The role of communication between scientists involved in agricultural development in South East Asia

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Disclaimer

The views expressed in this report are solely the authors’, and do not necessarily reflect the views of Charles Sturt University, the Institute for Land, Water and Society or people consulted during the research project.

Cover photos:

Collection of scenes in Lao PDR depicting communication between local and international scientists (J. Millar).
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Glossary

ACIAR – Australian Centre for International Agricultural Research
ADB – Asian Development Bank
APAN - Asia-Pacific Advanced Network
CGIAR – Consultative Group on International Agricultural Research
CIAT – Centro Internacional de Agricultura Tropical (English: International Center for Tropical Agriculture)
CMC – Computer mediated communication
FAO – Food and Agriculture Organisation
GDP – Gross domestic product
HDI – Human Development Index
ICTs – Information and communication technologies
IRRI – International Rice Research Institute, Philippines
LAD – Lao Agricultural Database
Lao PDR – Lao People’s Democratic Republic
LaoFAB – Lao Farmers and AgriBusiness forum
LaoLinks = Lao44
MRC – Mekong River Commission
NAFRI – National Agricultural and Forestry Research Institute, Lao PDR
NAFES – formerly National Agricultural and Forestry Extension Service, renamed Department of Agriculture Extension and Cooperative (DAEC), Lao PDR
NARCCA - National Agricultural Research Coordinating Council of Asia
NGO – Non-governmental organisation
NRI – Network Readiness Index
PDF – Portable document format
SEAFDEC – South East Asian Fisheries Development Center, Philippines
SMS – Short messaging service
SPC – Secretariat of the Pacific Community
UN – United Nations
UNDP – United Nations Development Programme
Executive summary

This report presents research findings from a qualitative investigation into how agricultural scientists involved in international agricultural and rural development projects communicate with each other. Communication is an essential part of agricultural research in developed and developing countries, from initiating and managing projects to evaluating the impacts of research. It is also considered fundamental to a scientist’s professional life and the stakeholders they serve.

While there has been considerable research on the role of communication in agricultural research in developed countries, there has been limited exploration of communication pathways between collaborating scientists from developing and donor countries. Using a case study of scientists in Australia and Lao PDR, this study examined informal and formal communication channels such as face-to-face meetings and in-country visits, field visits and journal articles, and the use of various information and communication technologies (ICTs). The study also investigated factors that influence communication between program managers, project leaders, scientists and communication managers in Australia and Lao PDR.

Thirty participants from Australia and Lao PDR were interviewed in English by the lead author. Participants included 12 Australian agricultural scientists and program managers living in Australia, six international scientists residing in Lao PDR, and 12 scientists and communication managers from Lao PDR. Each interview took up to one hour and was transcribed in English, then coded and analysed using grounded theory to develop appropriate themes and categories. Two Lao interviews were conducted via email.

All respondents agreed face-to-face communication via in-country visits, meetings and field trips was the most important method of informal communication between Lao and international scientists working on agricultural development projects. This was important to build trust and respect between actors and engender personal relationships and professional collaboration within the project group, both in Australia and Laos.

Formal communication through peer reviewed journal articles was limited by lack of institutional support and English proficiency.

Email was the main ICT used for communication between scientists. Online discussion groups were used mainly by Lao and international scientists, and rarely by Australian scientists. Other synchronous ICTs that facilitate face-to-face communication such as Skype were reported to have limited or no use for work in Lao PDR due to insufficient bandwidth, online infrastructure or institutional support.

Differences in culture, (particularly differing views on ‘keeping face’ and hierarchy), personal communication styles (independent of culture), understanding public information, understanding Western science, economic and political systems, educational opportunities, organisational cultures and strictures imposed by international agencies were also mentioned as challenges for effective communication in international project teams.

From this analysis, seven recommendations were developed:

1. Agencies undertaking international research and development projects provide general and cross-cultural communication training and mentoring programs for international project scientists, as needed.
2. International or Lao scientists with a ‘bridging role’ be used to encourage better communication within agricultural development projects, where feasible and appropriate.
3. A clear policy be developed by agencies undertaking international research projects to encourage the production of formal publications such as refereed journal articles by South East Asian researchers in local and international journals.

4. South East Asian scientists continue to receive specialist training in various aspects of science communication in English, including the ‘culture’ of and processes involved in Western science.

5. South East Asian scientists be encouraged to read more general and specialist scientific papers, particularly in technical English, through their libraries.

6. New ICT tools destined for use in South East Asia be thoroughly tested under working conditions and locations in target countries before a project commences.

7. Project managers and researchers employed by agencies undertaking international research and development projects be encouraged to actively participate in online discussion groups and periodically peruse relevant information websites in South East Asia.
1. **Background**

1.1 **The nature and importance of scientific communication**

Agricultural scientists have sought to alleviate problems in agriculture and rural development by increasing productivity through scientific research. Since the first ‘Green Revolution’ commenced in the 1960s, agricultural scientists have faced many global challenges, particularly the need for greater food security, poverty reduction, environmental protection and the development of national economies. Recent increases in food prices and concerns about climate change impacts and energy have added to the list of challenges (FAO, 2008).

The Australian Centre for International Agricultural Research (ACIAR) was established to manage collaborative agricultural research that addresses the need to reduce rural poverty in developing countries (ACIAR, 2012b). ACIAR has a communication program that aims to disseminate the results of its research projects, as well as training and development activities (ACIAR, 2012d). This illustrates the direct and indirect use of communication in collaborative agricultural research that includes researchers from developed and developing countries. This communication includes initiating and managing projects as well as evaluating the impacts of the research (ACIAR, 2012d).

Ballantyne, Maru and Poncari (2010) recognised the link between research, communication and development where the communication of knowledge, information and data was a key building block for more sustainable agriculture and productive partnerships in the global research community. At the personal level, Holford, et al (2008) and Brierley (2009) considered communication as fundamental to a scientist’s professional life and the stakeholders they serve. The skills required by scientists for successful communication gained them personal advantages such as greater professional recognition and financial support (Yore, Hand, & Florence, 2004).

Formal and informal communication pathways between scientists have received considerable attention since the 1970s. Communication between scientists located in professional or disciplinary networks occur in various forms; formally through formal scientific publications, and informally via face-to-face, print and other means of direct communication, often resulting in the formation of groups with common interests (Garvey, Nan, & Nelson, 1971). Scientists formed these informal social groups – or ‘invisible colleges’ – to discuss and further develop their research interests, particularly in discipline areas (Crane, 1972). Furthermore, Garvey and Griffith (1971, p. 354) stated that the scientist relied “heavily on informal networks of information exchange to keep abreast of current activities and views of the [scientific] community on the value and relevance of specific research problems”.

More recently, Cruickshank (2002) also highlighted the relative importance of formal groups such as professional associations and informal networks in developed countries, stating that most professional communication between scientists happened informally. He advocated that communication and information seeking are strongly influenced by social processes in the scientific community, often spread over wide geographic and institutional distances. The use of Internet and email messages was highlighted by Barjak (2006) and Bjork (2005) as vital for informal communication between local and international scientists supporting geographically dispersed “knowledge communities”. However, Bjork (2005) also noted that formal and informal communication were not mutually exclusive and that each could be used at various stages of a single process, such as in publishing a scientific journal article.
1.2 Scientific communication in developing countries

There are many constraints to the free and efficient communication of scientific and agricultural information in developing countries. It has been widely assumed that scientists in developing countries are ‘isolated’, implying that scientists from these countries have few professional contacts and that they should form more contacts with scientists in developed countries (Shrum & Campion, 2000). In their study of information networks in Africa and India, Shrum and Campion (2000) found variation in communication according to the possible size of networks available for local scientists and the type of organisation they worked for, such as a state research institution, university or non-government organisation, and their contexts. For example, they observed that the smaller research systems in the African countries led to these researchers to place greater importance on international links than their Indian counterparts, who were located in larger, older and better established systems.

Ward and Spennemann (2000) revealed that the development of local information systems and local and global economic forces influenced the flow of agricultural information between scientists and development agents in Pacific Island countries, particularly because of low level of funding from development projects or from the governments of developing countries. Shrum and Campion (2000) noted that technical meetings provided opportunities to enhance and reinforce scientists’ networks, while they found where scientists received their higher education and research training were also influential factors.

Personal and cultural barriers can also impede scientific information flows. Hall (2008) highlighted the modern Western scientist’s professional imperative of publishing in peer-reviewed journals to gain professional recognition in their scientific community. This was particularly noted for international scientists from developed countries working in developing countries. However, Asian scientists living in developing countries can find themselves caught between the Western notion of ‘publish or perish’ and their desire to serve the development agendas of their countries.

Hall (2008) emphasised the more fundamental need for shared goals in research projects to assist in the development of professional scientific networks, and the sharing of information between developed and developing countries to enable scientific collaboration and partnerships. Muswazi (2001) also highlighted the need for sharing agricultural information and the importance of gathering, indexing and making available technical, or ‘grey literature’, for more extensive use by development stakeholders in African countries such as Swaziland.

No formal research appears to have been carried out on the flows, constraints for and impediments to agricultural information in South East Asia, although Ballantyne (2007) reported on a national information system in Lao PDR - the Lao Agricultural Database (LAD) - and Singh (2006) noted the regional agricultural information systems developed by FAO and the Asia-Pacific Advanced Network (APAN). The systems listed are complemented by the growth of informal communication networks between Asian researchers, particularly for communicating agricultural information. For example, Majid and Anwar (2000) reported on the information seeking behaviour of Malaysian agricultural researchers and noted that respondents to their survey placed as much importance of informal professional communication with their professional colleagues as they did on access to formal scientific literature from libraries for their work.

1.3 Role and potential of ICTs in South East Asia

With the advent of wider, more active networks made possible by online technologies and programs such as email, SMS, ‘discussion groups’, ‘chatrooms’ and ‘wikis’, weblogs, Facebook, Linked-in, and Twitter, it has become possible to establish ‘online communities’ of scientists and related professionals in South East Asia. These systems can also link interested development professionals and institutions worldwide and facilitate the use of
relevant agricultural information to form a ‘community of practice’ (Wenger, McDermott, & Snyder, 2002).

Limited research has been carried out on how ICTs are used for online interaction, or computer mediated communication (CMC), in South East Asia. Goby (2000) describes a study of social interactions between young Singaporean business students who used email and synchronous ‘chatrooms’ for instant messaging. Initial impressions were gathered of how young people used online communication in connecting and forming relations. Goby (2000) noted, however, that most students still preferred face-to-face communication compared to online. Subsequent research in US colleges comparing online romantic behaviours of Japanese and American students (Kito, 2005), and general ICT use by European, Asian, Hispanic and Afro-Americans (Ramirez, Dimmick, Feaster, & Lin, 2008) has compared online behaviours of Asian and Europeans users, but little research has been found on similar behaviours in South East Asia.

ICTs have been proposed as important tools for enabling agricultural information systems across South East Asia, as they have in India (Singh, 2006). Access to and building professional expertise in the use of ICTs have become important considerations in the professional development of Asian researchers, with training opportunities made available in Lao PDR through ACIAR and FAO (Ballantyne, 2007).

An often cited constraint for linking networks is current poor access to ICTs and the Internet in the region, as illustrated in the 2009-2010 Global Information Technology Report (WEF, 2010). The report ranked countries according to their readiness to participate in the global digital economy, using measures of infrastructure development, policy environment and usage of the country’s network to develop a Network Readiness Index (NRI). The report ranked Thailand at 47 out of 133 countries listed, Vietnam at 54, Indonesia 67 and Cambodia 117, while Australia was ranked 16. The NRI appears to be correlated to the Human Development Index (HDI) developed in 2008 for each member country by the United Nations Development Programme (2009). As Lao PDR’s most recent HDI ranking of 133 is close to that of neighbouring Cambodia (137), it is believed that the NRI rank for Laos PDR would be similar to Cambodia’s low NRI rank of 117 out of 133. This illustrates the wide ‘information and ICT gap’ between South East Asian and developed countries such as Australia. Research is needed to assess the current status of this gap in countries such as Lao PDR and to investigate its impact on agricultural information systems.

For individual Asian scientists, computer networks present opportunities to overcome geographical and socio-economic limitations of their professional and social lives, assuming they have sufficient English language and computer skills. However, research has shown that personal communication skills may also be important in developing skills in CMC. For example, in their study of undergraduate students located in a developed country, Birnie and Horvath (2002) showed that the more developed the face-to-face social skills and socialising ability of the actors, the more online communication they used.

Ballantyne et al. (2010) was effusive about the future of ICTs in assisting developing countries to access relevant agricultural information rapidly over distance and across time zones. They cited the spread of access, especially via wireless connectivity, increased access to huge volumes of data, and the increasing interconnectedness of data. However the continuing need for training in the use of ICTs for development workers, including scientists from developing countries and the need for more open access to agricultural research was also noted (Ballantyne, et al., 2010).
1.4 **Research questions**

The research questions guiding the study were:

1. How do agricultural scientists communicate formally and informally?
2. What factors influence communication?
3. What role do ICTs play in formal and informal communication?
2. Methods

2.1 Research participants

Research participants from Australia and Lao PDR were selected from international development projects administered by the Australian Centre for International Agricultural Research, based in Canberra, Australia. ACIAR was established by the Australian government in 1982 to facilitate agricultural development internationally. ACIAR funds projects that reflect the priorities of Australia’s aid program and the nation’s research strengths as well as the agricultural research and development priorities of partner countries. ACIAR and its research program managers have extensive ties to South East Asian countries bordering the Mekong River, including Cambodia, Vietnam and Lao PDR. Collaboration with researchers and policy makers in partner countries is integral to developing and delivering their projects.

Lao PDR is a focal partner in Australia’s international development program and has a 50-year history of partnering in agricultural research. In 2013 there were 21 ACIAR projects working on improving productivity of rice, livestock, alternative crops, forestry and fisheries in the country. Lao PDR was chosen as the focus country for study in South East Asia because it represents a least developed country, being ranked 133 out of 182 countries according to the Human Development Index developed by the United Nation Development Programme and one of the lowest in South East Asia. At the time of research, the country was rapidly developing ICT infrastructure so it provided an opportunity to explore the experiences of Lao agricultural scientists with ICTs as a communication tool.

Australia’s Charles Sturt University has links to research in South East Australia and this allowed ready access to relevant interviewees collaborating on international agricultural research projects in Lao PDR, both Australian based as well as residents of Lao PDR.

2.2 Sampling and Interviews

Interviewees were selected using the ‘snowballing’ key informant approach, described in the methodology of Sadavoy, Meier and Ong (2004). The process involved requesting and conducting one hour, face-to-face interviews with five ACIAR program managers in their Canberra offices in May 2011. At the end of these interviews, the researcher asked each manager, who were seen as ‘key informants’, for three contacts in Australia or overseas who could provide information for the research. Based on these suggestions, a further round of interviews were carried out in Sydney and southern NSW in August 2011 with five interviewees involved in ACIAR projects as program managers and project scientists. In all there were 12 interviews in Australia, including two interviewees used in pre-testing the interview schedule. Questions to these interviewees enabled contacts in Lao PDR to be gathered from these two groups, as well as those suggested by the co-authors.

The demographic characteristics of the interviewees, according to nationality, age, education, gender, country of residence, nationality, are summarised in Table 1. This data was gathered for each interviewee during interviews through either specific questions or observation.

