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Australian Ambassador to Vietnam Robyn Mudie (holding flowers) with ACIAR partners. Photo: ACIAR Vietnam.

Australian Ambassador meets with ACIAR partners

'Vietnam has had 27 years of incredibly successful collaboration with ACIAR. We value all the support that Australia and ACIAR have provided to our Vietnamese partners in agricultural research, rural development, and capacity building. I believe that our partnership will grow even stronger in the future.'

On 23 October 2019, Australian Ambassador to Vietnam Robyn Mudie hosted a luncheon with ACIAR partners at her residence. Her guests were policy makers, project leaders, senior scientists and alumni of ACIAR, who have been contributing to the Australia-Vietnam bilateral agricultural research. The member of ACIAR Policy Advisory Council, Dr Nguyen Van Bo and the staff of ACIAR Vietnam were also present at the event.

On this occasion, the Ambassador had an opportunity to converse with the experts and learn more about agriculture's most current issues in Vietnam, which included food safety, climate change, and market engagement for farmers. She also met with experienced scientists who participated in ACIAR projects in various regions: Northwest, Central Highlands, and Mekong Delta.

'It was a valuable occasion and I really enjoyed meeting such a diverse group. It confirmed in my mind the very valuable role that ACIAR plays', said Ambassador Robyn Mudie.

In his exchange with Madam Ambassador, Dr Nguyen Van Bo said: 'Vietnam has had 27 years of incredibly successful collaboration with ACIAR. We value all the support that Australia and ACIAR have provided to our Vietnamese partners in agricultural research, rural development, and capacity building. I believe that our partnership will grow even stronger in the future.'

ACIAR Vietnam would like to thank all the partners who came to the luncheon and look forward to continuing the strong partnerships for the future program.

MoST Minister Chu Ngoc Anh hosting a meeting with H.E Ambassador Robyn Mudie and ACIAR on 14 February 2020. Photo provided by MoST .

ACIAR - Vietnam partnership health check

ACIAR has been collaborating with Vietnam in agricultural research for the last 27 years. The partnership has now entered a new ten-year phase, effective until 2027, with strong commitments from both sides.

ACIAR and Vietnam organise regular partnership health-check dialogues biennially. The 2020 dialogues took place on 13 and 14 February, in conjunction with an official Vietnam visit of Dr Peter Horne, ACIAR General Manager - Country Programs. The dialogues reviewed the 10-year strategy implementation and discussed priorities for the coming period.

During this time, Dr Horne met with several Australian agencies in the Embassy and had in-depth discussions with Vietnamese partners from the Ministry of Agriculture and Rural Development (MARD), the Ministry of Science and Technology (MoST), the Ministry of Planning and Investment (MPI). Below are the key meeting summaries:

Ministry of Agriculture and Rural Development

At MARD's headquarters in Hanoi, apart from meeting with Vice Minister Le Quoc Doanh, ACIAR participated in a discussion with department heads of International Cooperation, Science - Technology & Environment, Livestock, Crops and those research institutes and universities which have research collaboration with ACIAR. Participants affirmed the following priorities:

- Focus in achieving the shared goal that 75% of projects will be co-funded by Australia and Vietnam during the ten-year period
- Research into climate change, especially (1) drought tolerant cropping systems (in the

Mekong Delta and the Central Highlands) and (2) saline cropping systems for the Mekong Delta (i.e. to continue the work on rice-shrimp systems)

- Horticulture: research into development of fruits from North West region, especially farming systems on sloping lands, storage and post-harvest management, processing and market access for the region's popular produce which includes mango, avocado and longan
- Aquaculture: continue research on mariculture and improve chemical and antibiotic residue control in aquaculture produce
- Forestry: develop local forest tree species, value chains of non-timber forest products and forest tree pests and diseases management
- Livestock: take advantage of Australian expertise in biosecurity research (especially cattle and chicken), disease forecasting and disease management
- Improve information exchange through a task force group to support project development, approval and implementation
- Improve project outcome communication and involve alumni in research and partnership activities.

Ministry of Science and Technology

The meeting at MoST headquarters in Hanoi was attended by H.E Ambassador Robyn Mudie, Minister Chu Ngoc Anh and leaders of the related departments.

ACIAR and MoST signed a Memorandum of Understanding on 15 March 2018. At the meeting the two sides agreed on climate change as a joint research priority. While the meeting was at a higher level (i.e. with the Minister and Department heads) we agreed to organise a meeting soon to get into the detail of what areas MoST might be able to co-fund with ACIAR in research projects. Collaboration from MoST in basic research will complement the partnership between ACIAR and MARD that focuses mainly on adaptive research.

Ministry of Planning and Investment

During the visit, Dr Horne also met with MPI's new International Cooperation Director-General Dr Pham Hoang Mai. Dr Mai encouraged ACIAR to invest in research on climate adaptation for the Mekong Delta, in the context that Vietnam is developing a Master Plan for the region. ACIAR also discussed with Dr Mai cooperation to pave the way for smooth approval and deployment of new research collaboration projects.

On behalf of ACIAR and Australian partners, Dr Horne thanked leaders and managers from MARD, MOST, MPI for their active and efficient participation in the meetings and dialogues. The detailed contributions of Vietnamese partners in the 2020 dialogues will help ACIAR to consolidate and design new programs and projects that match Vietnam's development needs, while adopting the full strength of Australian capability in agricultural research.

Dr Peter Horne meeting with MARD Vice Minister Dr Le Quoc Doanh. Photo: Khanh Long.

Dr Peter Horne, ACIAR General Manager - Country Programs in an interview with Nhan Dan Television about ACIAR-Vietnam agriculture partnership. Photo: ACIAR Vietnam.

Dr Dao The Anh, Vice-President of Vietnam Academy of Agricultural Sciences talking with Nhan Dan Television about key areas that ACIAR has support Vietnam effectively. Photo: Khanh Long.

Regional alumni network: from research to policy impacts

Chu Doan Thanh, Ministry of Science and Technology
Dang Kieu Nhan, Can Tho University

The ACIAR Mekong regional alumni workshop was held on 18-20 December 2019 in Bangkok, Thailand. The workshop aimed to (1) exchange practical knowledge and experiences, lessons learned, and advice among researchers and governmental officials; (2) improve skills of translating research into policies and programs, and effective communications skills and understanding the mindset of policy makers; and (3) identify and agree the approaches to develop the regional cooperation and network.

Twenty-four John Dillon and John Allwright alumni (13 alumni of John Dillon Fellowship and 11 alumni of John Allwright Fellowship) from Cambodia, Laos, Myanmar, and Vietnam together with four ACIAR regional/country managers participated in the event.

Exchanges, discussions and learning were facilitated by Dr Elizabeth Clarke from the Australian National University, Dr Clemens Grünbühel and Ms Nguyen Phuong from the Stockholm Environment Institute in Asia, Ms Joy Hardman, and Ms Sara Webb from ACIAR capacity building team also joined the program.

The Workshop went through six sessions: (1) introductory activities; (2) advocacy and policy influencing; (3) policy needs and policy making process; (4) research design and stakeholder engagement; (5) research communication and impact capture; and (6) ACIAR's alumni strategy, capacity and network building. Interactions and learning among participants and facilitators came from different activities such as face-to-face talks, group discussions and presentations, dialogues, and role-playing games, etc.

The event was really helpful for alumni and ACIAR. First, it helped researchers and practitioners improve knowledge and skills on the bridging of research and through effective engagement of policy in research from design to implementation and application. Second, this was a good opportunity to promote ACIAR alumni and their collaboration in the Mekong region. Third, the workshop provided ACIAR useful information on how to support its alumni network for achieving research strategies in the region.

Two John Dillon fellows - Mr Chu Doan Thanh (first left, standing) and Mr Dang Kieu Nhan (third right, standing) represented alumni from Vietnam in this event. Photo: Dulce Simmanivong.

ACIAR Vietnam Country Manager awarded Public Service Medal

Photo: Patrick Cape, ACIAR.

Congratulations to ACIAR Vietnam Country Manager, Ms Nguyen Thi Thanh An, for being awarded a Public Service Medal (PSM) as part of the 2020 Australia Day awards for her outstanding contribution in fostering the Australia-Vietnam bilateral relationship in agricultural research.

