



Market Chain Analysis of Rattan in Ban Beng and Ban Tha, Nakhonpheng District, Salavan Province, Lao PDR



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Acronyms

AFC	agro-forestry consultant
BCAMP	Biodiversity Conservation and Management of Protected Areas in ASEAN
BTN	Bamboo Traders' Network
DAFO	district agriculture and forestry office
DOF	Department of Forestry
FRC	Forest Research Centre
LHA	Lao Handicraft Association
NPA	national protected area
NTFP	non-timber forest product
NUOL	National University of Laos
PA	protected area
PAFO	provincial agriculture and forestry office
PRA	participatory rapid assessment
PXT NPA	Phou Xieng Thong National Protected Area

Executive Summary

This study was conducted to explore the potential for supporting sustainable rattan production and its contribution to local livelihoods in Ban Beng and Ban Tha, Lakhon Pheng district, Salavan province. The findings of the study and its recommendations will be used in developing the management plan of Phou Xieng Thong National Protected Area (PXT NPA). The study was implemented by a small taskforce of agro-forestry consultants working closely with the Department of Forestry (DOF) and a team of district and provincial officers.

The rattan market chain study was conducted from 20 to 26 September 2020. The target communities were the two villages in Lakhon Pheng district, Salavan province. In Lakhon Pheng district, the team visited five offices: the district office of industry and commerce, district planning and investment office, district agriculture and forestry office, district Lao Women's Union, and district governor's office. In Salavan province, the team visited two offices: the provincial agriculture and forestry office and the provincial office of industry and commerce. At the same time, the team visited rattan shops and some market places in the town. At the village level, the team visited the two targeted villages, namely, Ban Beng and Ban Tha.

In Champasak province, the study team visited Ban Lak 29. This village has rattan producer groups working on rattan shelves for water purifiers, which they are supplying to TerraClear Company Ltd. This company is working on TerraClear Ceramic Water Purifiers but all water purifier shelves are made from rattan

After the field visits, the team organised a field debriefing meeting at the district level in Lakhon Peng to get feedback and to verify the data collected from the district and provincial officers. The debriefing meeting was organised on 25 September 2020 at the temple of Ban Tha.

In Vientiane, the team visited rattan and bamboo shops along Kuvien Road and the Anousone Rattan Handbag factory in Ban Dondeng, Chanthabuly district, Vientiane prefecture from 28 to 29 September 2020.

The main objective of the market chain study was to gather information on the input supply, rattan market outlets, and the current situation relating to rattan in the targeted villages of the Biodiversity Conservation and Management of Protected Areas in ASEAN Project. The main objectives were to provide recommendations and identify key interventions for community-based solutions relevant to the sustainable supply of rattan products and to improve income generation and employment opportunities among the people in the two targeted villages. These are integrated into the management plan of PXT NPA.

The study was based on the following eight dimensions, which formed the basis for this report:

1. Resource/Input supply
2. Technology/Product development
3. Market access
4. Organisation management
5. Regulation (policy)
6. Financial
7. Infrastructure
8. Cross-cutting issues (Gender)

A total of 146 villagers were engaged in and provided inputs to the rattan market study. Interviews were also conducted with 43 participants composed of villagers and village authorities (e.g. village chief, Lao PDR Women's Union, rattan handicraft producer, and village administrator). The interviews resulted in 20 key recommendations (10 at the village level and 10 at the district and provincial levels); these recommendations resulted in an agreed list of 22 key interventions for consideration in the development of the PXT-NPA management plan.

Ban Beng has greater potential than Ban Tha to promote rattan handicrafts. Currently, a rattan handicraft group exists in Ban Beng with 40 members. They produce rattan handicraft weaving products by accessing old markets and by relying on existing product designs. The main handicraft product of Ban Beng is rattan baskets with a very old-fashioned design produced in many different sizes. About 98 per cent of these products are exported to provincial markets and to Champasack province.

Based on the data gathered from a producer group in Ban Beng, the study team estimated the trade volume and value of the rattan products. The total value of rattan basket handicraft can be estimated to be around LAK 193 million (USD 21,444); this data is estimated for a half-year production of rattan handicraft in 2020 in Ban Beng. The main trade flow is from harvesting rattan to producing rattan handicrafts. Local handicraft traders in Ban Beng regulate the export of products to the provincial markets and to Champasak province. At times, the products are sold by crossing the border at the international check point from Vang-Tao in Pakse in Lao PDR to Ubon Ratchathani province in Thailand.

The team found that in Ban Tha, the market chain for non-timber forest products (NTFPs) — especially rattan shoots — is not yet developed, as the villagers have other alternative options to provide for their families. Based on the observations in the villages, there are limitations in terms of production and marketing, such as insufficient knowledge of market demands and business entrepreneurship. These limitations are detailed further in this report. The key constraint identified was that the villagers do not know market information of the rattan shoot; however, they are very interested in growing rattan shoots for future marketing in Thailand. To date, the villagers have been collecting seasonal NTFPs for daily self-consumption. When they have excess harvest, they sell the NTFPs collected for extra

income. They lack knowledge on processing and on how to add value to NTFPs to sell on a larger scale. Based on the results of the interviews and observations during the field visits, the study found that the villagers have many constraints but also have opportunities. One major obstacle in this area is the poor road access to the villages, especially during the rainy season. However, improving road access through the NPA would likely have negative impacts on the conservation of the NPA.

Before any support is provided to Ban Beng and Ban Tha to increase the marketing of rattan products from PXT NPA, a scientific assessment should be made focusing on the amount of rattan resources available in the NPA. Based on this scientific assessment, appropriate annual harvesting quotas should be determined for sustainable harvesting. Accordingly, the NPA and the district and provincial authorities should enforce these quotas. Livelihood assistance for rattan handicraft and rattan shoot product development and marketing could be provided to Ban Tha and Ban Beng communities. However, this should be based on ‘conservation contracts’, in which the communities will commit to certain conservation actions (e.g. reducing illegal logging, slash-and-burn cultivation, and unsustainable harvesting of NTFPs) in return for the assistance.

The findings and recommendations of this study are integrated as appropriate into the development of the PXT NPA management plan, which was prepared from November 2020 to June 2021.

Introduction

Background and Rationale

The ASEAN Centre for Biodiversity has been assisting the Department of Forestry (DoF) of the Ministry of Agriculture and Forestry, through National Protected Area Division, in conducting the baseline assessment of the non-timber forest products (NTFPs) and in identifying the promising key products for livelihood improvement in Phou Xieng Thong National Protected Area (PXT NPA). This was done under the supervision of the Biodiversity Conservation and Management of Protected Areas in ASEAN (BCAMP) project coordinator and in coordination with the DoF focal point, the ACB protected areas (PA) expert, and the NIRAS-BCAMP technical assistance team leader.

