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**Australian Centre for
International Agricultural Research**

Annual report

project

Advancing enhanced wood manufacturing industries in Laos and Australia

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prepared by Barbara Ozarska, Adam Redman and Hilary Smith

*co-authors/
contributors/
collaborators* Peter Kanowski, Ken Boer, Stuart Ling, Bounchanh Lattनावongkot,
Khamtan Phonetip, Latsamy Boupha, Benoit Belleville.

approved by

1 Progress summary

The project research activities conducted within three project objectives are progressing well with significant achievements made which have been documented in scientific papers, reports and draft reports. The main areas of progress are summarised below:

Work under Objective 1 continues to operate within the dynamic forestry policy context in Laos, engaging with many opportunities to contribute to the future governance environment for plantations and the plantation wood sector. Project researchers have been actively contributing to the ongoing reviews of the Forestry Law and Land Law (both approved by the National Assembly in June 2019) as well as other relevant policies and legal instruments. Research findings continue to be considered in a range of other processes including the development of the Voluntary Partnership Agreement (VPA) with the European Union, the Green Growth Strategy, a REDD program and the review of Forestry Strategy 2020, which commenced in January 2019.

The analysis of value chains of the Lao PDR plantation resource is well advanced. Field work has been completed for two teak value chains in Sayaboury and Luang Prabang, and for the rubberwood value chains in Northern Laos-China.

An inventory of teak plantations in Luang Prabang has been completed and calculations of standing volume have been made. Landscape analysis of Luang Prabang teak is complete and the impact of current and future major land developments on the teak resource has been undertaken. A report on the results of these activities has been drafted and provided to the Department of Forestry. Mapping of plantations of different species and in other provinces has begun with rubber plantation mapping in Luang Prabang province complete.

Significant achievements have been made on the identification and testing of governance mechanisms likely to enhance the Lao plantation wood value chain for domestic processing. The project is currently monitoring and participating in several government and development partner programs which are considering mechanisms for increasing participation in the plantation sector, including an IFC-funded program addressing outgrower schemes, and a World Bank project addressing, amongst other things, a Public-Private Partnerships Decree and policies to promote SFM and certification and with the FLEGT VPA process. The project is also actively engaged with plantation companies who have been testing different models for the participation of local people in plantation projects.

For Objective 2, the main achievement was the installation of a veneer peeling and plywood production research facility at NUoL which has allowed the project team to undertake research and training on Lao plantation resource characterisation (veneer peeling and grading, veneer recovery, and engineered wood products development and performance assessment). Veneer processing has already been added to the university curriculum for the Faculty of Forestry.

To date, studies on the characterisation of Laos teak, eucalyptus and rubberwood to produce EWPs have been completed.

Within Objective 3, intensive training on resource characterisation and product development has been undertaken for VALTIP3 researchers, students and industry.

Two gender and forestry workshops held in Luang Prabang and Vientiane. The workshops engaged tree growers, workers and industry partners, government and educators in facilitated discussions about gender and forestry in the context of the broader project focused on advancing enhanced wood manufacturing industries in Laos and Australia. A report was written which includes recommendations for VALTIP3 project to encourage an integrated and sustainable approach to gender and forestry knowledge generation and practice in Lao PDR.

1.1 Communication and dissemination activities

Workshops, seminars, collaborative meetings and conferences

An Annual Workshop was held on 11 October 2018 at the FoF, NUoL, to provide an update on the project and the official launch of the new Research Centre at FoF by the Australian Ambassador. The Workshop was followed by VALTIP3 Policy Reference Group meeting and VALTIP3 Technical Reference Group meeting.

Hilary Smith co-convened a technical workshop on the Legal Framework for Tree Plantations in Vientiane from 3-4 October 2018. The workshop was organized by DoF and DOFI, with the support of GIZ and ACIAR.

Mr Bounchanh attended the workshop entitled IT Solutions for Sustainable Forest Management in South East Asia in Singapore on the 29th Nov 2018.

In January 2019, Hilary Smith presented at a National meeting on the Wildlife Law in Laos. Hilary presented results of a project to develop a “Wildlife Legality Compendium” which builds on the method developed for legal mapping during VALTIP2.

In April 2019 Hilary Smith and Soythanvann Mienmany attended the National Conference celebrating the 20th Anniversary of NAFRI. Hilary presented on Policy research for plantations in Lao PDR and Vietnam: Results and recommendations (a joint presentation for VALTIP3 and the ACIAR LVPPP).

On 22 April 2019 Hilary Smith, Khamtan Phonetip and Somvang Phimmavong met with Department of Forestry to present research results from Objective 1 and discuss future research activities.

On 23 April 2019 Hilary Smith attended a meeting of plantation projects to discuss the development of applications for plantation supply chains. The meeting was convened by PEFC.

On 24-25th April 2019 attended a meeting with Ministry of Industry and Commerce (Department of Industry and Handicrafts), convened by GiZ to workshop the Ministerial Decision on Chain of Custody for wood processing.