Below is An's interview conducted by the Australian Public Service (APS) Commission recently, which revealed some insights about how she started with ACIAR and her career aspirations.

First, tell us about yourself briefly and how you came to join the APS?

I began in the Australian Public Service in 2004, as a public affairs manager at the Department of Foreign Affairs and Trade at the Australian Embassy in Hanoi. I have a background in Communications with a Master in Communications for Development from the University of Queensland.

In that role I started to see, under the Australian Centre for International Agricultural Research (ACIAR) program, how Australian and Vietnamese scientists conducted useful research to help Vietnamese farmers improve their livelihood. This excited me and I applied for a job with the ACIAR program when the chance came. I was lucky to join ACIAR in late 2007.

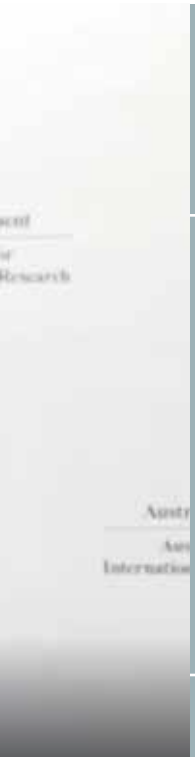
Now tell us a bit more of your current role or the role for which you received the PSM? What was your first reaction to receive this honour? What does receiving this honour mean for you?

Since 2015, I have been the Country Manager of ACIAR Vietnam, responsible for facilitating a collaborative research program between Australia and Vietnam. I see myself as a matchmaker for these partnerships, someone who helps ACIAR Vietnam achieve its long- term goals.

I remember my joy when I first saw my name on the Public Service Medal list. It's on a special day this year too - it was Australia Day, as well as the second day of the New Lunar Year. It all amplified when the messages congratulating me flooded in through email and social media from hundreds of colleagues, partners and friends.

To me this honour is not only for my work, but also an acknowledgement of the contribution of many people: my team at ACIAR (from Hanoi, Canberra and over the world), officials at all levels of the Vietnamese government, colleagues at the Embassy, Australian and Vietnamese scientists and partners. I am especially grateful for my supervisor, Dr Peter Horne.

We are all proud to have received this honour, and we're encouraged to do even better.



'In my position, the biggest challenge is to always maintain common ground with all stakeholders. Everyone has their own priorities. Sometimes it takes a long time for everyone to reach an agreement. But it is effort worthwhile'

Looking back at your APS career so far, what would you say is THE highlight? And what has been the biggest challenge?

I am fortunate to be a coordinator between Australia and Vietnam in research for agricultural development. One highlight is to manage the process of building a comprehensive strategy. We had to first reach a deep understanding of the needs for research and development of different regions and different sectors of agriculture in Vietnam. Then we combined it with Australia's expertise to create a 10-year vision. This is a more comprehensive strategy, requiring the contribution of more partners than ever before. It took us about a year to complete which has been approved by both governments.

In my position, the biggest challenge is to always maintain common ground with all stakeholders. Everyone has their own priorities. Sometimes it takes a long time for everyone to reach an agreement. But it is effort worthwhile.

Looking forward, what, in your view, can be improved or done differently in the APS to serve the public better? Where do you see yourself in the future APS?

I will loosely answer the question from ACIAR's perspective, as my main experience in APS has been with ACIAR. Its mission is to raise knowledge on sustainable agriculture and increase productivity, for the benefits of partner countries and Australia itself through research partnership.

I want to emphasise 'partnership' here. I think ACIAR is already doing a good job. I'm happy to see that ACIAR has started to focus on public communications in recent years by building a network of communications officers who work closely with ACIAR offices around the world.

In order for the public of Australia and partner countries to understand and support the program even more, we need to communicate well and tell our stories better. Our communication must change as our partners change. Vietnam used to be a poor country. Receiving international aid then was necessary. But Vietnam has become a middle income country. Vietnam together with Australia co-investing in a research program for the benefit of both countries is what we should do at this stage. In fact, Vietnam's financial contribution over the research collaboration has started to increase for our program. This is more about ownership of the program and that, we are working as equal partners toward a common goal.

For my part, I see myself continue support the program and do my best to maintain and get stronger commitment from Vietnam. I am looking forward to seeing even more tangible and beneficial results for agriculture industries of Australia and Vietnam.

50th anniversary of the Soils and Fertilizers Research Institute

Tran Minh Tien, Soils and Fertilizers Research Institute

Experiment in net house. Photo: SFRI.

ACIAR Vietnam congratulates the Soils and Fertilizers Research Institute (SFRI) on its 50th anniversary. We thank SFRI for the close partnership in soil research over the past years and wish to continue the efficient collaboration in our future joint projects.

The Soils and Fertilizers Research Institute was established on 6 March 1969 by the Decision No.13/NN-QD of the Ministry of Agriculture with only 46 staffs and four research laboratories. Then, SFRI was rearranged by the Decision No.220/2005/QD-TTg on 9 September 2005 of the Prime Minister. Accordingly, SFRI is a public science unit belonging to the Vietnam Academy of Agricultural Sciences (VAAS), and has functions on scientific research, technology transfer, producing and trading in the areas of soil, fertilizer and microbiology across Vietnam. SFRI now has 180 staffs with six research divisions, three functional departments and four research centres.

Throughout 50 years of establishment and development, SFRI has significantly contributed to Vietnam's agricultural development. Some outstanding achievements are: conducting oriented basic scientific research in the fields of soil; issuing the Soil Map of North Vietnam (scale 1:500,000); participating in the Soil Map of Vietnam issuance (scale 1:1,000,000); conducting soil mapping, agricultural land use mapping and building soil database at small – medium – large scale at regional, provincial, district and commune levels; implementing the Food and Agriculture Organization's soil analysis method in several localities as a groundwork for agricultural production planning, forming specialised areas and arranging crop structure nationwide, etc.

The mid-term review meeting of the 'Improving maize-based farming systems on sloping lands in Vietnam and Laos' project. Photo: SFRI.

SFRI also successfully applied and transferred soil classification systems adopted from Russia, United States Department of Agriculture, and the World Reference Base for Soil Resources. This is an important step in making soil classification terms consistent in the context of international integration.

In recent years, SFRI has been actively participating in building scientific and practical basis so that agricultural specialties are registered for intellectual property rights. Thanks to SFRI's work, numerous native plants have been recognised authorization, geographical indication protection, trademark and collective mark by the Intellectual Property Office of Vietnam. This helps contribute to the improvement of products' reputation and competitiveness, supporting the product's brand name both in domestic and international markets.

In the fields of fertilizers and plant nutrition, SFRI researches and evaluates the efficiency of using fertilizers on several plants in different soils at seven agro-ecological regions, especially nitrogen, phosphorus, potassium, organic fertilizers, etc. The results revealed limited factors of the soil in relation with crop/crop system, ecological zones and seasons. The detection of rotating appearance of elements such as nitrogen, phosphorus, potassium and other microelements as well as the introduction of appropriate combinations of agricultural microorganism has supported the effective, sustainable and balance use of land and fertilizers and better re-utilization of farming and ranching's by-products.

Furthermore, SFRI highly considers the importance of researching and implementing microorganism use in order to improve soil fertility, productivity and plant quality in agricultural production, especially in organic and clean agricultural production. Recently, SFRI has collected, preserved, evaluated and exploited efficiently the soil microbiological resources. SFRI now preserves more than 700 microbiological gene resources, including bacteria, fungi, actinomycetes and yeasts, which are important resources for researches into developing microbiological products used in agriculture, creating probiotics processing agricultural by-products, heavy-metal pollutions and soil improvement, forming functional probiotics that support handling environmental pollution, increasing plant productivity, saving production cost and developing clean and sustainable agriculture.

For half a century, SFRI has developed fruitful cooperation with research institutes, universities and enterprises around the globe on scientific research and technological development. Especially, the Institute has been one of ACIAR Vietnam's long-term partners for over the past 27 years. SFRI and ACIAR have collaborated on 11 projects, two of which are now in operation, namely SMCN/2014/049 *'Improving maize-based farming systems on sloping lands in Vietnam and Laos'* and FST/2016/152 *'Developing and promoting market-based agroforestry and forest rehabilitation options for Northwest Vietnam'*. Collaboration with Australian partners through ACIAR projects has helped improving SFRI's research capacity and contributed greatly to the development of the Institute over the last 50 years.