From 1 to 7 June 2020, the agro-forestry consultant (AFC) conducted a participatory rapid assessment (PRA) in the two targeted villages situated around PXT NPA Area, namely, Ban Tha and Ban Beng in Lakhon Pheng district, Salavan province. The PRA aimed to assess the use of NTFPs and the villagers' dependency on several NTFPs for their livelihood. The PRA was the first step towards ensuring that these valuable resources are sustainably managed and can continue to support the livelihoods of the communities in the future. The results of PRA for both villages found that rattan (i.e. rattan shoot and rattan canes) were the most promising NTFPs.

Rattan is a naturally renewable palm that has multiple uses — it can be used to build furniture, handicrafts, building materials, mats, kitchen and agriculture utensils, and its shoots are also consumed as food. Rattans are cheap, durable, and flexible materials used in people's daily lives in both developing and developed countries. Ecologically, the rattan fruit provides an important food for hornbills, primates, and elephants, each of which act as seed dispersers for the rattan. Several rattan species have morphological adaptations, which make them very suitable sites for ant nests. The ant also 'farm' scale insects that feed on the rattan phloem cells, secreting sweet honeydew that the ants then feed on. Loss of rattan species from the forest ecosystem therefore impacts and degrades forest ecology in several different ways and reduces the supply of ecosystem services that the forest provides. Therefore, rattan harvesting should be done sustainably, ensuring both the rattan supply and a healthy ecosystem in the long term.

Lao PDR has 51 identified species of rattan, and most of them are distributed from the central to the southern provinces. All species are used locally and commercially for food, shelter, and handicrafts. The domestic market is relatively small, and most of the rattan species are exported to neighbouring countries. It is estimated that the export market provides only a low return to local communities because no value addition to the products occurs in the country.

The existing rattan resources available in natural forests in all NPAs have not been assessed. Meanwhile, from the interviews with villagers and information from other

projects, resources across the country are rapidly being overharvested, placing some species at risk of local eradication (e.g. Wai Thone or *Calamus viminalis*). Rattan farming is still at an early stage given the ongoing open access to the remaining wild stocks.

Initial information indicates that the rattan handicraft subsector contributes only a small portion to the household income of the poor people who live in and around PXT NPA. Based on the results of the PRA study conducted from 1 to 7 June 2020 in two targeted villages in and adjacent to PXT NPA, it was found that rattan overharvesting, practicing slash-and-burn agriculture for cassava growing, and granting of land concessions are causing a rapid decline of the natural rattan supply. As such, the ACB, through the BCAMP project, engaged an AFC to conduct this rattan market chain study in collaboration with the district agriculture and forestry office (DAFO) and provincial agriculture and forestry office (PAFO). The study commenced from 20 to 26 September 2020 in two targeted villages of Lakhon Pheng district, Salavan province.

The BCAMP Project is a five-year project being implemented by the ACB with financial support from the European Union and technical support from Niras International Consulting. The assessment is done in collaboration with Lao PDR's DoF, and is the first step towards ensuring that valuable resources found in the PA are sustainably managed and could continue to support the livelihoods of the communities in the future. The project will support the development of the overall management plan for PXT NPA, aiming to craft a holistic and actionable plan that considers livelihood interventions, and accordingly contribute to the conservation and sustainable use of biodiversity in the area.

Objectives, Scope, and Location of Study

Objectives

The primary objective of this study was to develop a better understanding of the constraints and opportunities and to develop market based-solutions in Lakhon Pheng district in Salavan province as they relate to the handicraft production, marketing, and sales of commodities of rattan-based products and to people's consumption of rattan shoots for food. This knowledge will highlight key aspects to consider in implementing sustainable solutions to improve the livelihoods of the poor villagers living in and around PXT NPA as part of effective management of the NPA.

Salavan province

Salavan province in Southern Lao PDR covers an area of 16,389 square kilometres and has a population of 426,553, with a population density of around 26 per square kilometre. The province borders Savannakhét province to the north, Viet Nam to the east, Xekong Province to the southeast, Champasak province to the south, and Thailand to the west. Salavan City, the capital of the province, is located on a bend of the Se Don River, which flows through the province before emptying into the Mekong River at Pak Se.

The city serves as a nerve centre for supplying goods to the hinterland districts of the province. The city is the administrative, economic, and cultural hub of the province. Salavan province is one of the areas in Lao PDR that is still relatively rich in rattan stocks.

Figure 1 presents the map of Salavan province while Table 1 shows some information about the province and the study area.



Figure 1. Map of Salavan province

Phou Xieng Thong National Protected Area

Phou Xieng Thong National Protected Area (PXT NPA) (Latitude: 15° 19' – 15° 52' N; Longitude: 105° 23' – 105° 47' E) was designated a PA with 87,853 hectares of land area on 29 October 1993 under Prime Minister Decree No. 164. PXT NPA incorporates the Lao PDR side of the Mekong River and the adjoining hills eastward. In the east, its edge is well-defined by a steeply rising

escarpment to a low sandstone plateau. The dissected plateau drains westward into the Mekong River via numerous small streams. Rocky flats and flat top conical hills are its dominant terrain feature. Its elevations range from 100 metres on the banks of the Mekong to a maximum 716 metres of Phou Nangam on the southern escarpment.

The climate is tropical monsoon with high rainfall (1,250 millimetres per annum at Khongxedone) during the monsoon and a pronounced six-month dry season. Semi (dry)-evergreen forest is the predominant forest type. Dry dipterocarp forest, mixed deciduous forest, and bamboo are patchily distributed. The semi-evergreen forest in the northern part has been subject to commercial logging as late as 1992. Widespread cutting and hand sawing of timber for cash income still occurs. The various forest types and other terrestrial habitats form a complex habitat mosaic. Extensive flats of bare rock or thinly vegetated by grass and shrubs are a prominent terrain feature (DOF, 2016).

PXT is the only national protected area (NPA) in the Mekong River and extends along some 100 kilometres of its course (20 kilometres of which is uninhabited), including both rocky and sandy riverbanks. Its area contains extensive tracts of little disturbed semi-evergreen forest, and is recognised as an Important Bird Area. The 'Mekong Channel from Phou Xieng Thong to Siphandon' Important Bird Area is 34,200 hectares in size. There is a 10,000-hectare overlap with PXT NPA. Some of the notable avifauna found in the NPA include nesting little terns (*Sternula albifrons*). There are also small pratincoles (*Glareola lactea*), river lapwings (*Vanellus duvaucelii*), wire-tailed swallows (*Hirundo smithii*), and river terns (*Sterna aurantia*). The PXT Important Bird Area (36,650 hectares) is also situated within PXT NPA.