On 26th April 2019, Stuart Ling and Bounchanh attended a Plantation Registration Consultation Workshop to discuss the draft guidelines on plantation registration issued by the Division of Forest Plantation Promotion and Rehabilitation within the DoF.

On May 2 2019, Hilary Smith attended a workshop of the Pro-FLEGT technical working group for Plantations to review the timber legality definition for plantations in preparation for the Lao-EU VPA negotiations in May 2019.

During a project visit from 22 April to 3 May 2019, Hilary Smith organised and participated in a number of meeting with industry, government and development partners, as summarised in Table 1.

Table 1

Date	Organisations	Purpose
22 April	Department of Forestry	Update on project activities (objective 1). Discussion about ongoing and future activities. Discussion about data availability for plantation mapping.
23 April	IFC, PEFC, VALTIP3, LATARP, Trimble, Innova	Meeting on projects developing applications for plantations and plantation grown wood.

Date	Organisations	Purpose
23 April	Stora Enso Laos	Requesting access to company plantation data for Obj 1.3
23 April	Burapha	Requesting access to company plantation data for Obj 1.3
24 April	MOIC	Workshop on MOIC on Chain of Custody Decision
24 April	CDE	Access to land concession data and other sources of relevant information
25 April	MOIC	MOIC on Chain of Custody Decision
25 April	FERN	Contract farming law, CSO activities and research on contracts and dispute resolution processes.
26 April	NAFRI	Presentation on plantation policy research at NAFRI Seminar
29 th April	World Bank	World Bank and ACIAR project synergies
29 th April	SUFORD	SUFORD method for mapping for plantations on degraded PFA. Advice on accessing GIS data from FIPD General discussion about current policy changes for plantations especially for plantations in PFAs
29 th April	Mekong Timbers	Requesting access to company plantation data for Obj 1.3
29 th April	VFI	Rubber value chain research
30 th April	NAFRI	Data for plantation mapping Rubberwood value chain research
2 nd May	FLEGT Office	Plantation Legal Framework road map meeting

From 17-21 June 2019 Mr Bounchanh attended the Asia Pacific Forestry Week in Incheon, Republic of Korea.

An important event for VALTIP3 was a visit to the Engineered Wood Products Research Facility in the NUoL by Delegation officials from ACIAR and the Australian Ambassador to Laos Mr Jean Bernard Carrasco, in March 2019 (Figure 1). Dr Adam Redman and NUoL researchers demonstrated the facility's log peeling, veneer grading, drying and panel production capabilities. Dr Redman also presented results from the forest resource-value characterisation studies, and the innovative wood product development trials, undertaken by the research team for industry investors. While in Laos, the delegation also visited a small-enterprise sawmills owned by Mr. Niphone and Mr. Khamla, in the northern province of Luang Prabang. Work by the project team on-site to improve sawmill layout and modify the drying kiln has increased profitability of this small business by 30 percent.



Figure 1. Delegation officials from the ACIAR with the NUoL research team, out the front of the new Engineered Wood Products Research Facility.

2 Training activities

Intensive training was provided to the Lao project team and students from Faculty of Forestry, NUoL during Year 2 of the project term. The list of training activities has been provided in Table 2.

Training at NUoL EWP's facilities focused on peeled veneer grading, quality characterisation and product development for plantation eucalypt, teak and rubberwood (Figures 2 – 5).

Mr. Khonethong Soukphaxay from the FoF at NuoL participated in value chain assessment of rubberwood in Northern Laos.



Figure 2: Training on veneer gluing by Rod Vella, DAF.



Figure 3. Training for two Lao researchers from NUoL on veneer production at Salisbury Research Centre, Brisbane.



Figure 4. Young VALTIP3 researcher, Khonethong trains students on veneer grading



Figure 5. Veneer Production and Veneer Grading Workshop provided for year 3 and year 4 students by Dr Benoit Belleville, UoM.

Table 2. Record of training provided within VALTIP3 Project (2nd Year, July 2018 – July 2019)