---

1 Agricultural development in South East Asia refers to all primary industries including forestry and fisheries.
Table 1: Demographic characteristics of study interviewees (n=30)

<table>
<thead>
<tr>
<th>Characteristic of interviewees</th>
<th>Australian *</th>
<th>International #</th>
<th>Lao</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of interviews</td>
<td>12</td>
<td>6</td>
<td>12 (two via email)</td>
</tr>
<tr>
<td>Range of age</td>
<td>20-60s</td>
<td>30-60s</td>
<td>20-60s</td>
</tr>
<tr>
<td>Female (Male)</td>
<td>1 (11)</td>
<td>2 (4)</td>
<td>1 (11)</td>
</tr>
<tr>
<td>Highest education - PhDs (Masters)</td>
<td>10 (2)</td>
<td>2 (3)</td>
<td>2 (10)</td>
</tr>
<tr>
<td>Native English speakers *</td>
<td>11</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Mean years in development work</td>
<td>15.4</td>
<td>18.2</td>
<td>15.3</td>
</tr>
<tr>
<td>Mean years in ACIAR projects</td>
<td>11.2</td>
<td>9.2</td>
<td>9.0</td>
</tr>
<tr>
<td>Work in other SE Asian countries</td>
<td>11</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Mean proportion (%) of work spent on international projects</td>
<td>54</td>
<td>87</td>
<td>37</td>
</tr>
<tr>
<td>Disciplines</td>
<td>Agronomy, pest management, animal science, fisheries, social sciences, communications</td>
<td>Agronomy, animal sciences, social sciences, communication</td>
<td>Agronomy, animal sciences, agricultural extension, social sciences, fisheries, communication</td>
</tr>
<tr>
<td>Employer organisations</td>
<td>ACIAR, universities, government agency</td>
<td>International agencies, ACIAR, universities</td>
<td>Government agencies, universities, non-government organisation</td>
</tr>
<tr>
<td>Position levels *</td>
<td>Program manager, project scientist</td>
<td>Program manager, project scientist</td>
<td>Program manager, project scientist, project assistant</td>
</tr>
</tbody>
</table>

* ‘Australian’ includes interviewees from ACIAR as well as other program managers and project scientists.

# ‘International’ interviewees were international program managers and project scientists residing in or near Lao PDR.

* All interviewees were assessed during interviews with at least a working knowledge of English.

^ The majority of positions in each group were program managers.

The interview schedule was slightly amended for the Lao interviews which were carried out in and around the capital of Lao PDR, Vientiane, in January 2012. Six interviewees in Lao PDR were initially contacted via email prior to commencing the third round of interviews. Further suggestions from these interviewees resulted in a total of 16 face-to-face interviews being carried out as well as two subsequent interviews carried out via email.

Each interviewee received an introductory letter personally or via email prior to their interview, outlining details of the study and the obligations and conditions set by the CSU School of Environmental Sciences Ethics for Human Research Committee. The semi-structured question guides used by the researcher with Australian and Laos-based interviewees are shown in Appendices 1 and 2.
Before starting each interview, interviewees were provided standard definitions of ‘formal’ and ‘informal’ agricultural information and ‘Australian’ and ‘Asian’ scientist as used throughout the interviews. These definitions were:

- **Formal agricultural science information** is disseminated through recognised, peer-reviewed journals, conference proceedings and books (Crane, 1970).
- **Informal agricultural science information** is all other professional communication used by working scientists, including notes and discussions carried out in the field, in face-to-face meetings, in discussions during conferences and seminars (Crane, 1970) and via email and through electronic forums (Barjak, 2006).
- **Australian scientists** are those employed from outside the country in which a research project is based, who received their training from tertiary institutions in Australia of other developing country.
- **Asian scientists** are raised and receive some initial professional education within their SE Asian country, but may undertake postgraduate studies outside their country, in a developed or developing country.

### 2.3 Transcribing and analysing interviews

 Interviews were recorded using a digital recorder in addition to field notes taken during the interview. For the Australian interviews, the digital recording of the interview then ‘translated’ from audio to text using Dragon NaturallySpeaking Version 11.0© software. This was not carried out for the Lao or other international interviewees due to very poor results in ‘translating’ transcripts where speakers were not Australian and male. These interviews were transcribed from interview recordings by the researcher. Each transcript was edited twice by the researcher using the original audio interview recording to develop an accurate interview transcript, which avoided transcription errors where transcribers and interviewers are different.

An initial reading of edited transcripts was carried out and notes were made to highlight important points of discussion. The 30 transcripts were then imported into QSR NVivo Version 9.0© software for detailed coding by the researcher. Each category, or ‘tree node’ was subsequently analysed and grouped into themes related to the research questions.

Relevant phrases, lines and paragraphs of the pilot interviews were selected and coded using relevant categories. Categories or ‘nodes’ were added as they became apparent, or categories were combined by the researcher with other closely related categories into themes using ‘axial coding’, as suggested in Strauss and Corbin (1990). Related categories were then grouped under ‘tree nodes’, as recommended by Bazeley (2007), and these were analysed and related to the three research questions. This process was then applied to all interview transcripts.
3. Results

3.1 How information is informally communicated between scientists

This section covers the informal and formal communication methods used by the interviewees, as well as the types of ICTs used in communication between these scientists.

Each interviewee is identified after each quote as Australian (A), International (I) or Lao (L) using the definitions from Table 1, and allocated a number between 01 and 30.

3.1.1 Informal face-to-face communication

In-country, informal face-to-face communication was considered the primary communication method between researchers by all groups of interviewees. Face-to-face communication was considered vital for building interpersonal relationships. Non-verbal cues that demonstrate emotions and the informality and intimacy of informal communication were seen as important. Lao interviewees particularly noted the primacy and importance of face-to-face communication, especially early on in developing relationships with other Lao and international scientists and for management issues including problem solving. Seeing facial expressions was particularly important as highlighted in the quotes below:

“If they see your face, they can read your face a lot better and know that you are not angry with them, or you can say something with a smile, or you are being facetious or you’re kidding. They can see that.” [A07]

“Face-to-face is the best way, because here conditions are not so favourable. Anything that we have to talk together [about], we have to understand each other. We have to find a way, talk, and understand each other. Close, day-to-day talk would be very easy to overcome [with] any problems that emerge.” [L28]

“My English also means I am not perfect [compared to others] because I’m not from an English speaking country, so coming [here] to sit and communicate is easier… if we have a face-to-face [discussion] we can explain together, ‘… can you explain to me this one?’ ‘I mean like this’.” [L23]

Some Lao interviewees noted the continuing preference for face-to-face communication over ICTs such as social media websites.

“I read in an article that [researchers have compared] social [media] networks and live [communication]. People want live [communication]. If you just stay at home and don’t go anywhere, [you] have no social face-to-face [interaction, and] Lao say that is not good for people. Face-to-face is closer and you get more feeling, better than in Facebook.” [L17]

3.1.2 In-country visits and meetings

In-country visits, especially by Australian scientists for official purposes, appeared to be as important for the morale and personal recognition of the project stakeholders as it was for gathering information on the progress of projects.

“[During an in-country visit] you’re in their environment, you see what they are doing, how they’re behaving, what they value. They also see something of you and start to understand you a bit better. I put a lot down to visits… On the last [visit], a key component leader accompanied me, and he made [a] special [point in] saying, ‘I need to see every district head’, some of those were people engaged in agriculture and some of them weren’t. But he said in every case, ‘now that the project is up and
running, you need to visit to give them a briefing, a summary of what we are doing and why, and why it's important and why it can help them'. And the response to that was remarkable." [A10]

Face-to-face interaction before and during meetings was seen as part of the informal and formal agricultural communication by all groups of interviewees, especially for managing research projects. Informal communication preceding meetings allowed meetings to be more ‘agreeable’, to maintain the ‘face’ of the meeting participants and to maintain and strengthen communication ties.

“You’ve got to do all the leg work quietly, under the radar, behind-the-scenes, often one-on-one… For example, for [major management] meetings, if there are big decisions that have to be made, make those decisions in the lead-up to the meetings, get all the ‘dirty linen’ out and resolve problems and then present it publicly that you’ve got a joint agreement.” [A02]

Lao interviewees observed that formal and informal research results developed in a project were best presented face-to-face at in-country meetings of international research projects. However, the high cost of these meetings was also recognised.

“In the project we do all types of information, try to make information flow by organizing meetings, conferences, two or three times per year per project. We organize the meetings, where we report to each other about the results, about the progress. This is … where we communicate. It is better but it is very costly if we want Lao scientists to have more access to … research reports.” [L24]

However, one international interviewee noted there were different uses of formal meetings compared to more informal discussions.

“In Lao, formal meetings are for instruction, not discussion or much informal communication. ‘Brown paper bag’ informal lunch seminars failed as it is not in Lao work culture to mix lunch with work. They can talk work for hours, but not in [formal] meetings or seminars.” [I27]

One Lao interviewee noted that the coffee breaks in formal meetings were important for encouraging two-way communication, as some Lao participants felt more able to ask questions during these breaks rather than during the meetings. However, the same interviewee also recognised the importance of these questions during meetings.

“Because [Lao people] are quite shy, they don’t want to ask. Even though they have questions, they keep silent. Or they say ‘O well, I can’t ask …’ … In a workshop, you see that, they have questions but they don’t ask in open discussion, and sometimes they ask in the coffee break… That’s OK, but when you ask in discussion, not only the lecturer or speaker can answer, but others can also feed in, can also give feedback and generate more good discussion.” [L18]

3.1.3 Field research and visits

Field visits were considered important for evaluating the ‘context’ in which future communication will take place in-country.

“The real issue … is to get to know your people. I think there is nothing like getting in a vehicle and driving for two days to get to sites [in-country], staying in the same accommodation, eating and drinking together and talking not just about the project but about everything. You’d be surprised about the coverage we get on lifestyle, the beliefs, where people live, what their family does, what their wife does, how they
spend their leisure time, which part of the country they are from, what their aspirations are.” [A10]

International interviewees highlighted the mixed aims and levels of communication in field visits, which could cover administrative and technical issues with senior researchers, administrators and technicians as well as more ‘general’ communication with farmers and extension officers.

“I would meet up with people in the … root crops research centre, often chatting about more administrative issues, but also going out and visiting the field with them and talking to farmers and extension officers.” [I26]

Lao interviewees explained that field visits presented another opportunity for face-to-face discussions with international researchers, which were important for developing mutual understanding, especially on technical issues.

“If you can see the field, the consultant can get more experience in terms of ‘this one’ … ‘O, you see here? This one? It’s a symptom of this … I think it’s a problem like this one.’ This makes it easy to understand, using face-to-face [communication] in the field for technical issues.” [L23]

Australian interviewees noted that communication during field research needed to focus on positive messages and the need to learn from mistakes, rather than apportioning blame. This was important for maintaining face in the South East Asian context (see section 3.3.6 on face).

“[All involved needed to] learn together through cycles of trying things in the field and not being focused on blame for why things went wrong but learning from why things went wrong.” [A02]

3.1.4 Exchange visits across countries

Exchange visits were highly regarded for their informal education and communication values by some interviewees. Visits promoted greater understanding across the scientists’ various cultures and provided important context for future communication between them.

“I would probably look at progressing some sort of formal exchange program … where Australian scientists and Asian scientists have the opportunity work outside of their own countries. We’ve had our … collaborators come over to Australia a few times now and it’s been a lot easier for them to learn about what we’ve been trying to talk to them about by actually showing them, and vice versa. Things that they have told me are issues in Laos, I haven’t learned about them until I’ve actually gone to Laos.” [A01]

Few Australian interviewees, and more from Lao PDR, mentioned that exchanges in Lao PDR were carried out with researchers from other South East Asian countries.

“There are training programs where our Asian scientists will head to Vietnam or Thailand … and do their short-term placements and training activities, and likewise they’ll have visiting scientists from neighbouring countries.” [A08]

3.1.5 Informal communication through ICTs

The use of ICTs, which include telephone, facsimiles and mobile phones as well as CMCs, have grown rapidly in use for communication between agricultural scientists in South East Asia and the world in recent decades. Most non face-to-face communication noted by
interviewees was through the use of ICTs, and all South East Asian countries mentioned by the interviewees have access to an ICT network. There were few mentions of letters and memorandums posted, although letters were regularly sent as email attachments.

“Before [2003], it was hard to reach a person [in Laos]. But now with ICTs like email or a website it is easier to reach find the person that you want to contact. That makes us closer to international organisations… And it’s easier for the international organisation to talk to us and communicate.” [L17]

Interviewees recognised the individual and national potentials and pitfalls in the use of ICTs for communication. Some noted ICTs were becoming more accepted in the workplace in Lao PDR, however the dissemination of ICTs was not even across the country.

“You see lots of people who are scared by a screen, but increasingly you find people are quite comfortable with a screen… The potential to use ICTs is huge. The potential to misuse them is also huge.” [I26]

“During my work with INGOs for the past decade, we have used a lot of ICTs... But the lack of [ICT] systems in the [national] public sector, I think ICTs are a need you can improve. It would help a lot.” [L28]

Despite the advantages of ICT tools, most Australian, international and Lao interviewees believed some face-to-face communication was required to initiate relationships before ICTs are used so that effective communication can occur between international and Asian scientists.

“These are all [communication] tools that do not supplant the need to have face-to-face… It might reduce the travel and stuff we have to do but you still have to do face-to-face… Only if I got to know them would I bother sending emails.” [A02]

“I met [the international researcher] first, face-to-face two or three times before I started to use email. I met him when I attended two training courses, then some lectures during another training course, and then in Thailand during an [international] workshop.” [L22]

One international interviewee noted the need to carefully test new ICTs for use in South East Asian countries such as Lao PDR. They spoke of the role of international scientists in the design and testing stages for developing ICT tools which were better adapted to the local situation.

 “[The ICT program] was conceptualized by this senior expert. It’s been a challenge to be a guinea pig … and to communicate that sometimes the inefficiency of the process, and trialling it and hiccups and various things. I think there are some limitations … there was a period for various reasons of not getting any responses back from Australia [via email]… but I am not the designer so I couldn’t see the backend of this technology. I couldn’t see what was coming out to manage the quality of the data and the entry. So that posed some very specific challenges.” [I13]

International interviewees also noted that personal preferences affected the types of ICTs they used with international colleagues living overseas, particularly in Australia or Europe. This may differ to their Lao counterparts. In addition, interviewees believed the types of ICTs used for communication should be decided by users, as they know what is appropriate for their situations and context.
“[With] my international colleagues it’s with emails, or phone calls. It depends. You have to assess your colleagues and the way they like to communicate, so it depends on the situation.” [I16]

“The last thing we should do … is actually try and work out what other people want instead of getting them to help indicate what they want.” [I26]

Lao and international interviewees believed, however, that Lao researchers and technicians still needed computer skills training.

“The problem is [computer] literacy and the skill to use the technology… They have a problem with computer literacy and the skill to use it [computers].” [L17]

3.1.6 Email

Email was considered by nearly all interviewees to be the most important ICT tool for day-to-day communication between international agricultural scientists and their South East Asian counterparts when they resided in different countries.

“[Emails are the most useful ICT because of] access, efficiency, and the ability to direct who receives that information, [whether one-on-one or] the whole project team … it’s sufficient for me, I can access it wherever …” [A01]

“We cannot be cut off from email communication, day-by-day. This morning before coming to see you I have to check my mail. It’s impossible to … get rid of this … [laughs]” [L28]

Email is especially used for delivering documents, draft journal articles, photos and other attachments in Lao PDR and internationally, as noted by most interviewees. Document delivery via email was particularly used by Lao interviewees, even where English was noted as poor.