Some of the notable avifauna includes Siamese fireback (*Lophura diardi*), red-collared woodpecker (*Picus rabieri*), green peafowl (*Pavo muticus*), and grey-faced tit babbler (*Macronous kellyi*). PXT NPA is also important for its green peafowl and for its mammals such as pangolins and banteng.

Table 1. Basic information of Salavan province

No.	Name of District	Area (km ²)	Number of villages	Village Cluster	No. of Population			Markets	Use electricity (%)	Primary School	Poorest Village	Hospital
					No family	Total (pp)	Women					
1	Salavan	246.005	124	10	NA	108.210	53.867	4	100	NA		1
2	Ta-Oy	285.085	56	5	NA	34.824	17.384	1	100	NA	18	1
3	Toumlane	68.267	37	4	NA	32.056	15.999	2	100	NA	4	1
4	Lakhonepheng	136.681	75	8	NA	51.643	26.015	2	100	NA	5	1
5	Vapy	95.765	55	6	NA	39.478	20.052	2	100	NA		1
6	Kong Sedone	89.811	84	9	NA	66.331	33.696	3	100	NA		1
7	Lao Gnarm	91.367	97	8	NA	75.846	37.484	3	100	NA		1
8	Samouay	56.206	51	4	NA	18.165	9.111	1	100	NA	25	1
Total:		1,069.187	579	54	NA	426.553	213.608	18	100	699	52	8

Methodology

The AFC, in collaboration with the DoF focal point, coordinated the data gathering in the two villages of Ban Tha and Ban Beng, Lakhon Pheng district in Salavan province and in Ban Lak 29, Pa Thoum Phone district, Champasak province. In Vientiane, the team visited the Anousone Rattan Handbag factory and some shops and markets in Vientiane prefecture. To conduct the market chain study, several evaluation techniques were deployed by the assessment team for triangulation of information, drawing on both qualitative and quantitative data anchors. A desktop review and primary data collection through focus group discussions and structured interviews with villagers and village authorities provided information that was collected and analysed.

The study focused on the eight dimensions listed below:

1. Resource/input supply
2. Technology/product development
3. Market access
4. Organisation/management
5. Regulation (policy)
6. Financial
7. Infrastructure
8. Cross-cutting issues (gender)

Table 2. Assessment methodology

Level	Assessment Method	Data Source
Central	Desktop Review Interviews market/ factory	Existing reports Interview with Anousone Rattan Processing factory Interview rattan shop owners
Provincial	Champasack Salaravan	Fact-finding report Interview TerraClear Company Ltd Interview Rattan factory in Ban Lak 29 Interview Departments concerned
Village	Focus Groups Structured Interview Observation	A total of 146 participants in two target villages participated in the initial focus group discussion. A total of 43 participants completed questionnaires as part of the structured interviews. Observations were completed in each of the villages to understand the different constraints and opportunities.

Research and Assessment Findings

Respondent Profile

Table 3. Comparative population profiles of the two villages

Items	Ban Beng	Ban Tha
# Families	228	241
# Population	972	898
% of women	47.6%	48.5%
# Participants	80	66
District	La Khone Pheng	La Khone Pheng
# of interviews conducted*	24	19

A summary of information about the target communities shows that there are 469 families living in these two villages with a total population of 1,870 people. Women make up 48 per cent of the population (Table 3). The profile of the study populations is summarised in Figure 2.

Note: * equates to 30 per cent of the total number of participants

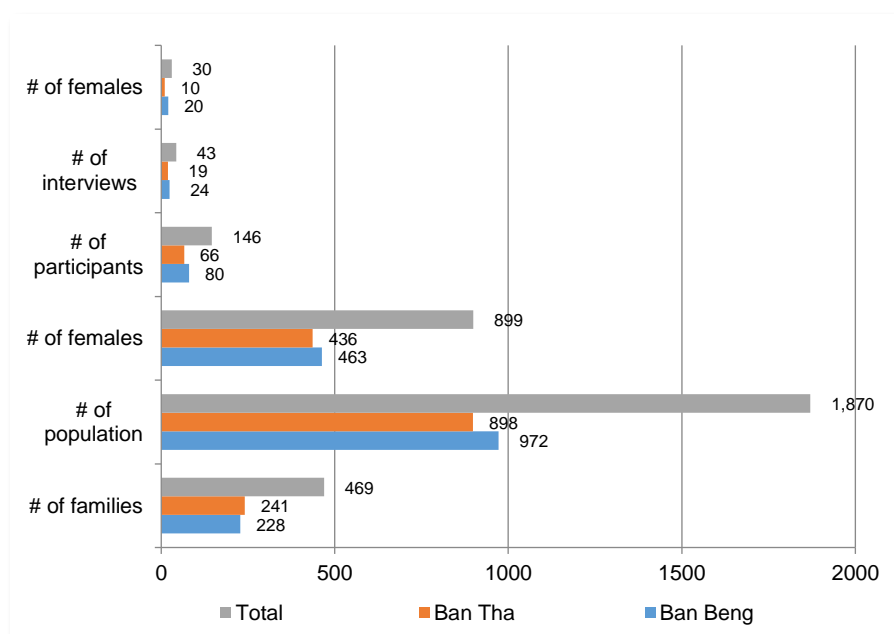


Figure 2. Market chain study population profile

In both villages visited by the team, totally different situations were observed in terms of rattan marketing and natural resources management governance at the village level.

Results from Ban Beng

The study showed that the local people in Ban Beng use up to 70 to 80 tons of rattan per year for handicraft weaving. In 2021, they aim to export finished rattan products worth LAK 390 million (USD 43,000). This is the main driving force on the demand for rattan as raw material. In comparison, in Ban Lak 29, PaThoum Phone district, the team estimated that they used more than 150 to 200 tons of rattan per year for rattan furniture production. This gives an idea of the difference existing between the two different producer groups in Ban Lak 29, PaThoum Phone district, Champasack province and the rattan producer group in Ban Beng, Lakhonpheng district, Salavan province.

In Ban Beng, the study team observed that almost all villagers were very interested in working with rattan handicrafts and rattan furniture. However, they still worry about the market for their products. The village has an existing rattan handicraft producer group with 40 female members that was officially established by the district governor in 2014.

According to the statistics collected during the field visits to the villages it was found that in Ban Beng:

- At least 40 families and about 120 people were involved in rattan handicraft basket weaving to supply to the local markets.
- The villagers earn a low sustainable income from rattan through old design baskets, estimated at between LAK 5 million and LAK 5.3 million per family per year or equal to USD 589 from rattan baskets sold at the village gate and local markets.

