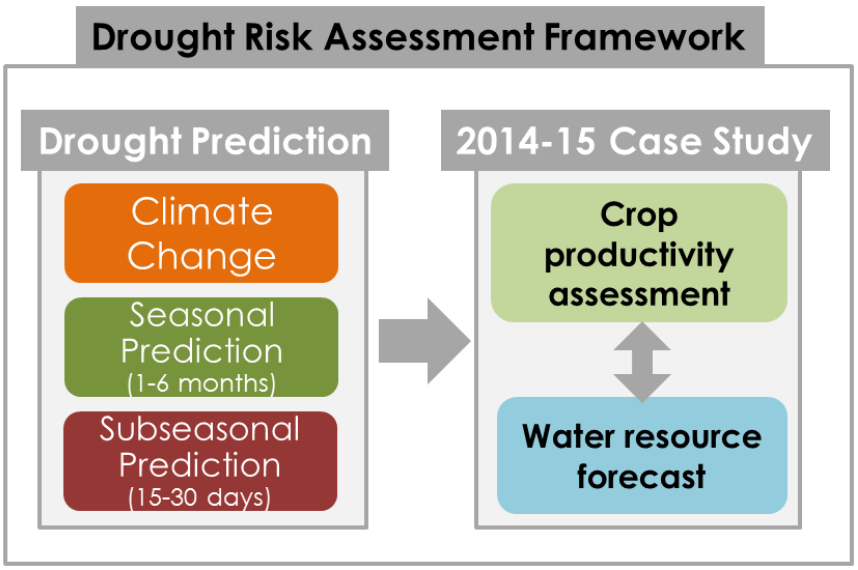
FACTSHEET

CLI-WARA: CLIMATE INFORMATION-based WATER-AGRICULTURE RISK ASSESSMENT

PROPOSED PROJECT FOR THE UTILIZATION OF MULTI-RANGE CLIMATE INFORMATION FOR RISK ASSESSMENT IN THAILAND

Due to the worst drought in decades in many regions of Thailand, the need to better comprehend and anticipate the impacts of climate variability and climate change on water shortages and subsequently agriculture has become increasingly urgent. Climate information, including subseasonal to seasonal forecasting and climate projection, can be employed to address this need.

The proposed project Cli-WARA aims to enhance adaptive capacity and build new tools to better equip decision-makers by increasing understanding of the impacts of climate variability and change on water and agriculture systems and delivering key trainings.



The project would run for two years beginning in 2016 and is centered on the collaboration with key Thai partners.

What is the APEC Climate Center?

As a hub of climate science and application activities in the Asia-Pacific, APCC provides optimized climate information and technology for the region and beyond. APCC strives to contribute to safer and more resilient communities through innovative research, operational products and services, and capacity building in the field of climate science and its applications. See more at www.apcc21.org

What will we gain?

- ✓ Increased understanding of climactic risk for agriculture and water resources in Thailand
- ✓ Improved adaptive capacity and decision-making processes
- ✓ Local and regional relevance beyond target area

What will be done?

Analysis & Assessment

→ Analyze the impact of various scales of climate variability and change on water shortages in Thailand

→ Assess crop productivity under employment of climate information

→ Develop a drought risk assessment and management framework

Strengthening of Systems & Capacity Building

→ Equip managers, policy makers and government officials with enhanced scientific assistance to support management planning

→ Deliver training workshops on risk management of agriculture and water resources

→ Enhance decision-making processes and integrate into government tools

Dissemination & Expansion

→ Ensure project can be scaled to other parts of Thailand and beyond

→ Disseminate the representative case study

Project Manager: Christianne Miko Aikins, caikins@apcc21.org