“We [Australian scientists] communicate with them [Asian scientists] on a daily basis using emails, and at the same time having meetings… That’s in a traditional way, because we have to communicate with them. Sending information, getting project reports and all that, is done by email and attachments… email is pretty handy.” [A05]

Some interviewees explained they used their emails for specific work processes to disseminate information in their research projects more efficiently and effectively. Other interviewees explained they had agreements between research team members to improve the efficiency and effectiveness of email communication.

“I use [email] as a reminder … to say ‘okay, we have a deadline, we’ve got to do this’, or ‘I’ve reviewed this document according to our discussion, please have a look, and then I come back to you’… I reinforce [a discussion] with an email, or I will send discussion points or what I have done, so they can read it before we discuss again.” [I16]

[“We have an explicit agreement for] any current project. We have hub leaders, who … are responsible for communicating within the team. An email would go to the whole team from me but I expect the replies from the six hub leaders.” [A01]

A few Lao and international interviewees noted the importance of email for recording major points from face-to-face or telephone discussions that could be mutually agreed to after the conversation, or for finalising arrangements for official meetings. Emails can also enable communication between scientists when they are communicating across time zones.
“Email is good because … when you want to speak with someone, but that person is not available, at least you send something and then that person will read, sooner or later.” [L24]

Importantly, most Lao interviewees recognised that email needs to be used in the appropriate context or activity for it to be an effective communication tool in multicultural settings. As a communication tool, email was viewed by some Australian, Lao and international interviewees as problematic in that it was not useful for detailed or sensitive communication in multicultural situations, which still required face-to-face communication.

“Email is good for me because we cannot use phone for long hours, because of time... Email is good when you prepare [a draft document], or you have completed everything. Email is …not so good because sometimes you want to [develop] trust.” [L25]

Lao interviewees agreed that communication was more than email and should not over-rely on this communication tool. Some international, Lao and Australian interviewees even had reservations about the use of email for day-to-day communications with their Lao counterparts.

“Sometimes we communicate [with email] with somebody we've never met... but we try to organise [the visit]. Eventually we can have a meeting, a rendezvous, and we can visit each other to get that face-to-face.” [L20]

“Xxxx doesn’t like to work … with emails. I can send, we can discuss something, I send information, he prints it, then we discuss further. He usually doesn't reply to me by email. He usually contacts me [face-to-face].” [I16]

Several Lao, Australian and international interviewees believed a need to change behaviours in the routine processing of email communications. Specifically, Australian and Lao interviewees were ‘unrepentant’ in their use of the ‘delete button’ to avoid replying to email messages.

“Lao researchers need to change a little bit. I see that many of them didn’t reply when they get something. It’s a problem when you send something and there’s no response and you are not sure if that message gets to them or not, or gets lost in cyberspace! [laughs] So they need to change that behaviour and communication: just reply or respond with ‘I have received this, this and this’ and show that they understand.” [L18]

“Email is not so good for me because when you don’t want to work or you don’t [know how] to say the right thing, then you can refuse by … pressing [delete].” [L25]

Interviewees noted the problems with ‘information overload’, particularly where international and Lao researchers received high numbers of emails, and the expectations by some email respondents that emails should be answered expeditiously.

“The issues with emails with internationals and Lao is that sometimes we are overloaded by email messages. One of my [Lao] supervisors gets between 50 and 70 emails per day, and it’s really a lot… It’s like, ‘how do you manage your email?’ Do you do [press the delete button] in the morning? The issue is as soon as you don’t reply within the day, then people are like, ‘what’s wrong?’… The internationals … have high expectations with emails.” [I16]
Some international and Lao interviewees noted difficulties for Lao and other Asian scientists in communicating via email in English with their international counterparts, particularly to ensure the communication was in the context intended by the sender. The use of English language in emails was seen as a barrier for some Lao interviewees, who observed that the predominance of English language and use of English characters hindered the use of Lao Loum online, particularly in emails. However, a few Lao interviewees observed that emails written in English could also be an advantage for Lao scientists for whom English was difficult.

“When people like myself are not so good in writing English, [it] also makes it difficult for me to respond to each email. How I should be thinking, what I should say, how I can say it, how can my English language [be used] so my international partner can understand me… It’s not that we do not like to respond to the email or we don’t like to communicate, but they have that factor that limits us.” [L23]

Lao interviewees also noted that some Lao bureaucracies had difficulties in dealing with official correspondence sent via email, which could also hinder communication between Lao scientists and program managers and their organisation’s bureaucracy.

“I think this one is personal, not cultural. They don’t want to change. For example, for the official letter, they need the hard copy. Email is not acceptable. [laughs] It’s not official … they need to see the signature and stamp.” [L17]

3.1.7 Websites

International and Lao interviewees emphasised the importance and widespread access and use of websites by Lao and international scientists for accessing agricultural science information. Only one Australian interviewee mentioned using Lao based websites, even when they are in English. The Google search engine was viewed by many Lao interviewees to be an important and simple source of agricultural information, particularly when looking for international sources.

“The Internet … you get access to the information, I think that can make a difference… I would say Lao are genuinely … creatively, they see things on the Internet and they do the same thing their way.” [I14]

The NAFRI websites\(^2\), particularly the Laos Agricultural Database (LAD), were frequently mentioned by Lao and international interviewees, but not by Australian interviewees. They mentioned the placement of information, including the Lao Journal of Agriculture and Forestry, in English and Lao Loum, as well as access to PDF files. Lao and international interviewees also mentioned promoting information via the Google discussion groups LaoFAB and LaoLinks – see also section 3.1.9 Online discussion groups and social media.

“Now they can look at the NAFRI website and what they can access [it] on the website. If they cannot see the contact, they come here [to NAFRI]… The number of visitors has increased per day- [we now get] 170 visitors per day!” [L17]

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“We want to put on our [NAFRI] website everything that people can access in Lao and in English, and to disseminate them on LaoFAB and LaoLinks. If they have the new issues and ideas to improve the [NAFRI] site, then we can.” [L15]

Importantly, international interviewees believed their Lao counterparts had the necessary expertise to develop their own ICT products for use in Lao PDR. However, some Lao interviewees were critical of the ‘narrow’ focus of the completed work or of the incomplete nature of the NAFRI websites.

“It’s improving ... People realise it more, and there are many more tools available at NAFRI. The [Lao ICT specialists] can set up anything ... if you say ‘I want a web page’, they can do it. If you want a database, they can do it.” [I14]

“I wanted to [get] a rice production statistic. I tried to go to the website – nothing there! Then I contacted a person and she sent me a booklet of annual statistics of the Ministry. They cannot put it on the website …” [L28]

International interviewees noted the dissemination of information by international development projects on Lao websites depended on the nature of the project and persons involve in the project. Tools and capabilities to make this information accessible have improved and were available to international projects.

“I think it’s improving … there are many more tools available. [Local professionals] can set up anything, you come to them and say, ‘I want a web page’, they can do it. You want a database, they can do it. They’ve got the capacity and the tools to do it.” [I16]

One international interviewee believed more innovative use could be made of stories and research from more remote provinces by placing them on the NAFRI website.

“There are opportunities for web-based [pages] ... for instance, planning agricultural activities in each province. There could be a general website that you could look at all the other activities that are going on in the other provinces. Each province could update their progress, say, each quarter. ‘This has been done,’ which other people could then look at and they could put up a few case studies ... it actually creates a little bit of competition.” [I19]

Other sites and information sources were still required and used by Lao users as the NAFRI sites were not perceived as having ‘new’ material.

“I do not use [the] NAFRI [website] because my work is always on new things ... and you won’t find it in NAFRI, it’s not like existing work that has already been done... If we want to run a [new] experiment or trial, we need to learn from outside [Laos], and then we can adapt, adjust and use it.” [L23]

Newer web-based technologies were, however, still not being used by Lao counterparts according to another international interviewee.

“When it comes to more sophisticated systems like a shared web space ..., that will never work. I set up a web page where you could share calendar, share information files and so on. Visits, zero, from the Lao, nothing.” [I14]

3.1.8 Mobile phones and SMS

Mobile phone technology has spread far in some South East Asian countries. In some places, mobiles are cheaper or more reliable than landlines, and so have become more
important as communication tools. International, Australian and Lao interviewees all confirmed that mobile phones were vital for informal, in-country communication in Lao PDR, particularly between Lao and international researchers.

“Mobile is a really important way of communicating. Even here in [the capital] Vientiane, with one supervisor, we like to call five or ten minutes before the day starts if we have a few things to exchange or a date on some meetings he has and he wants to pass on information. He’s not going to write me an email and say ‘pick me up at this or this person’, no, he will give a call.” [I16]

Mobiles phones are more efficient and improve access to local researchers around the country compared to local landlines, according to some Lao interviewees. The message service on many mobile phones is particularly useful in the Lao context.

“For the local scientist, mostly we use mobile phones… almost all of the country [is] under mobile.” [L22]

“To talk on mobile phone, the likelihood of getting that person is much more than a fixed phone… If there is a missed call they can just call you back, and he or she knows who's calling. [L18]

Some international interviewees used phone communications with their supervisors living overseas and local counterparts, depending on the context of the situation and their access to sufficient funds for this type of ICT. However, few international or Lao interviewees used landline telephone or teleconferences for local or international communication.

“With my international colleagues, it’s with emails, or phone calls, depending … on your colleagues and the way they like to communicate, and depending on the situation. Mobile phone is not too expensive here in Laos.” [I16]

A few Lao interviewees viewed mobile telephone communications as problematic when a permanent record of a conversation was required or when normal work was interrupted.

“By telephone, you speak, you just hear [the message] one time. You don’t record it. You hear it once, and that’s finished. If you got, you got, if you did not get it, or it can be misunderstood or something. So I think better for email, or face-to-face.” [L24]

One Lao interviewee also found communicating with international counterparts in English quite difficult via telephone, due to misunderstanding of their spoken English.

“By telephone, I don’t like to communicate with overseas researchers, because I think with the level … of the English, maybe we can misunderstand when we communicate on telephone.” [L24]

Mobile telephones can use the simple message system (SMS) to send messages between scientists, mostly where the scientists are in the same country. Some Australian and Lao interviewees mostly noted day-to-day project management or agribusiness issues as the main communication transmitted through SMS.

“I advise all my project leaders ‘use SMS’. In fact, ‘use project resources to buy a good phone for the key people in your projects and resource them, give them a budget which they don’t have to answer for, which is their communications budget’. ... I find myself quite often sending SMSs that say ‘I have sent you an important email, could you check your email please?’ SMS has touched a real chord with not just young scientists, but right up to ministers of agriculture. [A02]
3.1.9 Online discussion groups and social media

Online discussion groups were highlighted by nearly all international and Lao interviewees, but only by one Australian interviewee. The main Lao discussion groups, LaoFAB which is mainly in English and LaoLinks\(^3\) in Lao Loum, are based on Google Groups software and administered overseas. They are used to disseminate agricultural and general information on Lao PDR.

“People can access information in Lao and in English, [which can be] disseminated on LaoFAB and LaoLinks.” [L15]

Some interviewees considered LaoFAB a trusted source of information on Lao PDR based on personal, informal links, and was important for building a culture of ‘sharing’.

“LaoFAB and LaoLinks are ‘trusted’ sites, built up over the years, initially around personal networks and connections. This has encouraged Lao participation, particularly in LaoLinks.” [I27]

The use of the English language in LaoFAB was seen as a limitation in the online discussions by Lao participants, but not for international participants. However, one Lao interviewee disliked LaoFAB as they disagreed with the sentiments of some information or opinion providers, particularly where they were from overseas.

“LaoFAB is important particularly for international participants, though not so much for Lao. English [language use] is probably the key here.” [I27]

“LaoFab sometimes annoys me… Useless information is common more often than useful. I saw my friends, some … international experts on LaoFAB. But I never reply, I won’t share my ideas with them. They sometimes provide some negative ways … not concepts. Sometimes I try to get the good concepts and ideas, to know what is in the world now.” [L25]

NAFRI has been testing the use of social media such as ‘Facebook’ for specific communication activities such as World Food Day. However, there still appears to be some ‘cultural’ limitations to the use of Facebook and other social media by some Lao interviewees. They reiterated their need for face-to-face contact. Other Lao interviewees noted that they used information from these sites but rarely provided, hinting that the perception of ‘information is power’ was alive in Laos PDR.

“You can see the photo, you can chat in Facebook, but it’s not the real thing, not the same. I think people have to meet each other at least once per day to be good friends. [Facebook] is just for long distance.” [L17]

“With all my time with LaoFAB and Facebook, I mainly receive information from those, but very rare that I give anything.” [L25]

Few interviewees mentioned that they used Facebook for informal scientific communication in Laos PDR, though some Lao interviewees mentioned their personal use of the program.

“Funnily enough, I haven’t seen anything like [Facebook] for researchers, who have continuous exchange with foreign scientists. [laughs] It’s just … a very different concept of … [communication].” [I14]

\(^3\) LaoLinks is also known as ‘Lao 44’.
### 3.1.10 Skype

The online, synchronous video communication program 'Skype' was used more frequently for international communication by some Australian and Lao interviewees, especially for regular, informal face-to-face communication such as project management meetings.

> "[Skype has] quick connections, quick ways of expressing your views, and also seeing the reactions from people, while you are talking to them face-to-face. It is almost like having a face-to-face talk. That is why it is becoming important." [A03]

> "[Skype is] good for long distance discussions, when [the international collaborators] cannot come, due to flights, etiquette, or expense. Face-to-face is the preferred, but if there is no time they can choose Skype." [L17]

Some Australian interviewees used Skype explicitly for developing formal scientific communication and working through project documents collaboratively.

> "[We were] trying to set up Skype sessions so you can have a face-to-face conversation, particularly if we are running through a piece of literature or a method or something like that, to actually share desktops in a live situation." [A08]

Some Australian and international interviewees lauded the synchronous immediacy of this visual and audio communication that improved the quality of the interaction, and that issues were more readily resolved.

> "I find Skype tremendously useful. It is quicker and easier as a way of resolving issues than emailing. With email you don’t get the nuance. Sometimes they may not have articulated what they wanted very well, whereas you can clarify quickly, you can talk about alternatives quickly … where as with email … I am a visual person so Skype is much better." [A04]

> "With one of my counterparts is in Switzerland, we exchanged a lot of emails and we Skype very often … for informal discussion, planning. We are putting a workshop now together. Email is great, but sometimes you are discussing working groups, concepts, how you want to move forward, we need to really discuss." [I16]

According to other interviewees however, as with other communication tools, more personal communication was still required via a letter, email or face-to-face before Skype could be used effectively. A lack of experience in using Skype was also noted.

> "I wouldn’t use Skype or anything like that with those particular scientists, especially if I didn’t know them. Usually I would send them a letter to invite them." [A02]

> "In Laos, we use mainly the telephone, because … most of the other [Lao] scientists don’t have experience in using Skype." [L22]

One international interviewee believed age was a deciding factor regarding who in Laos used Skype and other synchronous CMCs, although this comment was for personal communication and not for work.

> "The computer system wouldn’t be a problem [to use Skype]. No, Lao don’t use it as a work tool. I’ve seen a couple of young Lao using MSN [Microsoft Network], and having live chats with friends, but not for work." [I14]
3.1.11 Other synchronous software

A few Australian interviewees experimented with using online conference software in ‘real time’, also called synchronous CMC, mainly for project management meetings and editing formal communication such as journal articles.