Table 4. Prices for rattan products and number of units sold

Products	Sold 2019	Price per Unit	Total	Sold 2020 (Jan–Jun)	Price per Unit	Total
Rattan basket big sizes	960	45,000	43,200,000	1,200	45,000	54,000,000
Rattan basket middle sizes	600	40,000	24,000,000	720	40,000	28,800,000
Rattan basket small sizes	960	35,000	36,000,000	1,200	35,000	42,200,000
Round table (PhaKaoLao)	1,200	70,000	84,000,000	360	70,000	25,200,000
Basket for Tak Bath	180	100,000	18,000,000	240	100,000	24,000,000
Bowl basket	480	45,000	21,600,000	600	45,000	27,000,000
Flower basket	120	60,000	7,200,000	240	60,000	14,400,000
Total	4,500		234,000,000	7,800		215,600,000

Note: The information on rattan products sold by Ban Beng is specific to January–June 2020

Based on the results of the interviews, it was found that this producer group does not have any experience on rattan processing for adding value, and furthermore are lacking in skills in terms of designing and rattan preservation for long-lasting use. In the past, they made rattan baskets of different sizes, 70 to 80 per cent of which are sold to local markets in Salavan and Champasak while the rest are sold to travellers passing along Road no. 13 to the south.

In Ban Beng, the local people mainly harvested rattan canes from PXT NPA. According to official statistics, in previous years, the provincial authorities did not provide any quota for rattan harvesting (which is normally done in other provinces), and tax exemptions are still provided for the rattan producer group in Ban Beng.

The study found that Ban Beng has limitations in terms of resource supply, as well as lack good governance of natural resource including unsustainable harvesting of rattan wild resource. The community does not seem to see the long-term benefit of working together to conserve and to develop a rotation system for the sustainable harvesting of rattan.

In terms of natural resource management governance, the study found that these villages have existing systems in their communities but observed that they are not effective in terms of law enforcement. In the past, they did not have any project support to promote natural resource management governance to protect forest resources and wildlife. The villagers also do not see the long-term benefit of working together to protect the forest due to the lack of incentive for the villagers and no understanding of the long-term benefits. On the other hand, the team observed that the villagers are more interested in working on illegal logging and cassava plantations than in NTFPs and rattan handicraft production as the former provides better income.

Despite the lack of the villagers' incentive to work more sustainably with NTFPs, the team observed that the rattan handicrafts sector in Ban Beng in the village development cluster of Ban Bengdan is providing a stable low income to half of the population. However, there are many limitations that prevent this sector from growing. Therefore, it is important to identify the constraints of rattan production to find possible market solutions. The constraints are summarised below according to the eight dimensions that form the scope of the assessment: resources, technology, market access, organisation and management, regulations, finance, infrastructure, and cross-cutting issues (gender).

Input supply/resources

The sustainability of resources used in Lakhon Pheng district is one of the main critical issues identified. The current state of the resources in the district resulted from poor planning and management of land allocation and resources and from the lack of sustainable management knowledge, which resulted in the destruction of rattan and forest around PXT NPA. An example of this is the land concession for a Vietnamese company to make room for a rubber plantation and the local people's continued practice of slash-and-burn to cultivate cassava, resulting in the depletion of rattan and forest in this area.

Some forest and rattan areas have been cut down. However, there are still areas where rattan has not been explored or harvested at all, for example, in the sacred forest (Pa Sak Sit). These remote stands still have a good potential for sustainable production. There are concerns about the unsustainable rattan harvesting and slash-and-burn cultivation, which causes forest and rattan to die and regenerate from seed, in which case it takes many years before the rattan can be harvested again. There are also concerns that the rattan canes that are not regularly harvested may convert to other types of forest over time.

According to the information collected from the producer group, it seems that resource management (sustainable harvesting) has not been introduced to the members of the rattan handicraft producer group in Ban Beng and to the NTFPs collectors in Ban Tha. There is only one existing producer group organised in Ban Beng, and there is still a resource management problem from village to village, which will continue until an association and clear policy support is established from the district for substitution of slash-and-burn cultivation.

Technology/Product development

The rattan products made by Ban Beng villagers are traditionally made, and they have used almost no technology to support their production process. One of the reasons for this is because producers have limited knowledge and skills in using ‘new technology’ and have limited skills in designing new products to meet market demand.

The rattan handicraft producer group in Ban Beng has no experience in rattan processing for adding value and lack skills in designing and in rattan preservation to make the products long lasting. On the other hand, rattan canes are not used effectively and efficiently. Although technology is used to cut the rattan canes in equal sizes, much of the canes are wasted and are not further utilised.

It was also found that the private sector investments in Lakhon Pheng are very limited; thus, no new technology or product development has been introduced to these areas.

Market access

Markets access is a key issue preventing producers from expanding their businesses. According to various studies and surveys, the key constraints to market access are as follows:

1. Limited access to market information;
2. Limited access to new markets;
3. Producer groups lack marketing skills;
4. Lack of sales and negotiation techniques and skills; and
5. Producers lack design skills.

What has not been identified is the fact that not all buyers require high-quality rattan commodity, thereby allowing prices to be competitive with the other producer groups. The main problem lies on the quantity of rattan commodities produced and the ability of workers to design new products to meet market demand. Another limitation relates to quality specifications and market access — products such as baskets require quality control to meet buyers’ specifications.

Organisation and management

There are still many challenges facing the villagers, including the lack of coordination among concerned organisations, lack of good management systems, and lack of transparency and accountability among the rattan producer groups. This can be seen in disorganised trader and producer groups.

Lack of knowledge and skills also hinders the ability of the concerned organisations, such as traders, villagers, policy makers, and others, in implementation and management. Many of those involved lack capacities in areas such as:

- Raising awareness on the benefits of product development;
- Negotiation skills
- Contracting skills
- New product design
- Sustainable harvesting techniques
- Research and analytical skills
- Business planning skills
- Planning and management

Regulatory (Policy)

In the broader context, policy is one of the main constraints in the rattan handicraft subsector. Policy to support the market and rattan resource management is relatively unclear. Policies do not reflect the current situation on how to sustainably manage resources, and do not create an enabling environment for rattan handicraft markets.

Finance

In previous years, the producer groups do not have access to any microfinance to develop their rattan products from outside organisations. Neither have they had any opportunity to develop knowledge and skills required to develop business plans/production plans. Without a business plan, they are unable to access loans from local financial institutions.