GREAT empowers local women

The Gender-Responsive Equitable Agriculture and Tourism (GREAT) Program promotes gender equality and women's economic empowerment, with a focus on the ethnically diverse provinces of Son La and Lao Cai.

Funded by the Australian Government with A$33.7 million from 2017-2021 and delivered in partnership with the Government of Vietnam, GREAT partners with the private sector, government agencies and NGOs to create opportunities for women within the agriculture and tourism sectors. GREAT seeks to influence change by empowering local women, promoting business partnership and improving sector governance and policy.

The program is taking a market system development approach to remove barriers that prevent poor and ethnic minority women from participating in markets, and mobilising resources from the private sector. Over the past 12 months, GREAT has recruited 46 partners. Early successes include:

- Local cooperatives have been connected to major retailers such as Big C
- Over 11,0000 women, including nearly 6,000 ethnic minority women have new knowledge and skills in agriculture, processing, tourism and business
- Innovations have been introduced to lower labour costs, improve quality and productivity in areas such as: seedlings service capacity, standardised greenhouses to produce new seedlings with high value, introduction of bamboo shoot boilers, organic standard application in tea and spice markets, and application of low cost non-woven fabric in flower production.

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Thai bamboo growers in Van Ho, Son La are packaging dried bamboo shoots - CRED Bamboo project. Photo: GREAT project.

Aus4Innovation: a partnership on innovation in science & technology

Make use of waste from dragon fruit, researchers from VNUA succeeded in making new value added products from dragon fruits such as jam, wine, juice. All products do not require artificial additives. Photo: Tran Thi Dinh, Vietnam National University of Agriculture.

In January 2019, the Aus4Innovation's Science Commercialisation Partnerships (SCP) program commenced. It is a collaboration between Australia's national science agency The Commonwealth Scientific and Industrial Research Organisation (CSIRO), and Vietnam's Ministry of Science and Technology, through its National Agency for Technology Entrepreneurship and Commercialisation Development. The collaboration is supported by the Australian Government through Department of Foreign Affairs and Trade (DFAT) and CSIRO.

The SCP program enters its second exciting year and it focuses specifically on building innovation capacity and creating partnerships in Vietnam's agriculture and food sector.

Activities for early 2020 include: (1) continued mentoring and training for Vietnamese universities and research institutes in science commercialisation practice – incorporating elements of sustainability, inclusivity and commercial success; and (2) exploring different approaches to research-industry partnerships in Vietnam. Pilot SCP partnerships are reducing food waste in the dragon fruit supply chain, using nanotechnology to reduce the environmental impact of over-fertilisation on high-value crops, and remediating contaminated water and soil using biofilm products, etc.

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The quarantine regulators 2020 meeting in Vietnam

The Quarantine Regulators Meeting (QRM) 2020 will be co-hosted by the Plant Protection Department of Ministry of Agriculture and Rural Development of Vietnam and the Australian Department of Agriculture, Water and Environment in Ho Chi Minh city in late 2020.

After co-hosting the 2012 QRM, Vietnam will co-host the 2020 QRM this year. The Agriculture office at the Australian Embassy in Hanoi helps organise and run the event. The 2020 QRM continues the overarching three-year theme of 'Advancing Biosecurity Systems through a Success Oriented Plan'. The 2018, 2019 and 2020 QRMs are focusing on different aspects of designing, implementing and managing a biosecurity system.

Established in 2008, the QRM is an annual forum to discuss biosecurity and border management. Agencies involved in the management of biosecurity from South-East Asia, South Asia, the Americas and Pacific region have participated in previous QRMs. The meetings support the harmonisation and best practice of biosecurity border management, trade facilitation and capacity building.

QRMs are co-hosted by the Australian Department of Agriculture, Water and Environment (DAWE), and a rotating co-host. Typically, Australia provides the majority of the funding with the co-host also contributing. Australia's funding is provided by DAWE. In 2019, the meeting held in Panama was attended by 59 delegates, representing 31 international biosecurity agencies. Representatives from the Standards and Trade Development Facility run by the World Trade Organisation and the World Bank were also in attendance.

Note: As a result of the spread of the novel Coronavirus, the event may be cancelled or postponed, which is out of control of event organiser.

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QRM attracts the participations of agencies involved in the management of biosecurity from South-East Asia, South Asia, the Americas and Pacific region. Photo provided by the Agriculture office.

Ms Dinh Thi Xoa, a Muong ethnic woman, established Van Ho safe vegetable cooperative. The cooperative has 27 household members. Thanks to her management and support, all members have got 8-10 times higher incomes. She has inspired other farmers in the region. Photo: Khanh Long, TTXVN.

Improved policies for Vietnam's timber plantations

Rod Keenan, Vu Tan Phuong and Tran Dai Nghia

Acacia log for furniture, Minh Anh Co. Ltd, Huong Thuy town. Photo: Rod Keenan.

The Government of Vietnam has set a national goal to become an upper-middle income country by 2035 through balancing economic prosperity with environmental sustainability, promoting equity and social inclusion and enhancing the capacity and accountability of the state. Forest sector strategies to support this goal include restructuring state enterprises, developing functioning land markets, increasing participation in global value chains, fostering innovation, internalisation of environmental costs, and building climate resilience.

The contribution of production forestry to agriculture sector growth and broader economic development has increased. Forested area reached 13.7 million ha (41.7% of total land area) in 2018. The plantation area has grown rapidly, with 4.2 million ha of plantations (29% of the forest area in 2018, mostly acacia and eucalypt species) and over 1.5 million ha managed by smallholder. Wood production from plantations in Vietnam increased from 12.5 million cubic metres in 2005 to 18.5 million cubic metres in 2018, with most wood (about 98% in 2018) exported as semi-processed woodchips (Phuc *et al.* 2019).

Timber furniture manufacturing has also been growing rapidly, with Vietnam becoming the world's fourth largest furniture exporter, with the value of wood furniture exports reaching US$9.34 billion (about A$16 billion) in 2018, 15.7% higher than 2017. The furniture sector annually needs 8-9 million cubic metres of round wood, but most domestic plantation timber is not the right quality, and about half their wood is imported from other countries. This sector mostly sells to international markets with increasing demands to demonstrate timber legality and sustainability. While timber plantations promoted under current policies have played a valuable role in expanding the forest area, they are generally not managed to produce the quality of logs required for sawing or furniture markets.

The Government is preparing a new Forest Development Strategy for post 2020 to set a vision for the sector in 2045 and key actions for the next decade. The goal is to increase smallholder plantations ownership, increase production of larger logs for the export furniture sector, improve environmental outcomes from plantations, and demonstrate the legality and environmental sustainability of plantation-grown wood.

Research project on *Improving policies for forest plantations to balance smallholder, industry and environmental needs in Lao PDR and Vietnam* (projects ADP/2014/047 and FST/2019/021) involve Australian universities and partners in Laos and Vietnam working to support new policies

to achieve national goals for forest plantations. The project team have analysed current laws and policies, interviewed policymakers, industry actors, and investors, investigated social benefits and impacts of plantations. The project also analysed some other related issues such as financial returns, supply chains and national economic impacts.

Key findings

Growing short rotation plantations for woodchip in Central Vietnam is highly profitable for smallholder growers. A range of factors drive their preference to grow trees on short rotations (Box 1). Policies aiming to support a rapid shift away from short rotation production for woodchips may have adverse consequences for smallholder.

Box 1. Key barriers to smallholder tree growers producing larger and higher quality logs

- Grower needs for short-term cash flow;
- Low price difference between small sawlogs and woodchip logs;
- Perceived risks of storms and disease from growing trees longer to larger size;
- Lack of information on silvicultural requirements for larger log production;
- Lack of information exchange between processors and growers on log prices and quality;
- Group pressure for small owners to sell all timber at once from an area;
- Costs of harvesting larger logs;
- Lack of incentives for traders to promote or sell larger logs.

Taxes (for example woodchip export taxes) introduced to change markets and encourage a shift to solid wood products and furniture production have been ineffective, because smallholder growers do not directly experience market effects of the tax. The project found producing larger logs over a longer rotation can potentially provide better returns to smallholder than chip logs (because growers do not have to replant as often, and therefore costs are lower) but the returns take longer (Table 1).