“I have seen the Webex tool used to help bring [project] teams together… [It is] a web-based conferencing tool that allows a … conference coordinator to share their screen with everybody who is linked in, but everybody has also got sound. So you can be working through a document or working on a presentation … allowing you to share with people...” [A02]

One international agency used conference software in Laos for management and technical meetings between senior global managers located worldwide, including its headquarters in South America. However, the effectiveness of the communication depended on the users.

“I meet regularly by Webex, and I find that a particularly frustrating practice. My colleagues … are all sitting around a table in a room, and there only a limited number of us, usually two sometimes three, who are outposted. There really are ways you manage those things and ways you don’t. They can work extremely well.” [I26]

One Lao interviewee had suggested the use of conference software for regular management meetings of Ministry of Agriculture managers located around Lao PDR.

“I said, ‘Why don’t you use ICTs through a LAN [local area network]? Every week you come from different places to meet face-to-face’. But they said ‘no’. It’s like the habit that used to be there before… people don’t want to change. They don’t want to change their knowledge, their attitudes, their lifestyles.” [L17]

One Australian interviewee was critical of the sole use of online conference programs for communication too early in the life of a project, before face-to-face meetings.

“I’m pretty ‘leery’ of people coming in and saying ‘We’re going to set up a project. No one is ever actually going to meet, but we’re all going to chat online.’ I think that gets the cart before the horse.” [A09]

3.2 Formal communication between scientists

3.2.1 Refereed articles in local and international journals

Australian interviewees, mainly from universities, spoke of the importance of formal agricultural communication between Asian and Australian agricultural scientists, particularly in co-authoring refereed journal articles. There were a number of reasons for encouraging papers, including increasing prestige for the international and Asian scientists.

“They go home [after postgraduate studies in Australia] with an international journal article. Sometimes they have several, and they go back to their institute as being the only person with an international article. So that’s a prestige thing for them. I think having an association with Australian scientists is good for them, because it improves their chances of getting stuff published internationally. So that’s a positive outcome of their interaction with us.” [A07]

However, for South East Asian scientists, writing journal articles is a new activity to be learnt, even where they have been employed for some years as research scientists in their own countries. One Lao interviewee recognised the opportunity offered through international collaborative projects to co-author journal articles with international scientists.
“There are outstanding scientists in our partner agencies, which just go blindly through all of that [peer review process] and they’re just outstanding individuals. But generally they would face bigger barriers in that system, and in general, than Australian scientists at the same age and same stage in their career. And that’s perhaps because publishing in the international literature in that system comes to scientists in our partner countries as a relatively new thing.” [A02]

“If we have responsibility for … project coordination, we have more chance to write with an international partner or a consultant.” [L23]

In some countries, Asian scientists were keen to author papers in recognised international journals, which encouraged collaboration with Australian scientists. Some South East Asian institutions also encouraged their scientists to publish refereed journal articles. However, in other countries such as Lao PDR, there was no encouragement to publish formal papers, which offered little encouragement for these scientists to formally publish their research.

“They are very eager to publish, because they are eager to have reputations internationally as well. So building national capacities [to write papers] is of importance to them, but they realise … that they can't get that international recognition without journal publications.” [A01]

“In a number of organisations, your progression and your salary will depend upon the points you get, and the points you get will depend on the publications that you are involved with. There is quite a lot of pressure to publish [there].” [A02]

Some Lao interviewees noted that some Lao scientists were concerned about their ownership of research information placed on the Internet.

“[Lao scientists] worry about the copyright of their information, their property. So I then give them an option; if they don’t want to share their own piece of the book, then we can share the abstract of the book. Then they keep their copyright. [But] you have to show your results, show your research.” [L17]

Co-writing refereed journal articles by South East Asian and Australian scientists provided opportunities for informal learning opportunities for the local scientists as they developed personal writing experience and skills. The writing activity also built up the skills base and capacities of their national institutions, according to both Australian and Lao interviewees.

“That is part of the capacity building role of being with the project team … learning is part of the conversation, they would be learning about what goes on and how you might structure a useful article for an international journal.” [A01]

However, according to Australian, Lao and international interviewees, some Asian researchers face major difficulties in writing, analysing data for, editing and managing refereed papers through the publication process, especially if they saw few obvious incentives for them to participate in a collaborative paper.

“Any paper or any little bit of research that we may have done with them, they really, really push to get a paper out.” [A02]

Detailed analysis was seen by some international and Australian interviewees as being particularly challenging, particularly where the narrative form of speaking and report writing is considered more culturally appropriate by many South East Asian scientists.
“[One researcher] does a superficial analysis, and it’s well done and it’s correct, but he has so much more… If he looks at the second level beyond that, then he can make a really nice paper out of it.” [I14]

“It’s the process of collecting information properly. It’s collecting the right numbers, statistical analysis, interpretation of data, and interpretation of statistics. Then prioritising the information, how to develop it logically. [Some South East Asian researchers] have a tendency to tell an activity, [it’s] very narrative. Then interpreting, summarising, extracting, that’s difficult.” [I16]

### 3.2.2 Postgraduate education

Undertaking postgraduate education was considered a form of formal communication as the product of such communication was a peer-reviewed thesis and also possibly one or more peer-reviewed journal articles. Educational opportunities, particularly through postgraduate studies by South East Asian scientists in Australian and other universities, were seen by all interviewees as important for establishing and maintaining informal agricultural information flows and training Asian scientists in Western scientific reason, critical thinking and practice. This established a common ‘scientific culture’ that included Australian and South East Asian scientists, especially where they addressed common problems.

“Asian students … are usually very quiet at the beginning. It’s a real ‘you tell me what to do and I’ll do it’ attitude. By the end of the project, it’s ‘hey, this is what I want to do, this is how I’m doing it, what do you think?’ It’s a complete turnaround. That’s … part of the process of trying to get people to be independent, to be critical thinkers, to be more in command of what they do.” [A07]

Some Lao interviewees saw particular importance in overseas postgraduate students providing new ideas for the Lao agricultural system. A few interviewees specifically highlighted the importance of overseas study for learning English, and the subsequent importance of this for all Lao agricultural scientists.

“You get new ideas when you send people to study outside [Laos]. We can open their eyes, we can open their minds. We do not just focus on small things, on our situation. When they come back we notice they are more useful.” [L23]

“Mostly they did their studies overseas in English, which is why they can read in English. If someone did their study in Laos, they did it in Lao, so [their] English is very limited. I think it’s important to improve it.” [L24]

Not all Australian interviewees agreed that postgraduate education was a necessary project product. At times postgraduate education was seen as a mundane necessity of international projects.

“I think it’s easier for the project administrators to tick a box and say ‘yes, this person achieved that level of training’, and it’s good for that person themselves as well, to have a formal qualification that’s recognised as part of that project. There is value to it, [but] I don’t think it is necessary.” [A09]

Some international interviewees were ambivalent towards the value of higher education for communication and learning.

“I think it works both ways, I’ve seen [education] work as a hindrance as well. I’ve worked with farmers, and I always find them more open and more direct in communication because they haven’t had this formal structure imposed upon them…” [I13]
One Lao interviewee criticised the opinion that postgraduate degrees were ‘better’ overseas than those offered by the National University of Laos, especially if the learning and projects were not appropriate or relevant to the agricultural context in Lao PDR. When postgraduate studies were only completed in Laos, however, it was recognised that there were limited opportunities to learn English, which was considered important for communicating with international researchers, and for access to new technology.

“It is a good point, not a weak point, to do a Masters abroad or in Laos. When you study in your country you are in the context, you understand better and you can apply [the research] immediately. But these people are very limited when they work with the overseas researchers, because they cannot speak English. And the researchers don't have translators... [However,] if [Lao researchers] only work for their country, they don't need go to Australia or to the US to study. When they go overseas, the situation is not the same, especially in agriculture. When you come back you have a problem adapting to the local situation. You don't have the modern technology to work with. We have to adapt to the local situation and it takes time.” [L24]

Another Lao interviewee noted, however, the changing nature of postgraduate research projects, as they have become more centred on solving local problems in Lao PDR rather than those of international researchers in their own countries.

“[Lao postgraduate students] are changing to do their program there, develop their research proposal there based on a problem here. They try to define the technology to solve the problem, develop the technique, come back to do the experiment here or study here, do their defence [of their research] there. That is very useful, very different compared to before.” [L23]

International interviewees acknowledged there were important changes in relationships between international and domestic scientists after postgraduate education, particularly where they come to understand each other’s context.

“The relationship that you develop changes … you operate at a different level I think. There is one person who I co-supervised for his PhD. Whenever we meet, there is ... a different rapport between him and me, and between him and other people, because we have that history.” [I26]

### 3.2.3 Conference presentations and papers

Few interviewees considered formal conference presentations and papers as important forms of formal scientific communication in South East Asia. Those that did mentioned that young South East Asian scientists usually had little expertise in developing and presenting conference posters.

“[In] scientific forums, conferences, you will have poster displays. For some Asian scientists, that's very different to what they have ever learned.” [A06]

One international interviewee believed that events such as conferences are still relevant and important in bringing relevant people and agencies together to share information and experiences informally and in formal papers.

“I think we assume we are all being participatory, we are all heading in the same direction, but everyone is still within their own intensive silo. To share information you do actually need an active initiative to enable that to happen. It’s just not going to happen by accident. You can meet somebody at an airport, but you do need events that bring these different individuals and agencies together.” [I19]
Proceedings of formal workshops and monographs produced by ACIAR received few mentions by any interviewees.

3.2.4 Accessing formal information

Lao interviewees noted that the Lao Agricultural Database (LAD), which includes the full-text database of the *Lao Journal of Agriculture and Forestry*, was a major repository and source of agricultural and related information for researchers in and about Lao PDR. However, gathering information for these databases and their subsequent use to search for previous Lao research was seen as ‘problematic’ by some Lao interviewees.

“We are thinking how we can get information on agriculture and forestry from different projects and organisations. In the past, [there was] no projects or organisation to collect and store the information and provide information to researchers.” [L15]

“[One problem we are] facing here is how to convince or engage the scientists to access the information… if you want to do research, you need to review the literature and to review all information that is on [your topic]. So far, I think there are very few scientists or research people who are using our information sources [about Lao PDR].” [L15]

A few Lao interviewees noted work time constraints limited their access to online information during work hours.

“If I do prepare the work plan, if I write the report, if I am writing the research proposal, I don’t have time to open … websites, to look at what information I need. I don’t have time.” [L23]

3.3 Human factors influencing communication

3.3.1 Understanding the cultural context

Most interviewees highlighted many facets of cultural understanding which posed challenges for communication between agricultural scientists in South East Asia and Australia, and involving Australian scientists with cultural understanding was seen as important for effective, informal, one-on-one communication.

“Having the understanding … identifying people who can understand the cultural differences and work with the people. That helps to information flow, helps to connect to the people and get the information from them.” [A03]

For some Australian interviewees, understanding the cultural context in which the communication took place underpinned many factors affecting communication. Taking time to understand the context was an important way of working more efficiently in South East Asian countries.

“Communication for me is a combination of the tool and the context in which it is used. Now sometimes the tool is simple like just sitting down and having a chat, but the context is really important. I don’t think we put enough effort into context.” [A04]

“If you go in [to a country] and spend a bit of time actually understanding the context, understanding what that [research] ‘supply chain’ is, then you are going to make more informed judgements, and that to me is the critical aspect to all of this.” [A06]
understanding as well as extensive knowledge and experience in their specific discipline.

“Not only are they [experts] in their specific field, but they also need to research about a culture and a situation of their host country.” [L18]

Understanding the importance of face-to-face communication for oral communication cultures was considered important by international interviewees.

“[Lao] are much more an oral communication culture. Written communication is not the best approach. They much prefer to talk, put things in sense, and then put things in writing. I believe it’s subjective that they don’t like to read in general. It’s still an oral communication … It’s not that they don’t want to, it’s part of their education. When you go to [Lao] schools, there are still very few books. It needs much more oral and repetition.” [I16]

Understanding the use and importance of official meetings as compared to informal communications was important for communication with Lao scientists who hail from a more traditional hierarchical society than many international scientists.

“Understanding Lao custom, especially how Lao people behave themselves, can help improve communication between Lao and international researchers. For instance, most Lao people will be quiet in official meetings or conferences, so if you want more information you have to meet them informally and face to face.” [L30]

Lao interviewees emphasised the need to follow social ‘form’ when talking as part of a professional relationship. Understanding non-verbal cues was also important for developing cultural understanding as well as professional communication.

“Firstly, I ask about their family, in the Lao tradition … talk about ‘how is your family’, talk about [them] …, and then talk about the topic.” [L21]

“So what’s behind [it]? You don’t know – maybe … his expression for him is nothing, it is clear. But for you, it may be part of your culture is people don’t say it like that. You don’t feel … ‘sympathy’ for that person because of the communication.” [L24]

The context of the communication between international and South East Asian researchers was considered important for the messages sent and received and the mutual understanding that is developed. Sometimes this context could be misinterpreted.

“[Communication between Asian and international researchers is] very contextual… ‘We’re doing this training together, and so we work together’. [Therefore,] the development activities that you are working through often don’t have the impact that you imagined they might or could or should.” [I19]

When communication breaks down and actors do not listen to each other, opportunities for South East Asian and international development partners are lost, as illustrated by this example from one Lao interviewee.

“For a long time in the northern province of XXX, there was a huge EU project and funding with a big building, … But when we visited the public agriculture and forestry department officers, they said ‘no funding from the EU’. When we visited the EU office, there was a lot of money [available]. They did not contact each other, they cannot talk to each other… there is a barrier.” [L28]
Some international interviewees noted that there were different experiences for different groups of international scientists, which resulted in varying effectiveness of communication. However, sometimes the ‘unexpected’ occurs, where what could be construed to be culturally insensitive and inappropriate could be a good communication strategy for a particular circumstance.

“I try to communicate with people in a very direct and natural way, mainly not because that is the way I choose to do it, it is rather I am unable to do it a different way. I am not a great diplomat, and I am basically only able to talk the way I think… There’s a cultural element, and [we] are known to be quite straight forward, it’s inherited.” [I14]

“People can be relatively culturally insensitive, like a bull in a china shop, very little subtlety at all. Yet there’s something about the way they communicate. People are just … ‘I might be slightly offended by that, but I’m not, it’s not a problem’. And then you see someone else who appears to be much more culturally sensitive, but by almost tiptoeing around things they make it worse.” [I26]

International interviewees believed in situ learning experiences for visiting international scientists can modify seemingly abrasive communication styles.

“What I am maybe lacking sometimes is saying things in a nice way [laughs], though I think I am improving a little bit here, and I learn a lot in Laos about how people do that.” [I14]

3.3.2 Language and reading barriers

Communication in a second language such as English poses a major challenge for Asian scientists, regardless of their levels of understanding. All Lao and most international interviewees considered language, particularly proficiency in technical English, as the most important barrier to communication between Lao and international scientists.

“First is the language problem for the researcher and also for the people. Not everybody can read English, but they can read Thai, and that can help them. But not more than 30 or 40 percent can read English.” [L17]

“[One] fundamental difference is language… Where you are dealing with people where English is a second language and where they are not necessarily confident in their ability to use it, it becomes a major barrier to being able to communicate well.” [A06]

Australian interviewees considered communicating in technical English required opportunities for Asian scientists to learn and maintain that level of language. However, one Lao interviewee believed both their university students and teaching colleagues had poor developed skills in English.

“I think with my students, only one or two per cent can read research projects or reports well in English and understand. With my colleagues, [there would be] about 20 per cent who can read well in English.” [L24]

Some Lao interviewees highlighted the difficulties of face-to-face communication between local and international scientists, where the use of technical English was a barrier to effective informal and formal communication.