Infrastructure

One of the main issues mentioned by rattan collectors is that rattan resources along the roadsides to PXT NPA are mainly depleted. The remaining rattan resources are inside the totally protected area of PXT and are often too far from the road to exploit. Due to the poor condition of the road linking Ban Tha to the district and provincial towns, road transport costs remain high. There is also no access to electricity in most villages that assist in the production of rattan shoot growing and rattan handicraft weaving.

Cross cutting issues (gender)

Generally, there is a lack of understanding of the Convention on the Elimination of All Forms of Discrimination Against Women and domestic violence laws at the village level. These issues are evident in the villages due to economic pressures placed on the family.

Results from Ban Tha

In Ban Tha, the villagers mainly collect NTFPs for their daily food consumption based on the seasonality of NTFP production. According to the results of the interviews, it was found that in 2020, there is a limited NTFP market due to the 2019 COVID-19 pandemic and they could not cross the Mekong River to Thailand to sell their NTFP products in Thailand. Before the COVID-19 pandemic, the villagers gained income from selling seasonal NTFPs such as mushroom, bamboo shoot, resin, wild vegetables, fish, frogs, and ant eggs, among others.

Hence, during the COVID-19 pandemic, the villagers focused on slash-and-burn cultivation for cassava plantations, which has caused additional forest destruction and degradation. In some years, there are wild fires in the area that affect all NTFP species including rattan — which did not generate new shoots. Seasonal fruits were also affected. This had a negative impact on people’s livelihood in this area in the long run.

Table 5. NTFPs sold by villagers from Ban Tha

Products	Harvest Season	Volume (kg)	Sold in Previous Years (LAK/kg)	Current Year Sale (LAK/kg)	Remarks
Mushroom (barometer earthstars)	Jun–Jul	500	15,000	20,000–25,000	Sold to Thai market
Mushrooms (Het pouak or <i>T. schimperi</i>)	Aug–Oct	100	75,000	75,000	Sold to Thai market
Mushroom (het langok or <i>Amanita caesarea</i>)	Aug–Oct	1,000	36,000	36,000	Sold to Thai market
Mushroom (hetbot or <i>Lentinus polychrous</i>)	Nov–Dec	320	24,000	24,000	Sold to Thai market
Resin	Nov–Jun	800	12,000	12,000	Village gate
Bamboo shoot	Jun–Oct	3,000	800	3,000	Daily-food
Yotkonekane (<i>Dracaena ensifolia</i> wall., <i>D. ferra lour</i>)	Marc–Apr	300	80,000	80,000	Thai-Lao markets
Fish	Jan–Jun	3,000	30,000–60,000	30,000–60,000	Thai market
Frogs	Apr–May	1,000	24,000–30,000	24,000–30,000	Thai market
Ant eggs	Marc–Apr	60	60,000–90,000	60,000–90,000	Thai market
Rattan shoots harvester	NA	0	0	0	0
Rattan shoots retailer in market	NA	0	0	0	0

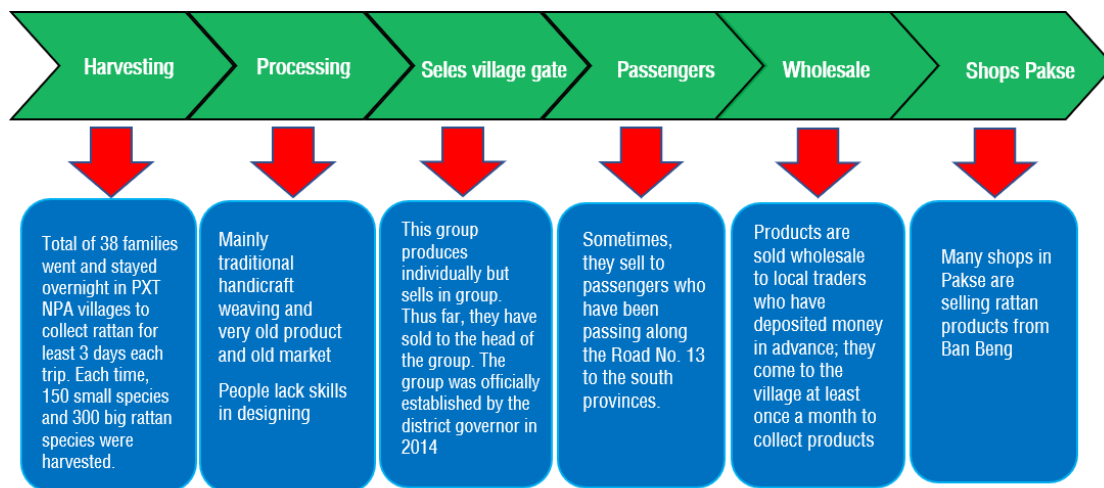


Figure 3. Handicraft market chain of Ban Beng

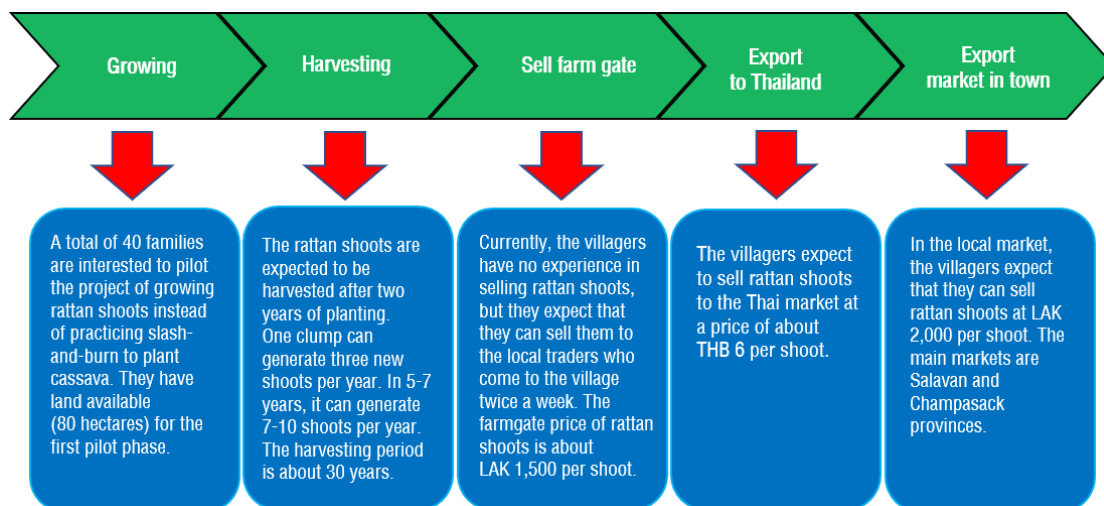


Figure 4. Rattan shoot market chain of Ban Tha

Proposed Market-Based Solutions

Identified Market-Based Solutions

Based on the assessment, there are a number of possible market-based solutions identified, which are detailed in Table 6.