No	Name of Training	Dates	Names of trainers	No. trainees	Where they were from	No. women	Location of the training
1	Field work to collect farmers' information for Ms S Meinmany's PhD thesis	5-10/7/18	Dr Hilary Smith	2		1	At Ban Tad Kacham, Xieng Nguen District
2	Field work to collect farmers' information for Ms S Meinmany's PhD thesis	2-7/8/18	Dr Hillary Smith	2		1	At Ban Houeyphang, Ngoi District
3	South East Asia-National Governing Bodies - collaboration workshop organised by PEFC	1 st Oct.2018	South East Asia PEFC team		South East Asia PEFC		Faculty of Forestry Science, Vientiane
4	Training on ASEAN consultative on standards and quality working group2: Forestry certification capacity building for future cooperation	2 nd Oct.2018	South East Asia PEFC team		South East Asia PEFC		Faculty of Forestry Science, Vientiane
5	Engineered Wood Product Development Training – funded by The Crawford Fund	2-12/9/2018	DAF team	3	Mr. Outhit Sayavong, Dr. Oudone Sichaleune and Mr. Saysamone Phengmounkhoun		DAF, Brisbane
6	ACIAR workshop on developing DNA-based chain of custody systems for legally-sourced teak	25 – 26/9/2018			NAFRI		Luang Prabang
7	Plywood and Composite Products Workshop	15 -19/10/2018	Valtip3 and Australian Team	27	Students and staff of the Faculty of Forestry Science	10	Faculty of Forestry Science, Vientiane
8	Veneer products and adhesive applying Workshop	25 –30/11/2018	Mr. Rod Vella, Dr Adam Redman & Dr Benoit Belleville	27	Students and staff of the Faculty of Forestry Science	9	Faculty of Forestry Science, Vientiane
8	Veneer production and Grading Workshop	29/4 -8/5/2019	Dr. Benoit Belleville	21	Students and staff Faculty of Forestry Science	3	Faculty of Forestry Science, Vientiane
9	Lecture for FOF, NUoL students about timber as a sustainable and renewable material for the construction sector.	10/05/2019	Dr. Benoit Belleville		Bachelor students at the Faculty of Forestry Science	70	Faculty of Forestry Science, Vientiane

Appendix 1: Record of FOF Students' Projects – 2nd Year of the Project term

No	Student Name (Female – F, or Male - M), and Year of study	Project Title	Project Duration (Dates)	Supervisors	Project Summary: objectives, species studied, type(s) of product (if applicable) and major results.	Final grade achieved for the project
1	Mr. Bounyou Phanouvong	Standing tree solar drying	5/3-14/5/2019	Dr. Khamtan Phonetip and Pongkee	The project aims to analyse the moisture content reduction over time and temperature within the solar drying application unit. Teak is used for this study.	To be defended in early of July
2	Miss Bouanloy Sisolath	Timber durability and protection against termite attacks for timber used in construction	1/6/2018- 24/1/2019	Douangta Bouaphavong and Dr. Oudone Sichaluene	The project aims to compare the rate of termite attacks on various timber species.	To be defended in early of July
3	Mr. Somsay Khamboudaphanh	Improving drying schedule for teak	10-26/3/2019	Dr. Khamtan Phonetip and Douangta Bouaphavong	This project aims to simulate drying condition using a standard drying schedule for conventional kiln. Teak is used in this study.	To be defended in early of July
4	Mr. Somluert Keolakhone	Investigating bamboo flattening method	18-30/4/2019	Dr. Khamtan Phonetip and Pongkee	This project aims to compare the capability of three different thicknesses of bamboo in flattening process	To be defended in early of July
5	Miss. Sunti Thammavong	Labour cost for women in wood processing sectors	4/3-4/4/2019	Dr. Somvang Phimmavong and Savath Keophila	This project aims to compare the payment between women and men in a wood factory, and analyse the workers perspectives on their duties	To be defended in early of July
6	Mr. Phetsakhone Sayasan	Assessment of properties of veneer products made with different amount of adhesive.	2-5/2019	Sithatha Boupha and Phoulouang Chunlamounty	This project aims assess the physical and mechanical properties of plywood with different proportions of adhesive	To be defended in early of July

7	Miss Euang Suliya	Veneer processing technique	24/2-25/3/2019	Sithatha Boupha and Phoulouang Chunlamounty	This project aims to study the veneer processing, recovery rate and grading of veneer of <i>Eucalyptus cammaldulensis</i> and Hybrid K7 timber from Burapha Company.	To be defended in early of July
8	Miss Donekeo Suthammavong	Strength assessment of veneer products based on an adhesive applied in different proportion	2-5/2019	Khonethong Suphasay and Sithatha Boupha	Processing techniques and to assess the strength of veneer based on an adhesive in different proportion.	To be defended in early of July
9	Mr. Phimmalay Boualapha	Recovery rate assessment of lumber produced from squared log and ripping methods	4-5/2019	Sithatha Boupha and Dr. Oudone Sichaluene	The aim of this study is to assess and compare the grading quality of two different sawing methods	To be defended in early of July
10	Mr. Seeyu Bounmanee	Furniture processing	25/2-12/4/2019	Khansay Khammanivong and Khamtan Phonetip	This study aims to develop a furniture processing technique and analyse the cost on the produced product.	To be defended in early of July
11	Mr. Phosay Inkeo	Wood anatomy of teak	29/1-30/4/2019	A/Prof Latsamy Boupha and Pongkee	This project aims to study the anatomical properties of teak.	To be defended in early of July
12	Mr. Hongsuvan	Production of a modern tea table using Epoxy adhesive	3-4/2-19	Khansay Khammanivong and Lothim Saetern	This project aims to study how various production factors influence the quality of the tea table product made with epoxy adhesive.	To be defended in early of July