“When my local supervisor and a partner did not speak English well and they interpreted the meaning differently, so they did different things [laughs]. That’s the problem … I would say it is the language, not only English.” [L18]
“After the [ACIAR science] writing course [in 1997], we know … the procedure of writing the report, but … I could not remember the … English words. One word can have many meanings in English, so sometimes we only remember one meaning and forget the other ones.” [L22]

Lao interviewees were circumspect in explaining difficulties with communicating in English, especially where they did not want to be seen making mistakes in their use of the language. This could involve the saving of ‘face’ for the Lao user – see section 3.3.6 for further discussion of ‘face’ in this study.

“Somebody who is not good in English hesitates to communicate … They can [communicate] but maybe they are afraid of making mistakes … They still do not feel free to communicate, even when I tell them ‘try to write something. Even if you make a mistake, [it’s] no problem. Making a mistake is learning something’.” [L20]

Some Australian, international and Lao interviewees noted that an important educational facet learned by South East Asian scientists, particularly in overseas postgraduate education, is how to read, write and speak English. This can be difficult, however, where there are pre-existing barriers to the act of reading. More specifically, many scientists lack skills in the critical reading of scientific papers.

“There is not a culture of reading in most of our partner countries… Reading scientific papers, no matter what level of training they’ve got, is just not an interest. It’s just not what they want to do. They may if it is absolutely needed for the job they are doing now, but just general scientific reading does not happen.” [A05]

International interviewees saw one of their roles was to enable local and international staff to better understand the changing requirements of international projects by ‘reconstructing’ communication in English.

“Sometimes the goalposts change. Basically I translate what they want down to …their laboratory staff … and then they might see that they need more information … I try and keep in mind the time needs and capacity of both stakeholders.” [I13]

Some Australian interviewees noted that ‘translating’ a cultural understanding into English can pose communication challenges. These subtle differences and understandings are particularly important for higher level negotiations, diplomacy and project management issues.

“In Indonesian they have three ways of saying ‘yes’: ‘Yes’, which means ‘ya’, which means ‘yes’. ‘Ya-a-a’ means ‘yes I hear you, but I am not sure I understand you’. Then there is ‘ya, ya’, which is ‘yes I hear you, yes I understand you, I just wish you would go away!’. There is really no way to say ‘no’.” [A02]

“I can be sitting here [in a meeting] wondering, ‘I hear what you are saying, but I wonder what the subtext is?’ I think that happens even more when you don’t have native English speakers. We had a few people who had great proficiency in English and I admire them for it, but they don’t always hear the subtext.” [A09]

Some international interviewees noted that Lao scientists and technicians needed to switch between English and a local language such as Lao Loum – the main language in Lao PDR - to improve their understanding of instructions.

“I think make the [research results] documents translated into Lao. Otherwise, in English we do not have to read the big report, [we only] read the small one... If they
can read [it] in Lao it will be easier for them… [We can produce an] executive summary [in Lao] instead of translating all the report. What are the important points, the main points or main results of the work? If [the Lao scientists] are really interested to look at the details they can read [the whole report] in English.” [L24]

Lao interviewees explained how local researchers and communication experts sought to improve their understanding of technical and scientific terms in English by developing a specialist dictionary of these terms in Lao Loum. These were developed from a global system, titled AGROVOC, which has been established by FAO and disseminated in South East Asian countries with assistance from Kasetsart University in Thailand.

“We are developing the Laos AGROVOC... We invited lecturers from the [national Lao] university, from different [government] departments and NAFRI. More than 50 people are working together in thinking about and translating the words… The English terms are already there, we just need to translate them into Lao. We need the Lao researcher and the Director to use the same [Lao] … terms.” [L15]

Access to international scientific information by Lao researchers can also be limited by their lack of English reading skills, according to some Lao interviewees.

“For those that speak English, [there are] hundreds of ‘literatures’ in English, while there are few literatures in Lao … So the knowledge of Lao researchers who don’t know much English [is limited], but they do know about the Lao context. Overseas researchers … have their experience and a lot of … broader expertise in the field.” [L18]

Knowledge of an Asian language by an Australian or international scientist can have a positive or negative effect on communication, which appeared to depend on the context in which the scientist used their knowledge of the local language, social use of a local language appears readily accepted. However, the use of local language by international researchers in formal meetings or negotiations could be seen as threatening in some Asian countries.

“There is cultural respect in at least trying to communicate in their language even if just on a social level. It builds respect.” [A05]

“Sometimes, … they [an Asian government] are a bit worried about people understand too much, so you are constantly treading a line between making sure the communication is going well, but not being threatening.” [A02]

Some international and Lao interviewees noted that fluency of the international scientist in the local language did not guarantee effective communication between international and local scientists. They highlighted the difference between knowing a local language and understanding that culture in the context of that language, or even in their abilities as communicators. Being geographically removed from the context of a conversation can also create misunderstandings.

“Generally, international experts who speak Lao is good, but to know deeply about the culture, the customs, is not easy. I agree with them when they want to communicate in general with our people, but for [deeper understanding], I don’t think this is a very good way.” [L25]

“One guy [on LaoFAB] talked about our traditional herbs for new born babies and how to use them. But, you know, it is sometimes very, very, very sad. That guy, he also speak Lao but he stay in Vientiane and he never knows about the northern, mountainous areas. That is why I say an expert who speaks Lao very fluent, but not about the custom … We need to combine [these].” [L25]
3.3.3 Respect

According to Australian and international interviewees, one vital factor affecting personal relationships and professional collaboration between agricultural scientists was respect, which was related to trust. For many Australian scientists, respect was also linked to honesty and humility in their associations with South East Asian scientists.

“At the personal level, mutual trust is at the heart of good relations between international and local scientists. Respect is intertwined with this trust. I’m unsure which comes first, but they develop together.” [I27]

“A certain amount of honesty, humility is pretty important… Suffering the consequences of your own recommendations brings the humility in very quickly. Honesty and humility, … Australians have got much respect because of that. I think they are important characteristics – honesty, humility, respect.” [A02]

Australian and international interviewees believed mutual respect was engendered in relationships when Asian scientists were recognised and respected by international scientists.

“I have met … Australians working overseas who just want to sit down with their colleagues as equals and talk as if they are equals … Both within Asia which is highly hierarchical, and then between Asian colleagues and some other international researchers, that’s not a relationship that they get. So I have heard quite often that they appreciate … that many Australians will treat the relationship as equals…” [A02]

“I think after you work for seven years with somebody, and it works well, you respect that person. Even if you don’t see each other after work, it doesn’t become a friendship outside work, but it’s a professional respect and friendship.” [I16]

Specifically, mutual respect for Lao interviewees called for differences in culture and religion to be avoided through careful and mutual choices of topics for discussion. Respect for current Lao culture was particularly important for some Lao interviewees.

“If you respect each other, you choose good topics. For example, when I talk to Hmong [people] when I go [there], I never talk about their culture. I talk about how to work together. When I talk to Muslim people, I never talk about their religion. I talk about good points. I don’t talk about the [conflict]. We choose the points [for discussion].” [L21]

“If [international and domestic researchers] work together with understanding, if you want to work well with your colleagues, foreigners, understand their culture, their thinking … we do not look at it the same [way]. Maybe what is funny for Lao people is not funny for Australians. Saying ‘this’ for Lao people may be very rude, but it may not be rude for an Australian.” [L24]

Lao interviewees recognised the importance of the ‘right’ personality in communication between Lao and international scientists.

“Sometimes [it is] not only culture but it can be the personality of the person that you work with - yeah, the personality [for good communication].” [L24]

Among the important individual personality traits, one Lao interviewee highlighted the importance of listening and a willingness to learn by international researchers was important for developing good relations with local researchers.
“When they work here, overseas researchers are quite open to the opinions of local researchers like me or others. They are here not just to supervise or to work, but they are here to learn. Many of them do quite well, learning and listening to what local people say.” [L18]

Conversely, where little respect was shown to South East Asian scientists, Australian and Lao interviewees observed that poor relations and communication between South East Asian and international scientists resulted. These appear to reflect past relations between colonial ‘masters’ and their colonies, which saw local scientists as ‘second class’.

“[Some Australian scientists] still have pith helmets, they are acting like the ‘bwanas’, you know? They're acting like they have come from the developed country and they're there to teach people what to do… ‘those people should be thankful’ … They use words like ‘I directed you to do this!’ It’s totally inappropriate.” [A04]

“If you feel that ‘O, there’s not enough equity, there’s not enough respect for culture’, I think it will reflect in and stop communication... I think both sides have to work together and learn from each other. If you know that person doesn’t like this type of statement or … you should not say, or you should not react [to it].” [L24]

According to some Australian interviewees, the respect displayed by international scientists towards their South East Asian counterparts can directly affect communication arising from projects such as research results.

“Some Western scientists can be dismissive of the quality of the data in projects over there, and ... sometimes there’s grounds for that. Westerners can sometimes have what I call the ‘gringo’ attitude. They go and work in developing countries. They see themselves as better than their international counterparts ... [South East Asian scientists] need to see you as an equal, and not a pompous, arrogant Westerner who’s comes in to tell them how to ‘suck eggs’.” [A07]

### 3.3.4 Equity in collaborative relationships

Australian and Lao interviewees inferred successful partnerships and collaborations in South East Asia came from mutual respect and equity, which was vital for effective communication in research projects in these countries.

“A lot of countries … have quite good scientific capacity and … they want to further that and develop it, but they don’t want to somebody to come in and tell them ‘this is how you do it’. They want somebody to come and partner with them and treat them with the respect of saying ‘we may be actually more advanced scientifically, but that doesn't mean we have all the answers, and if we work together on this addressing a mutual problem then we find ways through it’. [A06]

“(To be a success,) we have an understanding of each other. We have same goal, same objectives, so we can work together easily. Without this … primary thing of understanding each other, explanation, contact, talk, you cannot do it easily … We need day-to-day talk, explanation, sharing of our ideas.” [L28]

Many Lao interviewees highlighted the importance of truly reciprocated communication between Lao and international scientists. This was related to access to similar resources and levels of ‘ownership’ of the project which also encouraged respect and good relationships. Equity included working on mutually agreed topics for projects, which increased ‘ownership’ by local researchers.
“I like it when we talk together, when we follow a topic that we are [both] interested in. If the topic is suitable for [the Lao] people, we can talk to each other for a long time. If we talk and we ‘look down’ on someone: for example, if I went to Australia and said “Aiyee! Australian people are very bad!” That is okay for me, but for you, your feeling is not good. If you come to Laos and say ‘I know your country. I [have been] to Laos, I know the area’, this is not good communication.” [L21]

“Respect for each other, the same levels of work ownership and access to the resources, and information sharing all make a good relationship between a Lao and an overseas scientist.” [L30]

However, some international and Lao interviewees emphasised the implicit economic power differences between international and local researchers, and the effects of the differences on communication between them. One Lao interviewee noted how power differences could be detrimental to the international scientist if communication was only ‘one way’.

“So much of communication is related to power and the effects of this on relationships. I don’t think overseas scientists realise the amount of power they have, through money, which is most important, and expertise in the international – local scientist relationship. International scientists need to realise this and moderate their attitudes to develop more effective and sustainable relations, or local scientists will simply dismiss you.” [I27]

“Last year I went to XXX and I saw many things that we don’t have, that I don’t know. But I met some experts there who just tried to only [impart] their own knowledge on us. They were only doing one way communication instead of two-way. If you tried to participate or connect with the new knowledge, new ideas, they had trouble.” [L25]

Interestingly, however, as members of traditionally hierarchical societies, some Asian scientists also seem to respect relationships that Australian scientists appear to have with senior Asian scientists in their institutional hierarchy, as noted by one Australian interviewee.

“We will be walking along and the Director of the Institute will have run over and said ‘goodness me, Dr XXXX, it is nice to see you’. So you still have that respect in terms of the junior staff seeing you are recognised by the Director of the Institute, so therefore ‘goodness me, he’s there [with the Director]’. But they also know we are not going to shun them off.” [A08]

3.3.5 Trust

According to Australian and international interviewees and as illustrated in section 3.3.4, the building of trust between local and international scientists was related to mutual respect, which helped build sound relations and allowed informal communication to flow more freely.

“In South East Asia you’ve got to meet the people and know them and develop mutual trust. Actually that’s one of the big issues, trust. Maybe operating inside one country, like me operating in Australia, trust comes naturally or is not as big an issue. Trust and understanding are very big issues in our partner countries.” [A05]

Trust was highlighted by most Australian interviewees as an important ingredient for encouraging face-to-face communication, which is vital for initiating professional relationships between international and South East Asian scientists.

“Sometimes you can be there [in South East Asia] and you don’t have a strong agenda or people are asking you to come for not–a-big issue. Such a thing you would solve by email or phone here [in Australia]. However, it has been stressed to
me that you cannot go to [South East Asia] often enough, because of the talk and building of trust and relationships.” [A05]

According to Australian interviewees, continuing trust is necessary for maintaining relations and communication. It is also a basis for managing people and problems.

“I think a lot of it is actually developing that rapport and trust. I have enormous faith in talking to the senior people in Laos now. If I need to know things and ask them, I am confident that they will tell me if there’s a problem. If they have seen me before, I will listen to their concerns and do something about it.” [A10]

However, there may never be complete trust between all the actors, including South East Asian and Australian scientists. This could be due to overarching cultural or political factors.

“You have to realise there are some things you [as an Australian scientist] will never get to the bottom of, some things you won’t be trusted with, and some things that are beyond your comprehension anyway.” [A05]

3.3.6 Face

Maintaining ‘face’ was emphasised by Australian interviewees as being vital for communication within South East Asian cultures, particularly for face-to-face communication.

“In an informal discussion … it takes time and trust for that information to be shared. I suspect that because of the Asian concept of ‘face’. It takes a little longer for that level to be reached in a discussion.” [A09]

Face-to-face, in-country meetings require particular attention to ‘maintaining face’. It was recommended that difficult negotiations or discussions are usually completed with relevant actors before the meeting commences, but never mentioned during the meeting.

“The Indonesians talk about ‘empatmata’, which means ‘four eyes’. [It means] meeting quietly, so that people can talk frankly in a nonthreatening environment and say things that they don’t actually get held to. In an Asian context, if you state something publicly [in a meeting] then it’s out there and it has a ‘half life’. And you can’t actually back away from that easily.” [A02]

“There’s only discussion of success rather than failings … you have to approach failures differently. You call them ‘incomplete tasks’ rather than ‘stuff ups’. When we have meetings and you know something hasn’t been done, it’s not a case of saying ‘Well, who screwed up?’ We say ‘Let’s see whether we can move this along faster or something’. There’s no negative talk, it doesn’t gel well with the team.” [A07]

Some Australian interviewees noted differences in how actors accepted professional criticism, particularly in face-to-face meetings. This could in part be explained by ‘face’, where the context of the criticism could also be a factor in its acceptance or rejection.

“This is not a negative comment about XXX, but they don’t like to be exposed to criticism. Even if we say it’s constructive criticism, a lot of them take offence. They see it as a personal criticism.” [A07]

If a ‘difficult’ discussion with a South East Asian researcher was required, Australian interviewees saw the importance for the subject of attention to maintain ‘face’ with fellow South East Asian and Australian workers. Trust was an important aspect of this exchange.