Results from a survey of 100 households in four villages in Thua Thien Hue province indicated that some higher-income HHs have diversified timber production to include longer rotation plantations, but most households were only moderately interested in this option. They were aware of the potential higher returns, but their decisions depended on available resources, access to support and perception of risks (Box 1).

Given the current strong markets, plantations have positive impacts on rural livelihoods and wellbeing, including financial and income benefits, social status, psychological benefits such as self-esteem, and the ability to influence other community members. In the studied communities, plantations provide nearly half the household income: 25% from timber sales and 22% from plantation wage labour. However, the distribution of land amongst households is uneven. Early households engaged in forestland allocation policy were commonly allocated larger land areas. They now have higher incomes, better tree growing knowledge and stronger networks with other growers and the industry. Incomes have increased for those with smaller land areas (<2 ha) but they lower income, vulnerability, lower capacity and less community influence. It is estimated that a minimum of 4-5 ha is required to ensure enough income for households

Table 1: Financial returns from three different density and rotation age of acacia plantations

Financial indicators	5-year rotation		6-year rotation		10-year rotation	
	7% DR	12% DR	7% DR	12% DR	7% DR	12% DR
Net Present Value, NPV (US$/ha)	1,148	762	1,802	1,222	4,865	2,972
Benefit Cost Ratio (BCR)	1.51	1.37	1.80	1.61	2.82	2.39
Internal Rate of Return (IRR)	27%	27%	31%	31%	33%	33%
Annual Equivalent Value (AEV) (US$/ha)	280	211	378	297	693	526

Note: AEV is annual equivalent value, discounted NPV of investment. DR is discount rate (Maraseni et al., 2017b)

to escape poverty based on plantation timber production.

Given their high profitability, demand for forestland has risen. But State Forest Companies want to keep their most productive and profitable plantations to generate income to provinces and pay workers. Conflict over plantation land has increased, and concerns about transparency and accountability, lack of grievance mechanisms, and poor communications is eroding trust between provincial forest managers and local communities.

Policy recommendations

The project team is recommending that the Government undertake analysis to identify suitable areas for converting short-rotation plantations to longer-rotations for larger logs, considering tree growth rates, sawmills locations, slope and harvesting access. Building capacity in cooperatives or other tree growing support groups to provide smallholder with advice on larger log production and facilitating access to high-quality seedlings is also important. As is considering options for managing risks in longer rotation plantations due to storms or disease losses such as insurance, government or industry underwriting or disaster risk compensation.

The team also recommended implementing a pilot program to provide grants or conditional loans to smallholder to convert from short to long rotation plantations. Another option might be integrated into Policy on Payment for Forest Environmental Services (PFES). Longer rotation plantations have higher average carbon stocks. Smallholder could be paid to convert to longer rotation by the Forest Protection and Development Fund. This cost could be met by fossil fuel energy generators who, unlike hydropower generators, currently do not make payments to the fund. This form of payment is currently in operation in Australia. Sawmillers and furniture producers can support linkages in their value chains to provide information on the benefits of longer rotations and pay more for logs with increased value.

Communities in plantation areas generally had a positive view of the effect of plantations on their environment Independent Forest certification can demonstrate environmental sustainability of wood supplies and can provide high prices for larger logs. However, the project found that smallholder growers bear most of the costs of certification, but the processors get most of the market benefits. Smallholder cooperatives of can spread the costs of certification, but a minimum of 3,000 ha (perhaps 1000 – 1500 growers) is required to get base costs to an acceptable level.

The team found that current environmental regulations for plantations were unrealistic, complex and contradictory. Regulations lack clarity and have high transaction costs that may exacerbate non-compliance. A national code of practice for forest plantations, defining high risk environmental impact areas with clear regulations for allowed activities and training and education programs for provincial and district staff, forest growers, state forest enterprises, harvesters and traders would help reduce the impacts of plantation harvesting. Owners with plantations in areas of high environmental risk, such as steep slopes, erodible soils, or along streams could be provided with payments to convert to native tree species.

Conclusions

Acacia and eucalyptus plantations have had a very positive impact on the livelihoods and environment in rural Vietnam, restoring forest cover, reducing erosion and flood risk, and increasing incomes for smallholder farmers. Implementing policies to extend rotations and improve log quality, raise environmental standards, and enhance social outcomes can generate wider economic, social and environmental benefits for the broader community. These results will be presented shortly to Vietnam policymakers. Further research is required on managing the risk of damage from typhoons and disease in longer-rotation plantations, incentives to increase carbon stocks and carbon stored in wood products, determining the right balance in ownership between state forest enterprises and smallholder, and the content and design of training programs and peer learning platforms to support wider adoption of higher value timber production.

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Early outcomes of the beef cattle project in Dien Bien

Stephen Ives and Le Thi Thanh Huyen

Making forage in a beef farm. Photo provided by the project.

Dien Bien is a mountainous province in Northwest Vietnam with a population of 567,000 people, of whom 85% percent live in rural areas and 48.14% living in poverty (MOLISA, 2016). The findings of the ACIAR LPS/2008/049 project indicated that although small scale beef chains have been established in the province, linkages among actors of these chains such as producers, slaughtering and retail remain weak.

Local producers wanted to increase herds of cattle with better access to financial resource for production, fodder seeds and technical trainings. An opportunity to integrate beef cattle production with cropping systems and improve linkages between beef cattle supply and the consumer, with a focus on a market-oriented, more intensive beef production, and downstream interventions (i.e. food safety and certification) was identified by this project.

The project 'Intensification of beef cattle production in upland cropping systems in Northwest Vietnam' (LPS/2015/037) is a five-year project that started in the Dien Bien province in 2017. The aim of this project is to improve the income of smallholder farmers in the mountainous regions of Northwest Vietnam through intensifying beef cattle production and improving market linkages. Although the Vietnamese Government are promoting livestock production for the highlands, farmers are faced with managing an intensifying crop–livestock system on a limited land resource. Crop cultivation, rice, maize and cassava are popular crops, while buffalo, beef, pig and chicken are popular in livestock production. Local producers mainly supply the local market in Dien Bien. Specific objectives to be achieved by the end of the project include: *(1) understanding the transition from extensive to intensive beef production; (2) developing technologies/strategies to support the intensification; (3) improving farmer links to markets; and (4) build capacity in the livestock value chain to sustain the industry over the longer term.*

During the first two years, certain outputs have been produced. The project team undertook a Livelihood Analysis to understand the transition from extensive to more intensive beef cattle production, and to understand more about the situation on local livelihood and develop baseline data for future interventions in Dien Bien and Tuan Giao districts. The cattle production-based livelihood analysis focused on evaluating local livelihood assets; production strategies, especially cattle production and marketing strategies, gender roles, and institutional processes that affect the development of local livelihood of smallholder farming households. Further, the livelihood analysis considered the variation among farm household types, particularly with regard to their current level of transition from extensive to intensive cattle production systems, their resilience and ability

to cope with livelihood stresses and shocks, and their aspirations, motivations and enablers/barriers to change.

The project is also exploring innovative forage production systems that will be effective for intensification of livestock systems. A survey on forage production systems was carried out parallel with the livelihood survey to assess the diversity of livestock farms in Dien Bien and Tuan Giao districts and to characterise their livestock practices and use of resources. Using the livelihoods survey as a base, the first season of field- based forage trials have been designed, implemented and preliminary results analysed. The trials included investigating the viability of planting oats (*Avena* spp) within two crop rice rotation in the lowlands to take advantage of residual moisture, as well as assessing the yield potential of maize grown specifically for silage for cattle feed. Feeding trials have also been implemented in the Dien Bien Breeding Centre, with researchers and DARD staff trained in livestock research methodology, body condition scoring and animal welfare and ethics.

In addition, the project has also implemented activities for market development. Training/ workshops on value chain thinking, rapid value chain analysis and implementation of innovations have been undertaken to enhance capacity in developing and supporting market linkages. Six new cattle production interest groups have been established that consist of multiple actors and stakeholders in the value chain, in addition to the existing groups (single actor groups - farmers only) being maintained. Two cooperatives have been established in Dien Bien (beef value chain) and Tuan Giao (breeding cattle value chain) districts with the involvement of slaughterhouse, supermarket, collectors and champion member of interest groups; interest groups as supported satellites.