Table 6. Proposed market-based solutions

Area	Constraints	Opportunities	Proposed Market-Based Solutions
Input Supply / Resources	<p>The rattan resources are decreasing every year due to slash-and-burn cultivation, logging, and clearing of land for rubber plantation.</p> <p>NTFPs are limited within the villages and production forest trends are decreasing.</p> <p>Villagers lack competency and technical knowledge on forest inventory, forest management planning, and reforestation.</p> <p>The community does not see the long-term benefit based on the impact on forest resources.</p>	<p>Develop toolkits for sustainable rotation for harvesting rattan and NTFP resources.</p> <p>Improve management plan of resources.</p> <p>Reforestation/ rehabilitation of forest around PXT NPA</p> <p>Rehabilitation of wild animal habitat</p>	<p>Organise training on forest inventory and forest management plan to community.</p> <p>Create alternative occupation for the community to reduce deforestation.</p> <p>Conduct trainings on rattan nursery and techniques in replanting under forest, which relate to forest conservation.</p> <p>Raise awareness of community to see the long-term benefits of protecting wild forest resources.</p> <p>Organise training on natural resource management governance for village administration (village forestry committee).</p>

Table 6 (continued)

Area	Constraints	Opportunities	Proposed Market-Based Solutions
Technology / Product Development	<p>Low productivity due to use of traditional handmade technique by producer for stripping/cutting/splitting rattan canes resulting in low income</p> <p>Producer groups lack of knowledge and skills</p> <p>Lack of investment from private sector</p> <p>Producers have no new design (product development)</p> <p>New product requires new market</p>	<p>Villagers with skills are producing rattan handicrafts.</p> <p>Attaching investors (promoting La Phone Pheng district)</p> <p>Conduct study to identify alternative activities that it directs relating to livelihood of people improvements.</p> <p>Develop new product for the new market.</p> <p>Develop rattan product profiles and logo of product.</p>	<p>Provide improved stripping and cutting rattan technique to group producers.</p> <p>Conduct technical training needs assessment.</p> <p>Provide training on new design.</p> <p>Identify new products and new markets.</p> <p>Set up quality control unit.</p> <p>Provide technical assistance on how to use rattan canes efficiently.</p>
Market Access	<p>Villagers lack the knowledge and tools required to assess the market demand in terms of quantity, price, and quality of product.</p> <p>Villagers have no previous business entrepreneur training to support the development and management of their businesses.</p>	<p>Villagers have the skills to collect rattan and NTFPs for self-consumption (e.g. rattan canes, rattan shoots, mushrooms, etc.)</p> <p>Villagers have opportunity to link rattan handicrafts to the tourism subsector.</p>	<p>Pilot the setup of a rattan handicraft model to raise market awareness and encourage entrepreneurship.</p> <p>Pilot the setup of a rattan shoot model linked to local and Thailand markets.</p> <p>Set up simplified market information system at village level.</p>
Organisation Management	<p>Lack of communication within the producer group</p> <p>Lack of good management of existing producer group in Ban Beng</p> <p>Lack of group regulation by-laws</p> <p>Weakness of producer group management system</p>	<p>Opportunity to further build on the existing structures within the district</p>	<p>Review functions (including roles and responsibilities) of existing rattan handicraft producer group.</p> <p>Train producer groups in project management techniques.</p> <p>Organise exchange workshops on production and quality control of production.</p>

Table 6 (continued)

Area	Constraints	Opportunities	Proposed Market-Based Solutions
Regulations (Policy)	<p>Villagers are not aware of the government policies relating to forest and environment law.</p> <p>Forest management regulation by-laws are not enforced at the village level.</p>	<p>Set up/review group management regulations/by-laws.</p> <p>Raising awareness of local people to see the long-term benefits of working together to protect the forest</p>	<p>Organise awareness raising sessions to encourage people to see the long-term benefits of government conservation and development policy.</p> <p>Organise multistakeholder workshops to develop law enforcement implementation plans.</p> <p>Aim to develop an attractive policy for private sector organisations working in the NTFPs trade</p> <p>Develop forest resources management regulations and awareness raising for people in terms of sustainable use of forest resources.</p>
Financial Access	<p>Villagers do not have production and business plans, which impact their ability to access localised funding and implement their business ideas.</p> <p>Villagers find it very difficult to get accessing to local funding.</p>	<p>Improve accessing to localisation funding.</p>	<p>Organise training on business planning and production planning to villagers requiring financial support.</p> <p>Building the capacity of villagers in terms of managing funding.</p>
Infrastructure	<p>The road access to the Ban Tha is very poor.</p>	<p>Improve road and linkage to local market (albeit this is not good for management of PXT-NPA).</p>	<p>Propose the local government to improve road access during the rainy season (albeit the NPA authority should not agree to this).</p>

Table 6 (continued)

Area	Constraints	Opportunities	Proposed Market-Based Solutions
Cross-cutting Issues (Gender)	<p>Gender balance is limited with women not empowered to make family decisions.</p> <p>Women at the village lack of capacity to manage funding.</p> <p>Lack of micro-credit to improve income of women.</p>	<p>Set up micro-credit for mothers.</p> <p>Set up rattan handicraft development fund.</p>	<p>Organise vocational training to women for sustainable incomes generation.</p> <p>Promote women to get higher education.</p> <p>Establish village women development fund.</p> <p>Organise raising awareness to villagers understand of gender balance and promote participation.</p> <p>Organise study tour for women at village level to drawing lessons learned from other villages.</p>

Key Recommendations from Local Stakeholders

Recommendations from the village level

1. Establish a rattan development fund or women’s development fund
2. Build capacity for rattan handicraft on skills designs/fine arts
3. Build capacity on group management skills
4. Purchase rattan splitting machine
5. Support market and product development
6. Promote good governance of producer groups
7. Organise training on management skills for the members of group committees/ boards
8. Organise training on micro-credit management skills
9. Develop supply of rattan seedlings
10. Conduct market research for rattan shoot demand in Lao PDR, Thailand, and Viet Nam

Recommendations from district and provincial authorities

1. Support to set up rattan handicraft network
2. Support to conduct rattan resources assessment in PXT NPA
3. Support to develop toolkits for sustainable harvesting of rattan canes
4. Support to pilot set up rattan nursery at the village level
5. Support to develop sustainable harvesting NTFP in PXT NPA
6. Support to promote alternative livelihood improvement of local people living in/around PXT NPA
7. Support to establish cooperative, which relates to conservation of PXT NPA
8. Support to raise awareness of local people to see the long-term benefits of working together to protect PXT NPA
9. Organise a study tour to draw lessons learned from other successful producer groups inside the country
10. Support to raise awareness of villagers on understanding gender issues and promote participation

Conclusion and Recommendations

The AFC formed the following conclusions as a result of the rattan handicraft and rattan shoot market chain study, which details the key constraints and opportunities to improve the current situation in Lakhon Pheng district, Salavan province. These recommendations on the key interventions could be considered in developing the management plan of PXT NPA.