 “[If a ‘telling-off’ is required, it is] one-on-one, never in a meeting. In a meeting, in
public, you praise. If you want to kick people you have to take them aside separately. That was done away from the meeting. That was done either in [their boss]'s office, in their office, or in the field near an experiment, talking through what could be done better." [A10]

Postgraduate training was seen as part of the process in developing greater acceptance of professional criticism in students' work and for communication in collaborative projects.

“All of my students and team members, I try to coach them to understand that there are times in a project when they are going to have to think critically, and part of that process is going to be really nitpicking what we do, being reflective, and trying to improve what we do –that’s going to involve some exchanges about how people are doing things in the project, and not to take that personally.” [A07]

3.3.7 The place of hierarchies and age

Recognising traditional and organisational hierarchies by Australian and international interviewees was seen as important for acquiring and disseminating information. Dealing with management issues still may require maintaining the ‘face’ of the receiver through the use of hierarchy.

“You have to be considerate of cultural issues and status. If something is sensitive, you have to deal with it at a higher level rather than going to a junior. If there is a problem in the project, you don’t necessarily try to sort it out with a junior team member, because … they may not have the power in their power structure to fix the problem. You have to work closely with the project leader.” [A07]

International interviewees recognised how organisational hierarchies can influence research projects and communication, especially where possible generational change is involved. Australian and some Lao interviewees considered age of counterparts an important factor in working in research projects with South East Asian institutions. A few Lao interviewees also recognised the continuing presence of organisational hierarchies related to age or position, and how these influence informal communication within Lao organisations.

“I know the director general, the director general knows me, but we cannot see, talk, exchange ideas, because we are too young or something.” [L23]

Relative age of the actors may be a consideration for effective communication in collaborative projects. Some Australian and international interviewees believed that different attitudes to scientific research and communication exist between early career Asian scientists in their 20s and their older managers and senior scientists aged in their 40s.

“I’m probably at a slight advantage … there’s not quite the age barrier. There is still a 15 to 20 year barrier… There is a breakdown of those sorts of things, inhibitions that come about… We have started to work with younger scientists now, and their generational attitude is totally different to what the above 40-45 [years olds] is.” [A08]

One Lao interviewee noted how age and position could stifle young, eager scientists in South East Asian institutions.

“Young people, the new generation, are eager, they like to serve… But I have been cut off from the public sector for some years..” [L28]

3.3.8 ‘Information is power’

Information is seen as a traditional source of power in South East Asia. Some Australian interviewees realised that not all communication barriers between Australian or Asian
scientists can be surmounted or overcome, particularly within the notion of ‘information is power’. Australian and international interviewees pointed out that some international scientists needed to recognise this limitation.

“One of my colleagues in Laos, I worked with him for 10 years. At the end of 10 years, we were parting… [I said] ‘After 10 years, what do you talk about? You must think we [Australians] are strange”. He said, ‘Well, there is one topic that comes up all the time and we think [it] is hilarious. Whenever you foreigners find something new as researchers, the first thing you want to do is communicate it! In our society, information can be potentially useful. Even though we might consciously be agreeing with you, and communicating is the right thing to do, our subconscious, instant reaction is to not communicate’.” [A02]

“Across cultures, it is rare … to really cross that barrier completely, both ways. You have to be aware that people don’t sometimes give you full information for reasons that we don’t understand. On the other side, they mightn’t know that they have not given it to you. They might say ‘he doesn’t need to know that’. They might think ‘he mightn’t understand’. It might be their subconscious filtering.” [A05]

For example, one Lao interviewee stated that some Lao scientists were reluctant to place their research results and journal articles for ‘open access’ on the Internet, as they feared they may lose the ‘power of information’.

“For the full text download option [for their research], they are scared, because I think they want to keep their power. If they share everything, no one will come and talk with them [laughs], because they’ve got all they want.” [L17]

One Lao interviewee explained many Lao researchers were reluctant to search for information on the Internet, which hindered the development of ‘scientific curiosity’ that encourages scientific communication. Another Lao interviewee noted the prevalence of Lao ‘voyeurs’ in discussion groups as they looked for information but provide none themselves.

“Theyir curiosity to know will increase their communication. Not only to communicate from one person and another, but also with research on the Internet to get information.” [L18]

“Sometimes it is not good to open things to people, because sometimes people say, ‘you just receive, never provide’. That is not good that people think like that.” [L25]

One international interviewee noted the role of trust in gaining access to information and in opening professional communication channels in South East Asia.

“There’s a lack of willingness to release information. Unless I ask a specific question, ‘Is there a report on toilets in villages?’, no one is going to volunteer that information. Having said that, there has been a couple of things that have been offered, and I think it comes with trust.” [I13]

3.3.9 Understanding Western science’

Some international and Lao interviewees highlighted difficulties for Lao researchers to understand the ‘Western’ concept of Science and the tradition of critical thinking and scientific reasoning, as well as differences between research and extension projects. One Lao interviewee noted a similar difficulty in the understanding of critical scientific thinking in a neighbouring South East Asian country.
“The concept of Science is something very difficult to understand for Lao. If you say ‘we are a research project’, most people do not understand what that means. That you do something to find out how to improve things is a very foreign concept to most people here. … So there’s no real difference to most people between research projects, extension projects, any type of development project, it’s all the same, even to [some Lao] researchers.” [I14]

“When we send our people to study in XXXX, I am okay with the technology because it can be adapted to the Lao situation; the weather, it’s not very different. They can bring what they learn to be used here. But when you look at the way they critique things, analyse things, compared to when we send them to European countries or to Australia, I think it’s less …” [L24]

Some international interviewees were frustrated with the lack of understanding of the Western concept of ‘Science’ by Lao researchers. However, many Lao interviewees recognised the value of critical thinking brought into research projects by international scientists, and the role of postgraduate education for Lao researchers in encouraging critical thinking.

“There appears to be no ‘culture of inquiry’ in Laos. No incentive to think critically, [The government agency] is there to produce policies and ‘production targets’.” [I27]

“I think overseas researchers have quite good critical thinking, critical analysis. They look at a problem from different angles. Researchers from overseas also have a broader view of the problems and can look from different angles.” [L18]

“Overseas study is good in the way that students can learn the analytic, critical point of view. They can analyse, they can critique, they have a spirit of critique.” [L24]

Some Lao interviewees saw that criticising opinions in Lao PDR rather than ‘analysing from facts’ could be detrimental to communication and relationships between international and Lao scientists.

“If you only know how to critique, critique, but you don’t know how to analyse as well before criticising, I think this is not good. I see many people who criticise but do not analyse the situation or facts. When they only know how to criticise, that is not good.” [L24]

Some Australian interviewees believed that resistance to professional criticism could be overcome with time and further exposure to critical thinking in collaborative international projects or via postgraduate study in a ‘Western’ university.

“Three years [after starting postgraduate study], they’ll be sitting there debating ideas, challenging each other and accepting [opinions]. You probably get the odd character who gets a little too defensive. But generally, most people have gone from saying absolutely nothing to being contributors.” [A07]

3.3.10 Personal ability to communicate

According to Australian and international interviewees, recognising different cultural rules in communication was a major personal learning experience for South East Asian and Australian scientists. This was influenced by the personalities involved and the time available for relationships to develop.

“It was a big learning experience for me to realise that if you really wanted to understand what was going on, you couldn’t ask a direct question and get a straight answer.” [A02]
“Generally I think Lao people are very easy to get along with. They would appear very receptive, but sometimes you have to be a bit careful, because that can be general hospitality, so it may not have been as significant as you think. At least it makes working pleasant.” [I19]

Australian and international interviewees described the need for will and commitment by all actors to communicate in collaborative projects in South East Asia. Poor communicators can have a direct impact on the performance of these projects.

“It depends on if this [local] person is interested in working with foreigners. It’s not the case of everybody, some are not interested. You are coming and going, you may be not here in six months or two years.” [I16]

“Communication to me is what makes or breaks a research project. Projects that stumble along, don’t deliver on outputs or take a long time to deliver are usually projects that have people who are poor communicators.” [A07]

Some Lao interviewees highlighted the personal nature and importance of friendships for professional relationships in South East Asia and the mutual benefits to be gained from these relationships. Furthermore, some international interviewees considered the length of relationship between international and Asian scientists as important for strength and effectiveness of communication.

“We build up the relationship based on our professional [ties] and friendship. Friendship is very important, it’s personal. We try to come up with something to work together, even if we are new. It’s benefit for both.” [L20]

“[Local scientist] XXXX worked with [international scientist] XXXX for seven years. The long term approach, if it works, will bring sustainability, because you have time to be alternate, see issues, fix issues and work together.” [I16]

Australian and international interviewees considered personal traits such as personal energy, ability to listen, ‘diplomatic phrasing’ in conversation (which incorporates consideration of ‘face’), and developing empathy played important roles in opening and maintaining communication. The ability to listen is an important trait for effective communication between Lao and international scientists, although initial mistakes in communication can be rectified.

“Listening is very important for a start. Be modest for a start. If you get on the wrong side by dressing insensitively, or failing to show respect, or making someone lose face and things, you can very quickly get on the wrong side. But if you get that right the first few times, if you actually make any mistakes at some time later, it’s okay because you have basically been doing the right thing. Everyone makes mistakes occasionally - that’s reality.” [A10]

Cultural traits of international scientists can be conducive to communication and forming relations, especially where respect is maintained.

“In some ways the Australian straight forwardness does help, but it can’t be … confronting in nature. I think general congeniality, friendliness [are important too]. There is a certain amount of joking here [in Laos] … you have to be clear in what you want, but not make the recipient of the message feel undermined, devalued, as though they can’t do it … clear, empowering communication.” [I13]

One Australian interviewee considered it incumbent on international scientists to make initial moves to break down communication barriers. However, care should be taken in deciding how international scientists residing in a developing country should increase communication with their counterparts. The place could lie between ‘going native’ and being cut off in a
separate expatriate community.

“The boundary between Asian and Australian scientists is one that can be fraught. And so I think it's actually a strong role for the Australian scientists, more so than Asian scientists, to break down that boundary and create a comfort zone within which the communication can operate.” [A02]

“There’s … different ways that people do things. Some, based in-country, they try to go… completely ‘local’. I don’t necessarily think that builds respect from partner researchers. And there’re those who go the other way and just completely live in an ‘expat’ community and I don’t think that works very well either.” [A02]

International research managers, project leaders and scientists may need to be more conservative and circumspect in communication style out of respect for their South East Asian counterparts within the context of the current conversation with their counterpart.

“So you have to be super-conservative in the way you deal with people, whereas if I was dealing with you as a scientist in CSIRO I might make some flippant comment that could actually be misunderstood in other contexts and possibly even in the CSIRO context, but we actually don’t care as we both know each other.” [A04]

Social mores in South East Asia can also influence communication behaviours exhibited by individual international scientists. Conservatism in communication extended to language and methods of interaction, particularly if there is respect for South East Asian colleagues. For example, understanding meeting etiquette is vital in traditional settings in the region.

“Aussies can be pretty forthright and frank and talk quite openly and cop things on the chin. But in some developing countries, … you can’t, you don’t speak that way. You dare not embarrass your colleague by pointing out a flaw in their research design, or pointing out they’ve failed to deliver on an output. It’s part of their culture, so we respect that.” [A07]

3.3.11 Expectations and patience

According to some Australian and international interviewees, international scientists may need to modify their expectations when working within the constraints of some South East Asian countries when compared to their home countries. For example, some processes in projects run in South East Asia may require additional steps and people involved to reach a project goal or activity, or they do not seem to work towards the Western concept of ‘milestones’. International researchers should be mindful of these constraints.

“We design projects and milestones around Western expectations, and we don’t always do a good job at taking into account how our international partners operate… We’re not always mindful of those constraints, or we acknowledge them but don’t think enough about them.” [A07]

A few Lao interviewees noted unrealistic or unacceptable expectations of Lao researchers by international partners, particularly regarding the use of ICTs.

“Many people say, ‘Lao don’t like to reply or respond to email’. They lie [laughs], or … maybe we have too many things to do [other than this project] and we cannot respond on time sometimes… Many Lao scientists work not for only one specific issue, but for many things.” [L23]

Australian and international interviewees believed international scientists and their organisations need to develop more patience when working with South East Asian
counterparts, as there may be valid reasons for why an action was not carried out or an appointment not kept, but these were not articulated to the Australian scientist out of respect for their senior position. Specifically, international interviewees noted differences in perceptions in the meaning and importance of project deadlines to international donor agencies and government agencies in some South East Asian countries.

“I think it’s important for us foreigners not to be too impatient. There are often reasons for why things are slower, and they don’t always tell you about it initially. But if you have the patience you can find out that the reason they weren’t hurrying.” [A10]

“Sometimes, the pressure we have is from the activities that we have to implement [from donors]. [It is good] if you can make your headquarters or donors understand the time difficulties, deadlines, and the [local] context, and be able to adapt.” [I16]

3.3.12 Previous experience

Making communication relaxed and personal was recognised as a basis for effective communication in South East Asia, especially where it is based on experience. Australian and international interviewees with considerable experience working with Asian scientists particularly emphasised the importance of introducing relaxed personal or narrative styles into their communication with Asian counterparts.

“I spend quite a lot of time doing things that I wouldn't necessarily in communicating with colleagues and Australian scientists, which is ensuring that the level of communication is very close, personal, relaxed … and I regard that as really important.” [A02]

“I think experiential [learning] is quite fundamental. If you try to introduce a concept or an idea [then explain], that’s going to be fraught with difficulties because the understanding of that is going to be generally misinterpreted. However, if you can go through a narrative and say ‘we go from here to here’, then you can reflect back on it, ‘How did this happen? This is what we call this situation… I think that’s a quite a fundamental thing if you want to work [here]. Create these narratives and stories, and create a classification so it grows out of the experience.” [I19]

International interviewees recognised the importance of experience for effective communication. Negative experiences could provide positive effects for communication if treated as a learning experience. Common experiences were seen as important bridges for communication, particularly where they occurred in the field.

“The fact of working, going to the field together makes a big difference, because you are in another context, you are together in the same situation, and all the rest doesn’t matter anymore. If some [Asian] researchers have never worked with foreigners, it will make a difference in some of the responses and communication.” [I16]

Making time for international scientists to learn effective communication styles were considered vital for ongoing communication flows with their South East Asian colleagues by Australian interviewees.

“People who have the best relationships are the ones who have stayed long enough to suffer the consequences of their own recommendations and work through [poor recommendations] together and come up with new recommendations with their [Asian] partners… [A02]
3.3.13 People acting as 'bridges'

Some Australian and Lao interviewees explained the importance of ‘bridges’, or actors who are actively sought to help initiate and promote communication between Asian and international scientists and other stakeholders in a project. Having ‘bridges’ at various levels of organisation was seen as conducive to good communication.

“If there’s a triangle between the [Asian] education institution, the [national] government and the Australian institution, he [the international] would be right in the middle, with his finger on the pulse everywhere.” [A01]

According to international and Lao interviewees, ‘bridges’ provided important information in providing the local operating context to and for international development agencies, which are important for effective communication within the country.

“Sometimes the pressure we have is from [development] activities that we have to implement. [You have] to make your headquarters or donors understand the time difficulties and deadlines, understand the [local] context, and be able to adapt.” [I16]

‘Bridges’ could be Asian scientists who have communication skills and ties that are useful to the international research project. Superior knowledge of English language to communicate effective with Australian counterparts, knowledge of various sections of national and provincial government and tertiary institutions, abilities to mediate and negotiate and well developed human and project management skills were considered favourably by Australian and Lao interviewees.