The project has carried out different capacity building activities for local stakeholders, particularly cattle farmers. Farmer-to-farmer visit (Dien Bien to Dak Lak) in August 2018 (cross boundary) for a peer to peer exchange between project farmers in Dien Bien and champion farmers in Dak Lak was organised to investigate practice changes. After the visit and training by Dien Bien DARD, some farmers began to produce silage feed for their cattle.

Further to specific objectives, the project has collaborated with other ACIAR and non-ACIAR funded projects in the study region. Three cattle shelters were constructed in Dien Bien by Australian and Vietnamese architecture students. These collaborations have resulted in the capacity building of 35 students within 2 years, cofounded by the New Colombo Plan. Shared field site visits were organized in cooperation with the second Agroforestry Livelihood Improvement (AFLI 2) project to share experiences in the midterm review meeting of AFLI project. The project also collaborated with ACIAR gender project (AGB/2017/008) in Tuan Giao district. Furthermore, beef project ACIAR LPS/2015/037 has a co-organization for the implementation of the action "Trade-off and synergies of integrating intensive Livestock production with Agroecology in Mountainous regions (TAG)", in the framework of ACTAE regional project "Towards Agroecology Transition in the Mekong Region" funded by AFD (French Agency for Development) and CIRAD in Tuan Giao district. During last months many international and national students have good chance to implement their internship in the frame of the project.

Finally, the project has initiated a process of cross boundary knowledge creation through a strategy of developing multi-disciplinary and multi-institutional research teams for each objective. This is a relatively new concept for our project partners, as objectives, activities and associated budget have traditionally been allocated to an institution. Although the project team have been challenged by this endeavour, we are already seeing the benefits. After activities, almost all researchers and DARD officers have realized the importance of the cross-boundary approach in implementing a project. From the beginning up to present, the linkage between the institutions has clearly increased, as has the capacity of junior researchers. Furthermore, the local DARD is actively involved in all project activities, not only in administration but also in research and in extension. These are expected for the sustainable development in near future.

References:

MOLISA. (2016). List of poverty provinces and cities in 2015, basing on the criteria in guideline for the period of 2016-2020 (attached to the decision No. 1095/QĐ-LĐTBXH on 22/08/2016. Hanoi.

ACIAR LPS/2008/049: Overcoming technical and market constraints to the emergence of profitable beef enterprises in the north-western highlands of Vietnam

ACIAR project: LPS/2015/037: 'Intensification of beef cattle production in upland cropping systems in Northwest Vietnam'

More information:

Dr Stephen Ives, Project Leader, University of Tasmania, stephen.ives@utas.edu.au.

Visiting a champion farmer in Dak Lak province. Photo provided by the project.

Peer to peer farmer exchange provides stimulus for practice change

Stephen Ives, University of Tasmania

An initiative to break down barriers in the ACIAR funded project LPS/2015/037 'Intensification of beef cattle production in upland cropping systems in North-West Vietnam', has been a peer to peer exchange activity.

I have worked in Vietnam since 2011, and except for the first year when I lived in country, I have been a 'seagull' researcher (fly in fly out). I have experienced all seasons, a variety of food and beverage, local transport, overnight sleeper buses (not great when you are a height of 195 cm) and dubious hotels. These experiences have helped me to remain grounded and authentic in my approach to working with our research partners.

It is our local research partners that ensure the success of research projects, so we have worked hard to establish healthy and equitable relationships within our team and between our contemporaries. However, maintaining these relationships is challenging with the tyranny of

A beef farm in Dak Lak province. Photo provided by the project.

distance and time constraints. The email is effective in conveying direct information, but its only visual and sound communication that can pick up the nuances of body language and voice tone. To some extent, real time video chat programs have helped, but face to face remains the 'ideal' way to communicate. This form of communication can break down the barriers of culture and language, as more than once have I used drawings and hand gestures to successfully convey my message.

An initiative to break down barriers in the ACIAR funded project LPS/2015/037 *'Intensification of beef cattle production in upland cropping systems in North-West Vietnam'*, has been a peer to peer exchange activity. We realised that uptake of new research methods often occurs after researchers have talked to researchers, so why wouldn't the same work with farmers. Instead of organising a conference, we organised a group of farmers and extension staff from Dien Bien province to visit a group of progressive and innovative farmers in Dak Lak province. While our Dien Bien farmers had the knowledge, it was not until they talked to another farmer who had tried and tested the innovations that they were confident about the potential of beef production.

We did not realise how effective this initiative was until we found out a week later that within 24 hours of returning to their homes, the Dien Bien farmers implemented changes to their production systems. The changes included stall feeding, forage production, producing maize silage, utilisation of crop by-products and enthusiasm for new information from the researchers. More visits are planned for 2020.

We believe this initiative was successful because it used an authentic approach. There were no bells and whistles, no promises for tomorrow and no deals. Just authentic stories from one farmer to the next. As we participate in research-for development projects, we need to continually remind ourselves that despite all the new technologies and innovations, it is the authentic experiences and stories that stimulates attitude and practice change.

ACIAR project: *LPS/2015/037: 'Intensification of beef cattle production in upland cropping systems in Northwest Vietnam'*

More information: *Dr Stephen Ives, Project Leader, University of Tasmania, stephen.ives@utas.edu.au.*

Maize being sown conventionally in a field with burnt maize residues. Photo: Ngo Duc Minh, SFRI.

Improving maize-based farming systems on sloping lands

Michael Bell, University of Queensland

The project is working in a dynamic and changing environment, with sloping lands of Northwest Vietnam and Northeast Laos undergoing rapid land use change in response to the 'maize-boom' – an explosion in demand for maize triggered by the animal feed industry.

At the recent mid-term review in Moc Chau district, Son La province in November 2019, the maize project had the opportunity to reflect on the original project intent (to diversify these maize-based systems while improving profitability and sustainability), review achievements to date and refine our focus for the final 18 months or so of project activities. This is a dynamic time for agriculture in these regions, and the collaboration between SMCN/2014/049 and its 'sister' projects (beef, temperate fruits) has been important to ensure the development of locally relevant solutions to systems problems.

The project is working in a dynamic and changing environment, with sloping lands of Northwest Vietnam and Northeast Laos undergoing rapid land use change in response to the 'maize-boom' – an explosion in demand for maize triggered by the animal feed industry. Rapid increases in the areas sown to maize occurred initially on steeply sloping lands in Northwest Vietnam and have continued across the border in Northeast Laos. The production boom has been driven primarily by ethnic minority smallholder farmers, with a common market in the feed mills outside Hanoi.

While maize continues to figure strongly in the economies of both regions, the lustre has come off maize a little due to declining maize prices and growers are looking for alternative options to grow with, or replace, maize. Soil erosion and declining fertility on maize lands have also led communities and governments to question the role that maize and maize-based cropping systems will play in the future, with the introduction of new provincial policies that incentivize adoption of perennial species such as fruit trees and coffee on maize land in Son La, or restrict the use of key conservation cropping management options like herbicides in Houaphan, Laos.

Against this backdrop, the agronomic focus of the project was initially on quantifying the costs and benefits of different maize-based systems options (conservation tillage, increased use of legumes for groundcover or grain production, grassed strips for cut-and-carry forage and erosion control). However, it is now diversifying to include alley cropping with fruit trees and using conservation tillage principles to support a shift out of maize into tree crops. These newer foci are in response to the income gap that occurs until tree crops start to produce income, and the fact that conventional bare soil management in and under young trees is at least as vulnerable to erosion as fields sown to maize – if not more so!

The agronomic work is being supported by extensive livelihood surveys in communes that span a spectrum from subsistence economies with little marketing of produce, through highly maize-focussed systems and then into systems that are rapidly diversifying (mixed cropping, fruit trees/coffee) or have moved on from maize completely. The data from these studies, combined with analysis of the risks and opportunities associated with different stages of systems diversification, will provide a very useful blueprint for governments and agribusinesses who are guiding and supporting smallholder in the change process. The project is supporting the development of strong cross-border collaboration between farmers, traders, researchers and the extension community in Northwest Vietnam and Northeast Laos, with the emerging role of traders and input suppliers in technology transfer and access to markets one that will hopefully speed the change process and ensure an on-going legacy for the future.