Key Constraints in Developing Rattan Value Chain

Based on the results of interviews and observations, the study team found that the rattan value chain promotion has the highest potential for development in the two villages of Ban Beng and Ban Tha, Lakhon Pheng district. However, there are several key constraints to consider:

1. The villagers do not see the long-term benefit of working together to protect natural resources and forest.
2. Lack of regulation by laws and law enforcement at village level.
3. Rattan resources are decreasing every year due to slash-and-burn cultivation, logging, and clearing land for rubber plantation.
4. NTFPs are limited within the villages, and production forest trends are decreasing.
5. Villagers lack competency in and technical knowledge on forest inventory, forest management planning, and reforestation.
6. The community does not see the long-term benefit based on the impact on forest resources.

Potential and Constraints

At the same time, the two targeted villages of the BCAMP-DoF project have the highest potential to promote rattan shoots and rattan canes value chain development in comparison to other protected areas, especially in the area of rattan handicrafts and furniture. According to the statistics collected during the field visits, the two villages have the most potential based on the following:

1. In Ban Beng, at least 40 families and about 120 people are involved in rattan handicraft basket weaving and can supply the local markets. The villagers earn a low sustainable income from rattan due to the old designs of the baskets; revenues

earned from rattan baskets sold at the village gate and at the local markets are estimated between LAK 5 million and LAK 5.3 million per family per year or equal to USD 589 per family per year

2. Ban Tha people mainly collect NTFPs for their daily food consumption based on the seasonality of NTFP production. Before the COVID-19 pandemic, the villagers gained income from selling seasonal NTFPs such as mushroom, bamboo shoot, resin, wild vegetables, fish, frogs, and ant eggs.

In terms of rattan shoots and rattan handicrafts, an action plan to be formulated should consider the following 13 key constraints:

1. The rattan resources are decreasing every year due to slash-and-burn cultivation, logging, land clearing for rubber plantations, and overharvesting of rattan.
2. NTFPs are limited within the villages and production forest trends are decreasing.
3. Villagers lack competency in and technical knowledge on forest inventory, forest management planning, and reforestation.
4. The community does not see the long-term benefit of protecting forests.
5. Low productivity due to use of traditional handmade techniques by producers for stripping/cutting/splitting rattan canes resulting in low income.
6. Producer groups lack knowledge and skills.
7. Lack of investment from private sector.
8. Producers do not have new designs (product development).
9. New product requires new market.
10. Weak producer group management system.
11. Villagers do not have production and business plans impacting their ability to access localised funding and implement their business ideas.
12. Women at the village lack capacity to manage funding.
13. Lack of micro-credit to improve income generation of women.

Key Interventions

Based on the findings and results of the study, 22 key interventions were recommended and are provided in Table 7. The activities in the management plan that relate to livelihood interventions for target villages in and around PXT NPA will be assigned to district implementation teams as indicated in the plan. These district implementation teams may need to be supported by consultants in some activities as necessary and appropriate.

Table 7. Recommended interventions

No.	Activities	Potential Service Providers
1	Review/group formation/functioning group and include regulation by laws (Rattan handicraft/furniture/rattan shoot)	district industry and commerce office AFC
2	Organise study tour in side country and outside countries	AFC
3	Develop village enterprises business plan or family business plan for producer groups	Nayobai Bank
4	Conduct technical training needs assessment (TTNA)	AFC
5	Training rattan handicraft at least 10–20 new designs in two years to producer groups	AFC
6	Training bamboo furniture with 10 new designs to producer groups	AFC
7	Building the capacity in terms of negotiation skills for both local traders and producer groups	LHA and AFC
8	Develop product profiles and product logo	LHA
9	Develop market outlet at village level as well as linkages to Vientiane market and Thai market	LHA and BTN
10	Develop simplified market information system at village level (price, volume, quality, and quantity of market demand)	planning and investment department LHA and private sector
11	Training on production management and quality control to group producers and local traders	AFC
12	Organise leadership training to chief representative of group producers	LHA AFC
13	Organise gender balance for all actors	AFC
14	Organise training on team building for all actors	LHA and AFC
15	Conduct bamboo forest inventory and forest management plan for sustainable harvesting	DAFO Faculty of Forestry, NUOL AFC, FRC
16	Develop toolkits for rotation and sustainable rattan harvesting	DAFO Faculty of Forestry, NUOL AFC
17	Provide facilitation for issues such as the communal land titling, which is needed to complete location of forest inventory and rattan plantation areas	DAFO Land Use Department AFC
18	Promote reforestation and set up a pilot rattan planting under forestry with the threaten species	Faculty of Forestry, NUOL AFC
19	Provide training on rattan nursery to villagers and technical staff	AFC and FRC
20	Set up rattan networking in southern provinces	LHA AFC BTN
21	Provide training on group good management	LHA AFC BTN
22	Set up micro-credit for mothers for rattan producer groups	AFC and BTN

Note: AFC = agro-forestry consultant
BTN = Bamboo Traders' Network
DAFO = district agriculture and forestry office

FRC = Forest Research Centre
LHA = Lao Handicraft Association
NUOL = National University of Laos

Key Target Groups

This study also recommends for the district implementation teams responsible for implementing certain aspects of the PXT NPA management plan relating to livelihood activities work with two key target groups to ensure the successful implementation of the recommended key interventions:

1. The Rattan Handicraft Producer Group in Village of Ban Beng.
 - Strengthening organisation and management of the association
 - Developing short-term and long-term action and business plans
 - Basic processing skills training adding value to exist value chains, such as new designs for rattan baskets for new markets
 - Developing sustainable resource management systems and incentives to local communities to manage rattan resources in a (more) sustainable way
 - Strengthening environmentally and socio-economically sound market development with enhanced marketing systems to provide income
2. The new Rattan Producer Associations
 - To be established by organising rattan producers in surrounding villages
 - These associations could be supported by existing traders' associations, who could become an 'umbrella' or 'apex' organisation for all rattan producer associations in the district
 - Such associations are seen as the key mechanism to promote enterprise development at village level

Recommendations for BCAMP

The below actions are the recommended next steps for the BCAMP project:

1. Organise debriefing workshop to report the results and outcomes of PRA and market chain study of the BCAMP-DoF project and the main aim of this workshop to verify and check data including agreements on the project workplan.
2. Engage a consultant to work closely with DOF, PXT NPA staff. and PAFO/DAFO offices in Salavan and Champasak to develop the PXT NPA Management Plan.
3. Consider the results and recommendations of this study, and the estimated two-year budget of USD 64,500 to implement activities in line with these recommendations, detailed in Annex 1, and integrate as appropriate into the development of the management plan.
4. Support the development of a PXT NPA business plan and identify sources of funding to implement the management plan, including the livelihood support activities.