“I have [Asian] team members, they are my ‘Mr’ and ‘Miss Fixit’. If I can’t get something done with a partner agency and communications have broken down, then I go to this other group on the team, explain the problem, and they deal with it sensitively, they sort it out, ‘problem solved’.” [A07]

Expatriate Australians living in a South East Asian country who have local language skills and cultural sensitivity may also act as ‘bridges’, according to Australian and international interviewees.

“Some people go out their way to learn the local language, usually … Australian scientists located in-country. They … tend to be culturally sensitive and want to learn and experience the local culture, become intimate with it and understand the nuances of it. And through that, they increase their capacities to be able to have relationships with their local counterparts.” [A04]

3.4 Physical and institutional factors affecting communication

This section relates to the factors that are outside of the immediate effective control of individual Australian and Asian scientists. They range from availability of particular physical resources to the levels of support for agricultural research offered by South East Asian countries and international agencies and research partners.

3.4.1 Online infrastructure and bandwidth

Limited access to electronic communication channels such as email and other ICTs can be due to the relative expense of using ICTs in the country, the level of economic development and development of online communications, unreliability of online connections, and limited ICT access within organisations in the country. The combination of some or all of these factors can inhibit interactions with international scientists located overseas.
“I worry as to how viable websites are, particularly for some Asian scientists in-country. A lot of the anecdotal feedback … is that some institutions only have access to the Internet for half an hour a week, and they're reading emails, they're not going on to websites trying to download PDFs of ACIAR monographs that are over 200 pages long, because they won't be able to do it.” [A06]

Infrastructure and bandwidth can be very limited in some Asian institutions compared to similar organisations in Australia, said some Australian interviewees. This may force some Asian scientists to rely on private online access to continue communication with their international colleagues.

“The reality is people don't have access to the Internet, and if they do, it’s limited to the institution where they work or in an Internet cafe and you’ve got to pay for it up front. It’s not something that is freely available or is available [so] that it is sustainable for the family budget. So you need to be very careful about how you look at it.” [A06]

Similarly, international interviewees noted bandwidth could limit ICT use in developing countries worldwide, but that communication using ICTs depended on the abilities of the people using these technologies.

“We’re struggling with bandwidth … at one stage we had one guy in Uganda, one in Nicaragua, me in Laos, you couldn’t think of three worse places in the world for Internet connection. We would connect with Colombia, which … should be pretty good, have these pretty awful meetings, and then three of us would come back online afterwards, and discuss what we had just discussed. We would have very good meetings. And that was because of the human element I think, more about how to manage the technology.” [I26]

To overcome limited access to email and email attachments through their own organisation, many Asian scientists communicate via private email accounts rather than through their organisational email system. Organisational processes can also cause ‘bottlenecks’ for email communication, according to a few interviewees, so personal addresses were used to circumvent these problems.

“People always have their personal Yahoo, Gmail addresses rather than an institutional address. Or they say, ‘Can you wait till I’m home next week and then send me the file, because if I download it now, it will just clog the system’.” [A07]

According to many interviewees, ‘wi-fi’ technology was being used increasingly with computers to allow Internet access through mobile phone networks in South East Asian countries, particularly where there are poor landline connections or the scientists are outside major towns or cities.

“It is more flexible in terms of access, having it with you all the time. That’s why I have my little thing on the ‘wi-fi’, my dongle as well, and not relying on landlines for Internet access. Sometimes it works, sometimes doesn’t, but it’s more reliable, more accessible [than landline].” [A04]

“My research centre is 42 kilometres from [the capital, Vientiane], and you could not access to the Internet. Now they just provide a very small server and you can access [through the mobile network]. That’s one, two years ago.” [L23]

According to some interviewees, ICTs used in some remote parts of Indonesia and Papua New Guinea are now better served by wireless technology than traditional landlines. However, bandwidth can still be a limitation in the use of newer ICTs such as Skype.
Similarly, a few international and Lao interviewees noted that Internet access in more remote locations was changing in Lao PDR.

“A lot of government agencies don’t have fast Internet, or they have private accounts, or they are in remote areas where they rely on wireless modems, which don’t deliver the same broadband speed. So it’s … not possible to use Skype with them.” [A07]

“The [Lao PDR] government is now improving the networking with the provinces, so all the provinces are now linked and now they are working on the districts. Coverage is very good, and almost the whole country is now covered.” [I16]

However, not everyone believed the improved system was working effectively in Lao PDR, including this Lao interviewee.

 “[In the last] two or three years, the government signed an agreement with Xxxx to do a so-called ‘whole country’ ICT system for the public. They dig everything from here to the south in glass fibre … and they gave to the public sector a huge number of computers, [but] computers are already out of order and the system is not yet running. Nobody knows, nobody follows …” [L28]

Some Lao interviewees pointed out economic limitations that restricted the use of mobile telephones with international researchers.

“[International researchers] don’t buy Lao simcards, they only have Australian simcards, so we cannot call them. It’s too expensive and we cannot call them. [L23]

3.4.2 Economic factors, particularly economic development

Economic factors can have direct effects on interpersonal relationships according to interviewees, particularly in providing resources and incentives for Asian scientists within their countries.

“We have issues at some countries where [research funding] is not enough, and that clogs up communication sometimes, because there aren’t the opportunities for [an issue] to be followed up face-to-face. It creates a risk of miscommunication.” [A04]

One international scientist noted some resentment at differences in pay scales between international and Lao scientists, which affected collaboration and communication in international projects.

“There is a growing sense of ‘dependency culture’. There are staff members I think are still a little bit indignant about foreign consultants coming in with their different wage level … equality was wanted, and equality in pay.” [I13]

Some Australian interviewees recognised that some South East Asian countries appeared to use bureaucratic limitations to limit government spending. One Lao interviewee mentioned that this limitation affected the extension of successes from previous international projects.

“In terms of getting them out to do fieldwork [and face-to-face visits, it] can be a bit of a process in itself. You were meant to have a yearly plan with every minute detail. If you haven’t put that [travel] in your yearly plan, then you’re not going to get the budget to do it [laughs]. It’s fun and games at times.” [A08]

“During 2006-7, I visited farmers with the ACIAR expert scientists. I tried to … use their methods. But our limitation is that place – we don’t have much and sometimes we cannot choose, we have very few options to visit different places.”[L25]
Costs of some communication tools can limit their use, particularly where insufficient or no international funds have been provided for online communication in a research project, and where Asian scientists receive insufficient salaries and their institutions insufficient budget to cover the relatively high expense of using ICTs in their country.

“[SMS is not] out of reach for them, but I don’t want to impose that sort of expense on them to use as a form of communication. They can all access email from work and work paid computers, so that’s basically what I try and do with them.” [A08]

The relatively high cost of information access in South East Asia was cited as a constraint by some Lao interviewees.

“International journals … are not open for everybody. You have a site link, you have to subscribe to the system, you have to pay [to download the article].” [L17]

International interviewees noted that international project funds may be vital for establishing ICT infrastructure and systems in some South East Asian countries. Lao interviewees confirmed, however, that all international research projects located at NAFRI will be required to pay their ongoing costs for communication and ICTs, where only few projects have paid in the past for the running costs of the system.

“We have problems with the cost [of IT infrastructure]. We are organising ‘basket’ funding [from the resident international projects] … Because the fibre optics [system] we have established is not just for the projects, we have established it for all NAFRI. If they want to use our network, they will have to pay.” [L15]

Changes in research funding in South East Asian countries are affecting incentives to communicate, particularly through increased competition between Asian scientists or institutions for funding from national governments or international agencies. Caution was expressed for changing research funding models in the region.

“A competitive environment may well help somebody [ambitious], but at what point do you get these things becoming impediments in terms of communication dissemination.” [A06]

Closer in-country management of international research projects appeared to increase the quality of communication between international and Asian scientists. Some interviewees pointed to the use of early career scientists or PhD students from Australia to provide this closer in-country support for managing projects and South East Asian scientists.

“The [projects] that are most successful have supportive [Australian] project leaders who are underpinned by a young or mid-career [Australian] scientist who are spending big chunks of their time in-country, which could vary from three months at a time to fulltime in-country. [A02]

### 3.4.3 Educational limitations and opportunities

International and Lao interviewees considered primary education very important for addressing what they considered the major constraint for communication between international and local scientists, particularly fluency in English language.

“Language is the number one problem, though this is improving. Education has a big effect on that, especially the low levels of reading, which is important in the use of ICTs.” [I27]
As there are already high levels of illiteracy in Lao PDR, this influences people’s reading habits, even if they are literate as many of their stakeholders might not be able to read.

“Many people cannot read, so how do we communicate with them. You cannot write the report and ask them [farmers] to read [it] - they cannot read. They don’t even have the habit to read.” [L24]

Australian and international interviewees considered formal education, through postgraduate studies carried out in an international institution, to be an important way of improving cross-cultural understanding international contexts. Other interviewees also believed postgraduate education helped develop relationships and communication skills between Lao and international scientists and could even change individuals as part of the experience.

“Asian scientists may have done a PhD in Russia, Thailand, the US, Australia or wherever. Those have all been … broadening experiences, so they’ve also got some cultural understanding of outside and gained some understanding of where Australians or others may come from.” [A10]

“The fact that [the Asian researcher] learned to function in a different culture already means that they are no longer in a box. And of course if that culture is a positive, constructive culture rather than a negative or oppressive one, then that leads you to the next step. The fact you have had to function in two cultures is important.” [I19]

Providing scholarships to Asian scientists to encourage them to study in Australian universities was also seen by Australian interviewees as important for building institutional capacities in developing countries.

“It’s a very good investment. Most people that I have seen have been trained here or elsewhere in the world have gone back and they’re usually the ones that make a change in the workplace. It’s not to say the locals don’t, but they are more likely to make improvements that enable that institute to be competitive in the international arena, attract more grant money or do more effective research. They inspire the younger ones to do the same scholarships. There is a multiplier effect from it.” [A07]

Australian interviewees believed opportunities were needed to overcome higher educational, experiential and cultural barriers within South East Asian countries in their use of the Western-style ‘scientific method’, the basis for most international agricultural research projects. One barrier is the more traditional teaching styles used in many South East Asian educational institutions, which appear to concentrate on rote learning and maintaining hierarchy rather than encouraging critical thinking and scientific reasoning. One interviewee noted the possible need for deeper cultural change to encourage critical thinking.

“I remember quite a shocking headline on the front of the *Time* magazine … ‘Can Asians Think?’. It was written by an Asian, and he was making this point that if we want to participate in the global community in science and technology, we’ve got to go back to how we are teaching our kids. [We have] to encourage them to be questioning, encouraging them to be putting out different ideas and not being punished for that. There are some pretty deep challenges for the communication process in that area.” [A02]

However, some Lao interviewees believed that completing their PhDs in Lao PDR may provide them a better education suitable for the local context, particularly for their people.

“If we can have the PhD in Laos, they do the right conditions to do their work. If we learn at an Australian or Russian or other [country’s university], the climate conditions are different. If PhDs were done here, they would be better for the Lao people.” [L22]
International and Lao interviewees considered capacity building and informal education, such as through national workshops, to be important for developing relationships between Asian and international scientists. Overseas workshops, conferences and short–term visits were also considered important informal education opportunities for Lao scientists.

“It’s going to a workshop or conference or to short-term or long-term studies. I really think it’s motivation, really high motivation [for Asian scientists].” [I16]

Informal, in-country training with international mentors or on-the-job training with a consultant was also important for building the local skill base. Studies that are part of international projects were seen by international interviewees as important informal education for local staff.

“With research you’re bringing in a lot of new methodology, new ways of working that maybe people here may never have done. So it’s not just coming in and doing a project, it’s really building capacity.” [I16]

“Sometimes you will find someone who is so committed and so interested [in a research project] that they will throw themselves into it. But more often than not, that will only happen when it's part of a study.” [I26]

According to many Australian interviewees, learning a more advanced level of technical English was an important part of the education and training process in research projects in South East Asia. Some Lao interviewees also advocated the importance of Lao scientists learning English to improve their professional standing.

“If they know English, it is easier for them to communicate and [gain] more understanding. It is more useful for them. They can learn more, they can open their eyes, explain more, and communicate more with outside people.” [L23]

In contrast, one international interviewee noted the different learning and working style of Lao scientists indicated the need for a more inductive, narrative approach to teaching and working in Laos PDR rather than the Western-style, deductive problem solving approach.

If you ever introduced logframes and said ‘here’s our objective, da, da, da, da …’. You have those labels and you explain them having understood what the label means, then you think of its application. With Lao people, that will never work, it would be a horrible mess. But if you say ‘supposing a project does this. Then we that, then there are these many finals and they get some benefits’, and it's a sort of a story. Then you actually begin to construct a logframe. That makes sense [to the Lao].” [I19]

3.4.4 Organisational factors

Complicated national institutional structures and processes in some Asian countries can entangle communication between international and local scientists, according to Australian and international interviewees. The maintenance of communication ties with hierarchies is particularly important for international projects working in South East Asia.

“The administration, the way it works here, the way it works for them, it is a limitation for me and for them. [Understanding those limitations] is important, because it helps you to go beyond and it helps you understand that it’s not your counterpart’s character, but it’s the situation.” [I16]

Australian and Lao interviewees noted mistrust between national institutions can also impede communication in some Asian countries as these organisations compete for national
or international funds or prestige.

“There is not a proper connection [between] the stations, the centres. There is no exchange, no mutual or frequent publication… At the provincial level, in XXX, there is a huge and very nice research establishment and seed production centre is under construction but there is no contact at all with the others. The research system is written on paper to have networks, at central and provincial levels, but actually there is no system, no planning, monitoring, reporting or using. Different stations and centres have their funding and they do many things, but I would like to see it more systematic, improve the system.” [L28]

However, some international interviewees noted that some national networks are being developed to overcome some barriers between national institutions, particularly in reducing costs for each organisation for ICT services.

“[XXX had] a meeting with all these [government] partners to improve the networking between all the institutions, and working with the government to bring the price down [for ICT services].” [I16]

Some Australian and international interviewees saw direct links between organisational structures and competition within institutions, which again affected communication between individuals and projects located within these structures. This can lead to a reticence to share information between individuals and groups, said one international interviewee.

“There is a huge blockage of information between different agencies, they might even be within the Ministry of Agriculture, but then between different sectors. So people do something and that’s sort of done. There’s a reticence to share, and some of this is protecting their own patches.” [I19]

At times the rules of a South East Asian organisation may influence formal communication by affecting the rate of publishing in international, peer-reviewed journals by Asian scientists. In some Asian countries, promotion in part depends on the publishing record of a researcher in peer-reviewed journals. However, some institutions allocate the same points for an article published in a national journal as an article published in an international journal. This provides little incentive for these Asian scientists to collaborate with their Australian counterparts to co-author joint papers in international journals, particularly as it can be much harder for them to publish in an international journal.

“I think they get as many points, as much kudos for publishing in their own journals as they do publishing in international. That will change in time of course.” [A05]

The organisational or social hierarchy in which Asian scientists work can deter their ambitions for formal communication and writing journal articles, while opening an opportunity for their peers, said some Australian interviewees.

“[However,] it also represents an opportunity in that they are sharing the opportunities around and you don’t get just one person trained in one specific area. Whereas ambitious people might be held back, less ambitious people might get opportunities they wouldn’t have otherwise.” [A01]

3.4.5 National and political factors

Australian and international interviewees emphasised the importance of agricultural research for national development in South East Asia, and its possible influence on national policy through information provided by research.
“I think the role of research is really to do with now, to serve the policy makers in order to [for them to] make the right decisions. This is where research needs to be fast. There are ‘hot’ issues, there are development questions, and I think that’s where research can help to get information.” [I16]

Some interviewees noted the apparent reliance on international projects and funding for nationally important research in South East Asian countries such as Lao PDR.