ACIAR project: *SMCN/2014/049: 'Improving maize-based farming systems on sloping lands in Vietnam and Lao PDR'*

More information: *Professor Michael Bell, Project Leader, the University of Queensland, m.bell4@uq.edu.au.*

Soil erosion and declining fertility on maize lands have also led communities and governments to question the role that maize and maize-based cropping systems will play in the future

Guinea grass strips regenerating at the beginning of the wet season in a recently sown maize field. The strips help to control erosion and provide cut and carry fodder for livestock. Photo: Ngo Duc Minh, SFRI.

Vietnamese and Australian researchers together with representatives of organisations at the workshop. Photo: ACIAR Vietnam.

Greenhouse gas emission reduction options in agriculture

Max De Antoni, Queensland University of Technology

The Institute of Agricultural Environment in Hanoi on 24 and 25 September 2019 hosted the workshop *'Greenhouse Gas Emission Reduction Options in Agriculture: supporting Nationally Determined Contributions in Vietnam'.*

The workshop, run in collaboration with researchers from the Queensland University of Technology and the University of Melbourne, marked the beginning of a two-year project to identify the best agricultural strategies to meet Vietnam's pledges to the Paris Agreement. The project leverages the success of carbon farming offset methods and recent international mitigation and adaptation research to: *(1) define the potential to apply carbon farming/climate smart principles by identifying emission-reduction options appropriate to Vietnam; (2) develop a governance checklist that Vietnam could use to identify, adopt and manage locally appropriate mitigation options and/or offset methods, including identifying requirements to account for these in their Paris commitments;* and *(3) provide a more detailed analysis of potential co-benefits, existing capacity gaps and gender considerations in relation to implementing carbon farming options.*

During the two-day workshop, Vietnamese and Australian researchers analysed the issues and challenges faced by the crop, livestock and agroforestry sectors in mitigating and adapting to climate change. Specifically, discussions focused on the gaps in the research and the priorities that should be addressed to increase the mitigation potential of the Vietnamese agriculture sector.

The next phases of the project will focus on identifying data repository platforms that could streamline data sharing among Vietnamese and international scientists and policymakers, and identify how current scientific and policy settings could be improved to fully capture Vietnam's potential to reduce greenhouse gas emissions.

ACIAR project: *LWR/2017/029: 'Agriculture based emission-reduction options to supports NDCs in Vietnam and Fiji'*

More information: *Professor Peter Grace, Project Leader, Queensland University of Technology: pr.grace@qut.edu.au.*

Key participants joined in the agricultural value chain finance workshop held in Hanoi on 6 December 2019. Photo provided by the project.

Understanding the building blocks of agricultural value chain finance

Alan de Brauw, Truong Thi Thu Trang and Nguyen Le Hoa

The Inclusive Agricultural Value Chain Finance project aims to increase knowledge about how to design and implement innovative and inclusive agricultural value chain financing models in Myanmar, Indonesia, and Vietnam. In these countries as elsewhere, it is often hard for smallholder and other participants in agricultural value chains to invest in new crops or technologies, deal with risks and shocks, and safely carry wealth from harvest to planting. Present opportunities, including new technologies and markets, suggest that conditions are ripe to overcome the long-standing challenges to expanding agricultural finance in all three countries. As such, the first goal of the project is to both increase the understanding of agricultural value chain finance models and approaches in all three countries. Another goal is to enhance awareness of agricultural value chain financing models.

The project defines 'agricultural value chain finance' as follows. It refers to formal financing that affects at least three value chain participants: a financial institution, an end borrower, and at least one other facilitator or beneficiary. The third party is also a value chain participant and can either be directly or indirectly involved in providing finance to the end borrower. Direct involvement could involve taking on formal loans to provide informal trade credit financing upstream or downstream in the value chain, or purchasing a wholesale insurance product, while indirect involvement could include providing information, a guarantee, facilitation of loan collection, in-kind distribution of inputs, or some other support that reduces the risk of lending to specific end borrowers.

In meeting both initial project goals, it is important to be able to place agricultural value chain financing within the context of agricultural finance, and policy related to agricultural finance, in all three countries. Some policies can be particularly helpful to foster agricultural value chain finance, such as:

- Letting the market set formal interest rates
- A legal framework for collateral alternative to land, including movable property such as inventories or accounts receivable
- A warehouse receipts system, so that crops can be safely stored and potentially borrowed against

In Vietnam there are supposed to be small loans available to smallholder farmers without a collateral requirement; however, in practice the paperwork is apparently so onerous that farmers do not apply for the loans

- An established regulatory framework for contract farming, so that participants in a contract know enforcement of the contract is possible by regulatory means
- Inclusive payment systems and transaction frameworks, including the ability to send money quickly by digital means
- Technology driven financial architecture, allowing potential entry by non-traditional financial services companies

The project has conducted a policy review in all three countries, and reports on agricultural value chain finance will be released in all three countries early in 2020. We find that fixed interest rates for some formal agricultural loans exist in each country, so the market is not being allowed to fully set interest rates. Along other policy lines, there is quite a bit of heterogeneity. In Myanmar, there are some loans that are allowed without collateral, and technology driven financial architecture has some potential, but other conditions are not met. In Vietnam, a mix exists; whereas technology driven financial architecture exists as evidenced by the numerous mobile money vendors, contract farming opportunities would be enhanced with further regulation, as would loosening collateral requirements. In Indonesia, the policy architecture is furthest along, as there is some progress along all five points beyond interest rates above. Nonetheless, Indonesia does lack an overarching regulatory framework for contract farming.

Two further points became apparent during our review. First, in both Indonesia and Vietnam, a primary feature of agricultural finance is one dominant state-owned bank that does almost all of the formal lending. In Indonesia, it is the Bank Rakyat Indonesia. In Vietnam, it is the Vietnam Bank of Agricultural and Rural Development (Agribank). In Vietnam, in fact, the Agribank is the only bank with branches in all provinces. As a result, any policies or reforms that might try to liberalise rural finance would or could substantially affect those banks.

Second, in both Indonesia and Vietnam there are some policies that are in place and look good on paper, but in practice they are not being implemented well. For example, in Vietnam there are supposed to be small loans available to smallholder farmers without a collateral requirement; however, in practice the paperwork is apparently so onerous that farmers do not apply for the loans. Similarly, in Indonesia a warehouse receipts system exists on paper; however, it is not being used by many farmers at present. In both countries, it is important to conceive of ways to not just write down improved policies but ensure that they are user-friendly enough so that they are used.

The project team recently presented its research on this framework in a workshop in Hanoi, Vietnam. Participants included researchers, NGOs, government officials, bankers, and representatives of international agricultural organisations. Feedback suggested that participants found the comparisons to Vietnam useful, and if anything would have liked to see more countries included. A second issue was the role of microfinance, which plays a relatively large role in Myanmar, in part because of the dearth of rural finance in general there, whereas it plays an active but small role in Vietnam. In the latter, one challenge is that approved microfinance must first pass regulatory requirements, which require some scale to planned lending before they can be cost effective. Finally, participants agreed that the information technology environment is changing quickly and can play an important role in agricultural value chain finance in the future.

In the second phase, the project team is seeking to test models of agricultural value chain finance with partners. By models, the project is specifically interested in finding partners to test the use of alternative forms of collateral, new credit scoring methods, or other technological solutions as substitutes for 'business as usual'. The tests would be by randomised control trial to ensure that we can measure the cost effectiveness of these models for potential scale up.

ACIAR project: *AGB/2016/163: 'Innovations in Whole-of-Chain Financing for Agriculture'*

More information: *Dr Alan de Brauw, Project Leader, International Food Policy Research Institute, a.debrauw@cgiar.org.*

JAF 2021 receiving applications till 30 June 2020

Are you a Vietnamese scientist and actively involved in a research project supported by ACIAR? Are you interested in studying in Australia? Then, you could be our next scholarship winner!

ACIAR 2021 John Allwright Fellowship (JAF) Program is now open for applications!
JAF offers an amazing opportunity to agricultural researchers who are keen to take a postgraduate qualification at one of Australia's outstanding universities.

