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Foreign direct investment and knowledge transfer in Laos

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The Laos government has supported a policy towards foreign direct investment (FDI) since 1988. The investment-related laws and regulations have been amended and improved from time to time in order to create more and more favourable business and investment environment in the country, as well as to better facilitate the inflow of FDI. Hence, this case study is to compare the modes of investment of the multinational corporations investing in Lao People's Democratic Republic. The multinational corporations selected include Charoen Pokphand Laos, Huawei Laos and Hoang Anh Gia Lai Attapue. This article has demonstrated the different modes of FDI that these three companies selected as their business strategies when starting to do business in Laos. It has found that green field investment is likely to support agribusiness more whereas branch is good in supporting up-to-date technology in countries with a low technology development. Each selected mode focuses strongly on the potential for cost saving as well as on solving the problem of low productivity and low labour skill of the host country. To sum up, the host country must make a decision on whether to attract resource-seeking or non-resource-seeking FDI.

Keywords: benefit; technology and knowledge transfer; contract farming; vertical integration; green field

1. Overview of foreign direct investment (FDI) in Lao PDR

1.1 *Investment trends*

Since Lao People's Democratic Republic (PDR) opened up for foreign investments in 1988, the inflow of foreign investments has been on a steady increase. By the fiscal year 2011, the total investment reached USD 2320 million, mostly in mining, hydropower, agriculture, and services sectors including telecommunication, tourism, manufacturing, and handicraft. However, the investment in Lao PDR is still in the resource-seeking sector at almost 80% including mining and hydropower, whereas the non-resource-seeking investment sector constitutes 20%, according to the World Bank report of 2011. The top five countries investing in Lao PDR are Vietnam, Thailand, China, the Republic of Korea, and France. The Department of Investment Promotion reported that, from 1989 to 2012, Vietnam was the largest foreign investor followed by Thailand and China (Nguyen Quang Thong, 2011). Table 1 gives a summary of top five FDI countries in Lao PDR from 1989 to 2012 and Table 2 gives the approved local and FDI projects in Laos by sector from 2000 to 2011.

In terms of trade, Lao PDR has trade relations with many countries. At present, Laos exports to more than 70 countries around the world worth USD 1602 million in the fiscal year 2011–2012. At the same time, Laos also imports from around the world worth USD 2324 million in

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Table 1: Top five FDI 1989–2012

No.	Countries	Project	Value (million USD)
(1)	Vietnam	429	4913
(2)	Thailand	742	4082
(3)	China	801	3952
(4)	Republic of Korea	287	748
(5)	France	224	490

the fiscal year 2011–2012. Table 3 gives the top five import and export destinations of Lao PDR in the fiscal year 2011–2012.

To achieve the development goal, the Government of Lao PDR has set a target of attaining an average Gross Domestic Product (GDP) growth of above 8% annually from now up to the year 2015. In order to achieve this, the government of Laos needs to have a total investment inflow of at least 32% of the total GDP, or USD 15.8 billion, of which USD 8.9 billion will be from FDI, equivalent to 56% of the total investment. These target indicators show that the government will give priority to FDI, and focus on receiving 'good quality and sustainable investment'. For this reason, the Laos government tries to attract foreign countries to invest in various sectors such as agriculture, manufacturing, tourism, and services.

1.2 *Significance of investment in Laos (inward FDI)*

FDI inflows have surged in recent years, driven by mining and hydropower, which together account for more than 80% of total FDI. FDI has also driven much of the export growth in recent years in the form of mineral exports. The major turning point came in 2005/2006, with the approval of the NT2 dam, and significant investment in the Xepon and Phu-Bia mining operations. Total accrued investment in these two mines together was worth nearly USD 1 billion by the end of 2008. Most non-resource-seeking investments are in agro-processing sector, including sugar, cassava, coffee, and other items (Diagnostic Trade Integration Study, MoIC 2012).

The annual FDI inflows increased from USD 28 million in 2005 to USD 187 million in 2006, according to UNCTAD, reaching USD 350 million in 2010. As Figure 1 shows, the previous upturn in investment occurred in the mid-1990s, following which there was a retrenchment as investment in resources dropped. By 2002, annual inward FDI had fallen to a level lower than that in 1990 due to recession from 1998 to 1999 and export volume decreased slightly during 2000–2002.