Ways Forward

Before any support is provided to Ban Beng and Ban Tha communities to increase the marketing of rattan products from PXT NPA, a scientific assessment should be made of the amount of rattan resources available in the NPA.

Based on this scientific assessment, appropriate annual harvesting quotas should be determined for sustainable harvesting, and the NPA as well as district and provincial authorities should enforce these quotas.

Livelihood assistance for rattan handicraft and rattan shoot product development and marketing, provided to Ban Tha and Ban Beng communities should be based on 'conservation contracts' through which the communities commit to certain conservation actions (reducing illegal logging, slash and burn cultivation and unsustainable harvesting on NTFPs), in return for the assistance.

References

Report on Market and Value Chain of rattan in Lao (July 2007)

Statistics from Department of Planning and Investment (DoPI) on Social-Economic Development Plan of Salavan Province

Campbell, Roderick, 2009. Technical Report: The economic potential of rattan shoot production as a food crop in Lao PDR. A report for WWF Laos.

Appendices

Appendix I. Estimated Budget

Table 1. Estimated budget for two-year implementation of activities addressing the identified recommendations from this study

No	Activities	Estimated Budget	Remark
1	Review/group formation/functioning group and including regulation by laws (rattan handicraft/furniture/rattan shoot)	1,500	Priority
2	Organise study tour (inside country and outside countries)	3,000	Not yet identified
3	Develop village enterprises business plan or family business plan for producer groups	1,500	Priority
4	Conduct technical training needs assessment	1,500	Priority
5	Training rattan handicraft at least 10–20 new designs in two years to producer groups	8,000	High Priority
6	Training bamboo furniture at 10 new designs to producer groups	8,000	High Priority
7	Building the capacity in term negotiation skills to both local traders and producer groups	2,000	Potential
8	Develop product profiles and product logo	2,500	Potential
9	Develop market outlet at village level as well as linkage to Vientiane and Thailand markets	2,500	High priority
10	Develop simplified market information system at village level	1,000	Potential
11	Training on production management and quality control to producer group and local traders	2,500	Priority
12	Organise leadership training to chief representative of producer groups	2,500	Potential
13	Organise gender balance to all actors concerning	2,500	Potential
14	Organise training on team building to all actors	2,500	Potential
15	Conduct bamboo forest inventory and forest management plan for sustainable harvesting	6,000	High Priority
16	Develop toolkits for making rotation and sustainable rattan harvesting	1,500	High Priority
17	Provision facilitation for issues the communal land titling needs to completed location of forest inventory	2,000	Potential
18	Promote reforestation and set up a pilot rattan planting under forestry with the threaten species	5,000	High Priority
19	Training on rattan nursery to villagers	1,500	High priority
20	Set up rattan networking in southern provinces	1,500	Potential
21	Training on group good management	2,500	Priority
22	Set up micro-credit for mothers	3,000	Priority
Total budget		64,500	

Appendix 2. Schedule of Activities

Table 2. Fieldwork schedule for market chain study

Time	Description of Activity	Method	Focal Person
Day 1: 20/9/2020 (Sunday) Travel from VTE to Champasak province			
Day 2: 21/9/2020 (Monday) Travel from Champasak to Lak 29 or Lak 30 villages			
a.m.	At Ban Lak 29 or 30 and at Pakse <ul style="list-style-type: none"> Meeting with Chief of village and group of rattan product at Lak 29 or 30 Travel to Pakse-Vangtao <ul style="list-style-type: none"> On the way to Pakse, will visit rattan shop at Km 5 (Ban Kang) or Dao Heuang Market 	By Car	AFC + DOF
p.m.	At Vangtao <ul style="list-style-type: none"> Meeting with PAFO's International checking point staff Visit rattan shop Travel back to Hotel at Pakse	By Car	DOF + AFC
Day 3: 22/9/2020 (Tuesday) Travel from Champasak to Saravane Province			
a.m.	Travel from Pakse - Saravane		Team
p.m.	At Saravane province <ul style="list-style-type: none"> Meeting with PAFO and POIC Visit markets, rattan shops, meet with rattan merchants Travel from Saravan to Lakhonepheng		DOF + AFC
Day 4: 23/9/2020 (Wednesday) at Lakhonepheng			
a.m.	At Lakhonepheng <ul style="list-style-type: none"> Meeting with Chief of District's Governor, DAFO, DOIC, DLWU and visit Market or Rattan shop Travel from Lakhonepheng to Ban Beng 		Team
p.m.	At Ban Beng: <ul style="list-style-type: none"> Meeting with chief of village and with rattan handicraft group Travel back to Lakhonepheng 		AFC + DoF + DAFO

Appendix Table 2 (continued)

Time	Description of Activity	Method	Focal Person
Day 5: 24/9/2020 (Thursday) at Lakhonepheng and Ban Tha			
a.m.	Travel from Lakhonepheng to Ban Tha		
p.m.	At Ban Tha: <ul style="list-style-type: none"> • Meeting with chief of village, Teuy matting handicraft's families and a group of people interested in growing rattan as a commodity • Travel from Ban Tha to Savannakhet 		AFC + DoF + DAFO
Day 6: 25/9/2020 (Friday) at Savannakhet and at VTE			
a.m.	At Savannakhet <ul style="list-style-type: none"> • Visit rattan handicraft shop at Ban Nalao or Savanxay market • Visit with PAFO's international checking point Savannakhet - Moukdahan 		
p.m.	Travel from Savannakhet to VTE		DOF + AC
Day 8: 28-30/9/2020 (Monday) at Vientiane Capital			
a.m.	At Vientiane <ul style="list-style-type: none"> • Visit Danxang rattan handicraft shop, Km 24 	AFC's Car	AFC
p.m.	<ul style="list-style-type: none"> • Visit Mrs. Tom rattan handicraft shop and Khouvieng road's rattan handicraft shop • Anouson Rattan factory • Visit Dong Makkai Market • Visit Douadin Market • Visit bamboo-rattan shop at Kuvieng Road 	AFC's car	AFC

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