Deadline: 30 June 2020 at 11.59 pm AEDT.
Apply online: http://oasis.dfat.gov.auv
More info: https://www.aciar.gov.au/Capacity-Building/John-Allwright-Fellowship

Launch Fund applications 2020 -2021 now open

Under its Capacity Building program ACIAR provides financial assistance to organisations or groups of individuals wishing to conduct or attend events that directly benefit capacity development in international agricultural research through the Launch Fund. The aim of the financial assistance is to develop knowledge, skills and capacity required to achieve ACIAR mandate to build productive partnerships for effective international agricultural research.

ACIAR places a high priority on the dissemination and communication of knowledge gained through our research projects, and the contestation and verification of the scientific and developmental approaches.

In line with ACIAR Gender Equity Policy, funding applications need to ensure equitable voice and access for men, women and gender diverse people. Funding applications should also promote the work and role of ACIAR.

ACIAR provides a total of A$250,000 per annum for Launch Funding, decided through the application process and managed by the Training Committee. A typical financial limitation for support under a research program area is approximately A$30,000.

The criteria for evaluating Launch Funding applications include:

- **Likely development of skills and knowledge to improve international agricultural research**
- **Likely development, or maintenance of, research partnerships to improve international agricultural research**
- **Alignment with ACIAR 10-year strategy**
- **Alignment with Gender Equity Policy**
- **Outreach and communication outcomes for ACIAR**

Deadline: 11 May 2020
Apply online here: https://bit.ly/2Q3tgqp

Meet our fellows

John Dillon Fellowship

Established in 2002 in recognition of Professor John L Dillon's life-long commitment to agricultural research, the John Dillon Fellowship (JDF) supports the professional development of outstanding mid-career agricultural scientists, economists and researchers. For cohort 2020, ACIAR is pleased to welcome the below fellows from Vietnam.

Dr San Tram Anh - John Dillon fellow 2020

Scientist, Sub-institute of Agricultural Engineering & Postharvest Technology

Dr San Tram Anh is a postharvest scientist in the Sub-institute of Agricultural Engineering and Postharvest Technology, Ho Chi Minh city. She has involved in different local and international collaborative projects in postharvest technology and fruit processing.

Dr Anh completed a PhD in plant physiology and postharvest technology in 2017 at the University of Queensland, Australia. In 2015, Dr Anh received the International Crawford award to support the attendance at Tropical Agriculture conference, and the best poster winner award in the XI International Mango Symposium.

Her interests and career are focused on undertaking Research and Development to underpin, support and grow the profitability of horticultural industries. At present, she is working with specialisation in fruit physiology, postharvest technology and food safety. She is also involved much in the training of industry and researchers in the application of postharvest technology and part of food safety.

Dr Vu Dinh Huong - John Dillon fellow 2020

Director, Southern Center of Application for Forest Technology & Science Forest Science Institute of South Vietnam

Dr Vu Dinh Huong is a principal forestry scientist with more than 20 years of experience in sustainable plantation productivity research. His major are forest soils, nutrition, tree physiology and forest plantation.

Dr Huong was awarded John Allwright Fellowship in 2010 and graduated from the PhD program at the University of Tasmania, Australia in 2016. He applied for John Dillon Fellowship because the fellowship is a great opportunity for him to be trained with the advanced knowledge in his major and to develop his leadership skills in agricultural research management, agricultural policies and agricultural extension in Australia. After returning from study, Dr Huong would be willing to share and exchange knowledge with his colleagues for the development of forest and agriculture in Vietnam. He currently lives and works in Binh Duong province, Vietnam.

Ms Vu Hoang Yen - John Dillon fellow 2020
Principal official, Department of Agricultural Economy
Ministry of Planning and Investment

Ms Vu Hoang Yen is a principal official for the Department of Agricultural Economy under Vietnam's Ministry of Planning and Investment. She has been working there for over 10 years since her graduation from the Vietnam National University of Agriculture. As a government official, she contributes to most of the recent agricultural policy development programs, such as the *'Scheme on development of agricultural plant and forest tree varieties, livestock breeds and aquatic strains up to 2020'*, the *'National target program for rural water supply and sanitation'*, and the *'National target program on new rural development'*. While Yen has been passionate about policy development, she has also tried to apply the policies into implementation. She has involved in several projects, such as the *'Northern mountains poverty reduction project',* and some other ODA's projects, including ones with ACIAR in agricultural policy. That is also the reason for her to apply for John Dillon Fellowship. She wishes that she could learn useful skills to better develop policies and to coordinate with other partners in better ways.

Meryl Williams Fellowship

Funded by ACIAR, the Meryl Williams Fellowship supports women in agricultural research for development to enhance their leadership skills and increases their impact through a combination of immersive learning, mentoring, networking and professional development. The first cohort of the Fellowship, run by University of New England and Coffey International Development, welcomes four scientists from Vietnam to participate in a variety of activities that take place across a 15-month period from January 2020 to April 2021.

Dr Pham Thi Hoa - Meryl Williams Fellow, 2020-2021
Specialist, Lam Dong Crop Production and Plant Protection Sub-Department
Lam Dong Department of Agriculture and Rural Development

Dr Hoa has over 12 years' experience working as a specialist at Lam Dong Crop Production. Her work includes forest health surveillance, data and sample collection, pesticide trials and identification of nematodes and fungi that cause forest disease. She also plays an important role in reducing Vietnam's reliance on chemical fertilizers that potentially poison the soil and give rise to a proliferation of pathogens. Dr Hoa works directly with farmers urging them to apply bio-pesticides that work in harmony with beneficial and indigenous soil organisms.

Dr Hoa has also worked as a Deputy Director on an agricultural product quality safety enhancement program funded by the Asian Development Bank and as a researcher at the Lam Dong Forest Research Center, Vietnam National Forest Institute. After completing a Master in Forestry Science at the University of Melbourne with the support of an AusAID scholarship, Dr Hoa went on to gain her PhD at the Zhejiang University in China, furthering her technical knowledge and gaining experience working in international contexts. Dr Hoa's research focus is on pine disease. She aspires to find solutions to control pine wilt nematodes which have damaged pine plantations in Lam Dong for more than 2 decades and by doing so contribute to improved agricultural production in Vietnam.

Dr Tran Thi Thuy Ha - Meryl Williams Fellow, 2020-2021

Director of Centre for Aquaculture Biotechnology
Research Institute for Aquaculture No.1

As an executive at her institute, Dr Tran Thi Thuy Ha is both a researcher and a manager and is passionately invested in deepening the culture of research and application of biotechnology in aquaculture.

Dr Ha heads up research on selective breeding programs for vital fish species including tilapia and cobia, seed production for freshwater species such as the common carp and DNA barcoding for catfish.

She holds a PhD on biotechnology in aquaculture from Hiroshima University Japan, completed in 2009 and has worked and trained all over the world including in Finland, France, Australia and the United Kingdom.

Dr Ha is a natural team-builder and an outgoing networker. She regularly delivers guest lectures to Master of Science programs internationally, has published numerous articles and consults on research programs within her field.

Dr Hoang Hai Ly - Meryl Williams Fellow, 2020-2021

Lecturer, Department of Horticulture, Faculty of Agronomy
Hue University of Agriculture and Forestry

Dr Ly specialises in crop physiology. Her research interests are in the physiological and phytochemical response of plants under environmental stress; plant secondary metabolites of medicinal plants and their roles in defence systems to better understand plant's tolerance mechanisms.

Growing up in a coastal region of Vietnam, Dr Ly is acutely aware of the impacts of climate change on agricultural production, her home region suffering from extreme drought and salinity. Understanding how plants cope with this stress and finding ways to improve their defence mechanisms has been the driving force behind Dr Ly's academic career.

She undertook her Master in Crop Science in 2011 at Hue University, Vietnam and completed a PhD in Horticulture in 2018 at University of the Philippines. In 2019 Dr Ly and her research team were awarded first prize in ninth technically creative contest in Thua Thien Hue province, Vietnam.