Since 1990, growth in inward FDI has outpaced the Lease developed country (LDC) average, continuing to rise despite the global slowdown following the economic crisis. In Lao PDR, inward FDI flows grew nearly 600 times over the period shown, approximately 10 times higher than growth in inward FDI for Southeast Asia as a whole. The prospect of China's estimated USD

Table 2: Approved foreign and domestic investment 2000–2011 by sector

No.	Sector	Unit	Value (USD)	Share of investment (% by sector)
(1)	Mining	220	5,010,916,187	26.44
(2)	Electricity Generation	24	4,939,370,341	26.07
(3)	Agriculture	880	2,535,789,986	13.38
(4)	Service	561	2,259,104,753	11.92
(5)	Industry and Handicraft	813	1,918,410,660	10.12

Source: Department of Investment Promotion, Ministry of Planning and Investment.

Table 3: Top five import–export destination in Laos, fiscal 2011–2012

No.	Total import of Laos	2,324,521,774	%	Total export of Laos	1,602,084,045	%
(1)	Thailand	1,282,012,557	55.15	Thailand	854,206,186	53.32
(2)	Vietnam	525,070,997	22.59	Australia	334,267,145	20.86
(3)	China	459,270,491	19.76	Vietnam	174,904,536	10.92
(4)	France	129,281,834	5.56	China	70,616,547	4.41
(5)	Japan	70,738,158	3.04	Switzerland	33,788,887	2.11

Source: Department of Import–Export, Ministry of Industry and Commerce.

7 billion investment over several years in high-speed railway, combined with power-related and agro-processing investments, is likely to maintain inward FDI flows at high levels in coming years and contribute somewhat to the diversification of FDI.

Lao PDR's ability to attract inward investment compares favourably with regional comparators and the LDC average – although investment is almost entirely resource-seeking rather than efficiency-seeking. Whilst absolute inflows are considerably lower as a result of the relatively small size of the economy, inflows as a proportion of gross fixed capital formation (GFCF) are higher than in Southeast Asia and almost as high as in Vietnam and the LDCs.

1.3 *Multinational corporations' (MNCs') perspective on investment decision*

Technology and productivity spillovers may occur in host countries as a result of the entry and continued presence of MNCs. Multinationals could be seen as agents that can increase the host country's competitiveness; their presence can result in technology transfers to domestic firms and also help in achieving a more efficient resource allocation.

Some views point out that there are plenty of reasons for foreign investors to decide to invest outside their country. Some of the reasons are expanding market, exploiting cheap labour, exploiting natural resources/raw materials, circumventing national regulations/standards, local incentives (taxes, grants, land etc.), tied to skill technicians/engineers, being close to and collaborating with knowledge sources (firms/universities and laboratories), and so on. However, some investors also consider investing internationally for diversification, by which the company can spread its investment risk among foreign companies and markets that are different from its own economy.

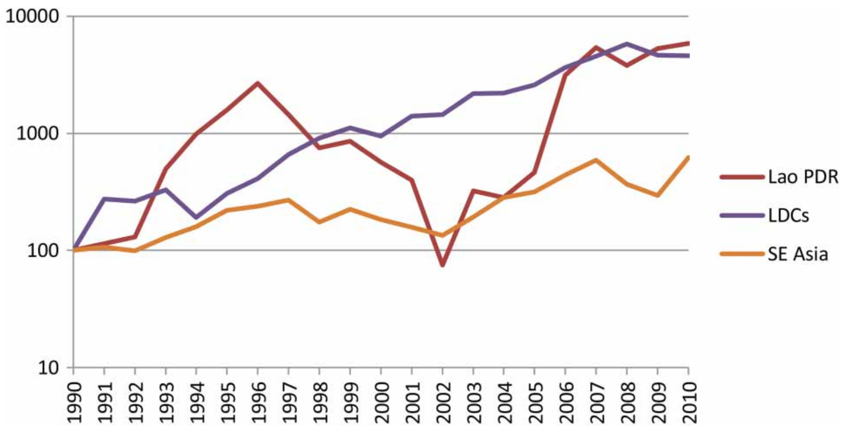

Figure 1: Inward FDI flows rebased to 100 in 1990, log scale.
Source: UNCTAD World Investment Report, 2010/author's calculations

1.4 *Purpose of the study*

The purpose of this study is to examine if and how the presence of MNCs' mode of investment will contribute and transfer knowledge to local staff and, more specifically, to find out if any technology transfer has an impact on the production and occurs in the selected investment strategy. A further aim is to discuss the current situation and views on investment trends in Lao PDR, including the three compared MNCs' modes of doing business, as well as to find out any challenges and obstacles to these three businesses' operation in Laos.