“A lot of young people have graduated recently as scientists, but I think they lack funds. They have the knowledge and the ideas, but they are stuck with the money. So we are based on internationally funded project activities.” [L28]

Some international and Lao interviewees noted that international development agencies needed to be more flexible and understanding by ensuring their agenda did not drive research priorities in developing countries to the detriment of local scientists serving the need for locally-relevant research and information. Greater flexibility by donor organisations was seen by one international interviewee as one key for improving the relevance of international projects for national priorities.

“We [want] poverty reduction, to increase access to higher education. We have limited resources, our friends from overseas they have resources, but the resources might be allocated for [say] climate change.” [L20]

“If an international institution can support that research for development, and not always go for their [own] agenda, and the issues are not donor driven, agenda driven, it would be great if there could be some flexibility. We need flexibility to answer some of the pressing issues going on [in countries].” [I16]

This greater understanding and flexibility by international agencies could be reflected in greater respect for and understanding towards national governments, without accusations and recriminations in more extreme circumstances, said some Lao interviewees.

“The equality of the … collaboration or cooperation is very important also … to share the ideas, the partnership, the common things, [so there is] more sharing, less pointing.” [L24]

Communication with and between Asian agricultural scientists can be directly impeded by national politics. Some Australian interviewees noted that changes in Ministers and organisational restructures can change availability of individuals and groups of scientists and membership of research project teams, so influencing communication within these teams.

“We lose control over project team member movements. A change in minister could mean a restructure in your partner agency overseas. People that were on a project are gone. By the end of a three year project, a third of your project team might be off somewhere else, and another third come in. That affects projects as you don’t have continuity.” [A07]

Governments and their politics can influence the use of formal communication by changing the communication methods expected from their scientists. Some Australian interviewees observed that certain South East Asian governments preferred communication disseminated from their researchers aimed at extension workers and farmers than on researchers’ formal communication in refereed journal articles.

“As a university person I want to go all the way to hard, high level journal papers and the works, but the [South East Asian] government also emphasises that the project will be a success if we impact livelihood and poverty in these districts.” [A10]
International and Lao interviewees noted that different political systems both enabled or posed problems for informal communication, particularly because of differences between socialist and capitalist political systems. One Lao interviewee noted the need for compromise based on evidence.

“When I read sometimes I find it very difficult. It is not difficult to accept criticism, if that criticism is based on the facts. Not only that you are just some ideology, taught too much capitalism, we need to [meet] halfway, try to analyse [situations] based on facts, the reality, and then what’s behind the reality. I don’t think this is difficult. [L24]

The international and Lao interviewees noted progress in information sharing in some South East Asian countries in recent years, although there were differences in sharing practices between local scientists and between local and international scientists.

“I think that the culture of sharing information has grown here. It’s not like ten years ago where you … could not share a document without a red stamp on it. It has really improved. We have to look back sometimes to realise the progress that has been made. It’s not the same way to share information within their system and with the internationals. They have to switch all the time … ”[I16]

According to Australian interviewees, the movement of personnel and expertise between Asian government agencies or between agencies and universities can increase interagency rivalries and impede communication between them. In contrast, some ACIAR projects and the Australian scientists involved have encouraged and enabled national agencies to work more closely together in collaborative projects and form closer ties.

“Now they can see that there is a necessary level of co-dependency between agencies and universities, and they can see the mutual benefits … I think some of my colleagues feel the same now that they’ve got stronger connections with universities, and that’s been helping build the partnerships with government agencies.”[A07]

Collaboration and communication with some institutions such as international NGOs, however, may not be encouraged by some South East Asian political systems, particularly where differing religions or political philosophies are involved.

“There is a real suspicion of overt Christianity in XXX. [The international NGO] does very badly because of it. They are starting to learn that they need to put their aid and good intentions first and put the other stuff behind wraps a bit if they want a win, to the extent that the [national] government guys say that the preference is that you don’t bring XXX in as an NGO.”[A10]

3.4.6 International and global factors

International organisations can directly influence formal communication between South East Asian and Australian scientists in the writing and publication of peer-reviewed papers, particularly where international scientists can ‘take control' in the writing, editing and management of a journal article through the peer-review process.

“Because it was done by [XXX from IRRI, who] took the lead [as the corresponding author … it went through peer-review quite well. It was fairly polished by the time we got to [the review stage] … the English speakers really directed and crafted the paper … significantly.”[A09]

The discussion on economic factors influencing communication in section 3.4.2 highlighted the direct influence that international aid funds have on national research and
communication within international research projects. Gaining or continuing access to international aid funding can encourage national institutions in the region to continue communications with partner organisations in Australia. For example, one Australian interviewee observed that communication can continue after a project is completed when an Asian institution wishes to continue the collaborative research to gain benefits from funding or to continue to build capacities and skills among its researchers.

“It’s been a bit of a joint collaboration and communication between the XXXX scientists asking ACIAR to continue the work, and also ACIAR taking the recognition that the work be continued and realising the need to keep it going.” [A08]

However, some international organisations charged with increasing collaboration do not appear to be successful in engendering regional or international collaboration, particularly for those not accustomed to working with the agency. More worrying for some interviewees was that some overseas and bilateral agencies come to initial negotiations with their own agendas instead of addressing Lao PDR’s national needs. According to Australian and Lao interviewees, this lack of ‘real’ collaboration can lead to ill-feeling and diminish communication between organisations,

“Some international agencies come with their own political agendas and ‘cultural imperialism’, which don’t necessarily match the national goals of the developing country. International agencies must be ready to negotiate with national goals, or the country will wait until you leave and it will go back to what it was before the intervention and will redistribute resources where it can.” [I27]

“Sometimes there is ill-feeling towards really large institutes like XXX, just because it is so gargantuan, so huge, it’s so pervasive. It comes with its own persona, and the other [national institutions] can feel dwarfed. I think that what is essential for a decent project to happen is that the partners must feel equal in the relationship, and I think that’s really important right from the outset. One institution shouldn’t be telling another what to do.” [A09]

At the organisational level in Australia, one Australian interviewee noted that ACIAR was becoming more aware of the need to formally recognise and adequately fund communication strategies as part of their research projects and collaborations from the beginning of the project, rather than waiting until the end to plan and fund communication activities. This has important implications for ensuring funding and resources are available for communication activities throughout the project.

“[We are moving] from ‘communication as an add-on’ where, once we got the research, [project leaders said] ‘well, maybe we should tell someone about this’ - to actually thinking at the start of the project, ‘Who are you targeting? Who is going to benefit from this research? What are the incentive structures to get the information’, or ‘Are they likely to understand and then use it in a language to get the information to them?’, and delivering it in such a way that they find it user friendly and accessible. It’s a big change.” [A06]

A few Australian interviewees stated ACIAR has directly encouraged and influenced communication and collaboration between their projects and project managers within a discipline area.

“In the fisheries program, [ACIAR] get all the project leaders together, leaders that have just finished projects, those that are currently finishing and those new starting new projects, to discuss all the issues they have with their projects from all partner countries. They talk about issues of communication, issues of publishing data, issues
in actually running your project, and then 'workshop' solutions.” [A01]

Australian interviewees described the importance of relationships and communication ties between their parent organisation, other Australian institutions and their overseas and international counterparts such as IRRI, CIAT, ADB and FAO. They address issues surrounding project duplication or complementarity, and supplementary funding.

“ADB-IFAD have $37 million, compared to our five [million dollars in a similar project]. We are finding ways to link with them, because they need our science and technology, and they've got lots of money to spend and are fairly keen to form linkages. I've visited with ADB-IFAD in XXX three times, ... and I've organised follow-up meetings from some key people. It's a dialogue starting and we're now sending and exchanging documentation about our projects.” [A10]

At the regional level, the formation and maintenance of region-wide and international communication networks among international organisations was noted to be important by Australian and international interviewees, especially as these networks helped disseminate information to South East Asian countries and act as repositories for research already completed in the region. Some Lao interviewees also acknowledged the need for information sharing with international sources to improve their access to other relevant information from these sources, particularly for internationally important problems such as climate change.

“Within the regional forage work by CIAT programs, they began having workshops that had people from Indonesia, Philippines, southern China, Laos and Thailand coming together. [The meetings] would be in different countries so people got exposed and could be proud of what they were doing and had a sense of collegiate things, and I think they were accessible to each other out of that.” [I19]

“Agriculture in Laos … is changing with climate change. I want to compare the situations overseas to the situation in Laos and Thailand. I would like to adapt the information to here. If we use only Lao [language], we cannot follow information from [overseas]. We need to compare. International information is really 'wide', [laughs] but local [information] is very narrow.” [L21]

According to Lao and international interviewees, relationships between national governments within South East Asia have also played a role in encouraging or challenging communication within regional development projects.

“It’s not competitive, it’s a partnership. It's more like ‘a close political partner has done [the project], it means it’s probably fine for us to do it too’.” [I16]

Interestingly, few Australian and international interviewees could name relevant information sources that they had consulted within South East Asia with regard to their projects, and only one mentioned a local information source used for project proposals or related documents. Few Australian or international interviewees were members of national or regional professional groups, however some Lao interviewees mentioned their membership of informal professional groups, especially alumni of overseas postgraduate institutions.

“We have many good friends and we try to share, even if it is not formal. When we meet, we talk about how we can work together, how to share experiences. We were students quite a long time, six or seven years in Hungary. We are very good friends, very good in connections. When we meet, we think of how to help one another.” [L20]
4. Conclusions and recommendations

All respondents agreed face-to-face communication via in-country visits, meetings and field trips was the most important method of informal communication between Lao and international scientists working on agricultural development projects. This was important to build trust and respect between actors and engender personal relationships and professional collaboration within the project group, both in Australia and Laos.

Formal communication through peer reviewed journal articles was limited by lack of institutional support and English proficiency.

Email was the main ICT used for communication between scientists. Online discussion groups were used mainly by Lao and international scientists, and rarely by Australian scientists. Other synchronous ICTs that facilitate face-to-face communication such as Skype were reported to have limited or no use for work in Lao PDR due to insufficient bandwidth, online infrastructure or institutional support.

Differences in culture, (particularly differing views on ‘keeping face’ and hierarchy), personal communication styles (independent of culture), understanding the importance of publicly available information for development, understanding Western science, economic and political systems, educational opportunities, and organisational cultures or structures imposed by international agencies were also mentioned as challenges for effective communication in international project teams.

The following recommendations have been developed:

4.1 Provide cross cultural communication training and mentoring

Interviewees highlighted many facets of cultural understanding which posed challenges for communication between agricultural scientists in South East Asia and Australia. Ensuring Australian scientists have some cultural understanding was seen as important for effective, informal, one-on-one communication, as well as developing mutual trust and respect to encourage improved collaboration between international and local scientists. Scientists playing a ‘bridging’ role based in Lao PDR were also considered beneficial for communication within agricultural development projects.

Recommendation 1: Agencies undertaking international research and development projects provide general and cross-cultural communication training and mentoring programs for international project scientists, as needed.

Recommendation 2: International or Lao scientists with a ‘bridging role’ be used to encourage better communication within agricultural development projects, where feasible and appropriate.

4.2 Postgraduate education and publications are important

Postgraduate education established and strengthened informal communication ties between Australian and South East Asian researchers. However, there were many language-based, cultural, educational, organisational and political barriers for South East Asian researchers in co-authoring peer-reviewed papers in English.

Recommendation 3: A clear policy be developed by agencies undertaking international research projects to encourage the production of formal publications such as refereed journal articles by South East Asian researchers in local and international journals.
4.3 Continue training for Lao researchers in technical English

Lao and international interviewees considered that the most important constraint for communication between international and local researchers was their use of and their confidence in using English as a second language, particularly technical English. To address issues of preparedness for publishing in international journals and international conferences, researchers from the region need to develop specific science writing and broader communication skills in technical English, which is the main language for international scientific communication.

Recommendation 4: South East Asian scientists continue to receive specialist training in various aspects of science communication in English, including the ‘culture’ of and processes involved in Western science.

Recommendation 5: South East Asian scientists be encouraged to read more general and specialist scientific papers, particularly in technical English, through their libraries.

4.4 Encourage and test the use of ICTs to build capacity

Online infrastructure and appropriate training, and access to sufficient online bandwidth, influenced the efficient use of email as a communication tool although the rapid growth of “wireless” infrastructure and connectivity across Lao PDR has improved online access. Therefore, assessing the national ‘context’ in online communication, such as online infrastructure, bandwidth, institutional and individual access to online environment and electricity should be acknowledged and acted on in the initial project design phase.

Recommendation 6: New ICT tools destined for use in South East Asia be thoroughly tested under working conditions and locations in target countries before a project commences.

4.5 Promote the use of Lao information available online

Most Australian interviewees did not access Lao and South East Asian information and conversation sources, even though they were personally available via the NAFRI website, and discussion groups such as LaoFAB.

Recommendation 7: Project managers and researchers employed by agencies undertaking international research and development projects be encouraged to actively participate in online discussion groups and periodically peruse relevant information websites in South East Asia.
References


Appendices

Appendix 1: Interview schedule – Australian respondents

1. How long have you worked as a researcher, in which developing countries have you worked, and what were some of the projects?

2. What do you use information and computer technologies (ICTs) for in your work?

3. What do you think is the strength of relationships between international and domestic agricultural scientists in SE Asia? Have you an example, without mentioning any names?

4. What are the weaknesses in relationships between international and domestic scientists? Have you examples, without mentioning any names?

5. What are the ways that international and domestic scientists communicate with each other? Formal? Informal?

6. What role do ICTs play in this communication? (if not explicitly covered in Question 3)

7. What factors do you think affect the flow of agricultural information, particularly between domestic and international scientists in SE Asia?

8. How do you think communication could be improved between domestic and international scientists in SE Asia? Do you see a role for ICTs in this?

9. What are the main depositories for formal information on agricultural development in SE Asia?

10. Name professional association(s) with whom you are a member, especially those with links to and within SE Asia.

11. Given what we have discussed, name three professionals you think I should now go to ask these questions?
Appendix 2: Interview schedule – Lao and international respondents

Question schedule:

1. Firstly, what is your role in Laos PDR?
2. When did you have your first collaboration with an international research partner?
3. Did or do you work with an ACIAR project, and if so, when?
4. Who are the partners your deal with in your projects? (countries, levels of professionals, types of institutions)
5. How do you communicate with scientists in SE Asia, Lao and overseas? Do you use formal or informal or both?
6. What role do information and computer technologies (ICTs) play in your communication? (if not explicitly covered in question 5)
7. More generally, what do you think is the strength of relationships between overseas and Lao agricultural scientists? Have you an example, without mentioning any names?
8. What are the weaknesses in relationships between international and domestic scientists? Have you an example, without mentioning any names?
9. What factors do you think generally influence the flow of agricultural information in Lao PDR, particularly between Lao and overseas scientists?
10. How do you think communication could be improved between Lao and overseas scientists? Do you see a role for ICTs in this?
11. What are the main depositories for formal information on agricultural development in Lao PDR?
12. Name professional association(s) with whom you are a member, especially those with links to and within Lao and SE Asia.
13. Have you anything you wish to add to your answers?
14. Can I have your business card?
15. Finally, given what we have discussed, can you name three professionals in Laos PDR you think I should ask these questions?