Ms Trinh Thanh Thao - Meryl Williams Fellow, 2020-2021

Researcher, Cuu Long Delta Rice Research Institute, Vietnam

As a researcher in Cuu Long Delta Rice Research Institute, Thanh Thao is responsible for the management and implementation of agricultural research projects. Thanh Thao is a proven collaborator and has contributed to numerous international projects in the agricultural economics sector such as development of rice and shrimp farming system in coastal area of the Mekong Delta, gender programs of by the International Rice Research Institute. She has also presented and published papers in various conferences and journals.

Thanh Thao grew up in the rural Mekong Delta. During her childhood, she witnessed the adversities faced by farmers living in poverty despite their hard work and the surrounding natural resources. As a young woman she was motivated to study agricultural economics and hopes that her research can help these communities achieve a better livelihood.

Her dedication paid off when she was awarded a full scholarship to obtain a master's degree at KOICA - Kangwon National University, Korea, completing in 2019. Thanh Thao is passionate about empowering women to become scientists.

Interview with a farmer

Mr Quang Van Thuy is the leader of a 'So thich' group (Hobby group) of raising cow in Quai Nua commune, Dien Bien province and a beneficiary of the ACIAR project LPS/2015/037 'Intensification of beef cattle production in upland cropping systems in North-West Vietnam'. The project aims to build and support ethnic minority farmers of So thich groups in Tuan Giao and Dien Bien districts to develop intensive beef farming, increase animal husbandry's productivity and efficiency through technical interventions, such as planting food crops, processing and preservation of forage, agricultural by-products, fattening techniques and linking farmers to market. Mr Thuy is one of the pioneers among those So thich groups that involve in growing pastures. He converted inefficient rice and maize land to grow the forages introduced by the project, including VA0 6, Guine, and Mulato II. The project guides him to compost and store forages to ensure high quality and sufficient quantity for the whole year. This helps reduce the work of herding cattle and cutting grass, and at the same time increase cow herds and its productivity.

Can you tell us about yourself briefly?

My family has been growing 5,000 m2 of forages and raising around 12-15 cows.

How do you engage with ACIAR projects in Vietnam?

I have voluntarily participated in the ACIAR project in my commune because I think that the beef cattle project is the right direction and suitable for the current socio-economic development situation of my community. The project will bring high economic efficiency, which contributes to fast and sustainable poverty reduction.

What do you like most about working with ACIAR?

Everyone has equal rights to raise their opinions and join in the discussion. We find suitable solutions together and apply new technology and equipment. I enjoyed working with the project because of their approach and effective way of working.

What are your plans in the future?

Encouraging and mobilising more people to adopt the new farming method of growing large area of forages, focusing on raising beef cattle and introducing new technology.

Looking forward to working with ACIAR project in the longer term and more comprehensively, serving as a bridge between farmers and project teams, domestic and overseas investors.

Farmer Quang Van Thuy in his forages. Photo provided by the project.

Please share one of your most memorable experiences with ACIAR projects?

I am very proud of being able to access and join in this project. I feel very honoured and happy. Thanks to the project for the first time in my life I have travelled a returned flight by airplane to visit farming models in Dak Lak province. I hope the ACIAR project would give farmers like me more opportunities to visit and learn about farming models of other countries, such as Thailand and France etc.

Interview with a researcher

Ms Tran Thi Bich Ngoc is the Vice Head of Animal Feed and Nutrition Department of the National Institute of Animal Sciences. She has been involving in various activities, such as the forage and by-product agriculture processing and preservation, development of new adapted forage, development techniques of feeding beef cattle for household farms in the ACIAR funded project 'Intensification of beef cattle production in upland cropping systems in North-West Vietnam'.

Visiting a forage trial farm in Nua Ngam commune. Photo: Trinh Thi Hong, Dien Bien DARD.

Can you tell us about yourself briefly?

After getting a bachelor's degree in animal sciences and veterinary in 1997 at the Hanoi University of Agriculture, I began working at the National Institute of Animal Sciences. Until now, I have had over 20 years of experiences in doing research, new technical advance transferring on livestock production system, and improving the utilisation of available locally feed resources for ruminants and non-ruminant in smallholder farms. During my graduate studies, I did some activities relating to sustainable livestock production based on local feed resources, integrated livestock - aquaculture - crop systems in South-East Asian countries, such as Laos, Cambodia, Thailand and Vietnam.

How do you engage with ACIAR projects in Vietnam?

I was not a member of the project at the beginning. I knew about this project through my colleague, Associate Professor Dr Le Thi Thanh Huyen who is the project coordinator. Then I participated in the project inception meeting and shared my ideas and comments as a project member. At the end of the meeting, Professor Dr Vo Chi Cuong, former project leader, asked me to be a team leader of the technical component. I am very happy to take over that role because I think that the project's objectives are relevant to my field of research.

What do you like most about working with ACIAR?

I love our diverse team, of which members come from different institutions and different countries. We work very well together, and we could communicate our thoughts, opinions and feelings clearly and openly in a positive and respectful manner. Everyone always listens and understands each other and shares their experiences during all discussions on

project activities. For example, our scientists Melanie (the French Agricultural Research Centre for International Development, France) and Rowan (University of Tasmania, Australia) could understand key points that Vietnamese members discuss though there is no translation. I am happy to work with both Melanie and Rowan, who are foreigners in our team, but they can understand and value ideas and perspectives from other members without any strong debating and arguing. Our foreign scientists contributed valuable practical solutions to help farmers during all field visits.

What do you dislike most about working with ACIAR?

It is difficult to control the trials on animals and forage even if we have good plans. For example, we conducted the oat trial on farm in Tuan Giao district last year, however the commune set up irrigation system without informing us, which made our oat field flooded and affected our results.

Can you share one of your most memorable experiences with ACIAR projects?

I was very impressed with the visit to Australia in September 2019. It was the first time in my life I saw sheep and cows grazing leisurely in the vast grass field. I was really surprised with the big automatic irrigation system on the vast pasture. At that time, I thought that if farmers in Dien Bien district could set up a small automatic irrigation system for grass planted around gardens and steep hills, their cattle would have enough green forage during the winter.

What are your plans in the future?

I will continue my research work on exploiting, developing and improving the use of feed resources for animals in Vietnam. My research will help farmers enhance their income through increasing animal performance and decreasing the feed cost.

Checking the quality of maize silage at a farm in Nua Ngam commune. Photo: Trinh Thi Hong, Dien Bien DARD.

Grilled Beef Spring Rolls

Recipe by Ms Nguyen Thi Xe, Phuong Chi village, Cat Tien commune, Phu Cat district, Binh Dinh province. This is a typical dish of Central Vietnam.

Ingredients

- 600-800g beef (preference - tenderloin or fillet)
- 300g lettuce
- 1 cup basil
- 1 cup Thai basil or mint leaves (can substitute with other herbs)
- 50g bean sprouts
- 1 cucumber (around 150 g)
- 1 package rice paper

For marinade

- 3 bulbs minced lemongrass
- 1 bulb minced garlic
- 1 tbsp vegetable oil
- 1 tsp salt
- 2 tbsp sugar
- ½ tsp pepper powder

For dipping sauce

- 100 g roasted and peeled peanuts
- 150 g tomato
- 2 sliced chilli
- 4 cloves sliced garlic
- 2 tbsp water
- 2 tbsp fish sauce
- 2 tbsp sugar

Method

Slice the beef.

Marinate the beef with minced lemongrass, minced garlic, vegetable oil, salt, sugar and pepper powder for 20 minutes.

Dipping sauce preparation:

- Combine peanuts and tomato into a blender and blend for 2 minutes.
- Preheat oil in the frying pan, add 2 garlic cloves and stir-fry until they turn light brown.
- Add the mixture of peanut and tomatoes to the frying pan. Add sugar and keep the stove at low-med heat for 3 minutes. Set aside the mixture in a bowl.
- Add lemon juice, garlic, sugar, fish sauce and chilli into the mixture. Stir evenly to mix all of the flavours together.

Wash the vegetables and herbs. Trim to 5 to-7 centimetres length. Slice cucumber into 5 to 7 centimetres strips.

Grill the marinated beef in the oven or on the grill (preference - charcoal grill).

Prepare a flat plate. Place rice paper on the plate and add vegetables and grilled beef on top. Fold right and left sides of wrapper over filling. Fold bottom edge up over filling and roll up tightly. Serve with dipping sauce.

Photo: Vu Bao Khanh

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