The case studies of the companies of three different nationalities used in the study were found in the swine farm business (agribusiness), telecommunication business, and rubber investment. The first is Charoen Pokphand (CP) Laos Company Ltd, originally CP food (CPF) from Thailand, whose business is farm production focusing on swine farm and contract farming mode of doing business. It is believed that this type of business strategy will contribute more skill and knowledge transfer to the partners, especially new ways of feeding pigs and applying technology to support the business. The second is Huawei, a Chinese business, which operates as a telecommunication supplier and service provider to Laos's telecommunication companies. This article will find out if this type of business, that is, turnkey operation, will also contribute more to technology transfer to and development of partners. The third is Hoang Anh Gia Lai (HAGL), a Vietnamese business, which operates a rubber plantation and semi-product processing for export by using local labour to support the business in the form of vertical integration of the operation.

Some of the reasons for selecting CPFs, Huawei and HAGL are that they represent MNCs and have been quite successful in Lao PDR. Some of their successful lessons, a long list of experiences and entry mode of doing business, as well as their investment strategy in terms of different techniques, technology, and skill transfer to local partners will be useful for the Laos government to have a clear future reflection on the policy to attract more MNCs to invest in Laos. They are all 99.6–100% FDI but with different modes of investment entry strategy, such as agribusiness with a focus on feeding, planting, and service business which provides turnkey service. Therefore, the following will briefly illustrate their business profiles, supply chain management, reasons of investment in Laos, as well as a small assessment analysis of each mode of investment.

In the end, the case study will either provide concrete solutions where the solutions can be used as alternative policy for the Laos government or for any persons who wish to apply them to their work.

1.5 *Research methodology*

This article produced a combination of desk-based and field research, conducted over a period of two and half months between November 2012 and mid-January 2013. Desk studies explored the key themes of the research: investment trends, supply chain of each company, investment models, some keys challenges, and reasons for doing business in Laos. Field research included interviewing key people in the organizations in order to get more details to support the analysis part and to reflect on the implications at the end of the study. Please note that minor discrepancies in data do exist in this article depending on the source of the information and the opinion of the person who provided the answers to the questionnaires.

1.6 *Limitation of the study*

The study has its limitations. There are some aspects not considered in the article, e.g. factors associated with parent firms, CPF in Thailand, Huwei in China, and HAGL in Vietnam. The study has focused on interviews with the companies set up in Laos; therefore, all problems and issues in this article are based on information obtained from these three companies in Laos.

2. Improving the investment climate by the government of Laos

Over the past few years, Lao PDR has become a better place to do business, both for domestic as well as foreign firms. In order to keep improving business environment in Lao PDR, the Laos government has taken steps to improve many regulations, which so far contradict and are not yet accepted by the international standard. The initiatives taken by the government can be found in the following table:

(a) Enterprise Law in 2006: introduced the concept that doing business is a right rather than a privilege of Laos citizens as defined in the Constitution. It also changed the previous 'permit regime' to a 'registration regime'. The Law introduced the concept of the negative list under which any lawful person can conduct business activities outside the so-called 'negative list of conditional activities' without asking for permission.
(b) New Economic Mechanism – improvements to trade policy include attempts to increase transparency, reduce Non Tariff Barriers (NTBs), and bring trade legislation in line with the principles of the World Trade Organization (WTO) and ASEAN agreements.
(c) Bilateral agreement – Lao PDR has also signed bilateral trade agreements with Argentina, Belarus, Cambodia, China, India, The Democratic People's Republic of Korea (DPR Korea), Kuwait, Malaysia, Mongolia, Myanmar, Russia, Thailand, Turkey, Vietnam, and the USA.
(d) Investment Law – in order to align with the Enterprise Law, the government also substituted two separate Investment Promotion Laws with one unified Investment Promotion Law in 2010.
(e) Manufacturing and trading regime – a number of regulations introduced to improve predictability and transparency in international trade. A sectoral operating license is not required, and the manufacturing sector only requires one operating license as opposed to the two sectoral licenses required by other sectoral agencies.
(f) Removed trade barrier 2011 – initiative taken for free movement of goods domestically by removing unnecessary internal checkpoints along the North–South Road No. 13.
(g) Global trade connection – Laos has agreed to become a WTO member in 2012 and has started a National Single Window clearance to facilitate investment in Laos.

(Source: Ministry of Industry and Commerce, Department of Planning and Cooperation, 2012.)

One observation that can be found is that the Laos government has put more efforts into improving the investment climate and attracting more investors to invest in Laos; however, even though the number of firms in manufacturing and services have grown rapidly, the majority of these investors investing in Laos are still considerably small.

3. Selected case studies and their overviews

3.1 *Thailand firm: CP Laos Company Ltd*

3.1.1 *Overview of CPF/Laos*

CPF is Thailand's leading agribusiness and food conglomerate listed in the 2011 Forbes Global 2000 list of the World's Biggest Companies. Since 2006, CP Laos Company Ltd has a registered capital of USD 3 million as 100% FDI and mainly engages in feed, farm, and food businesses as detailed below.

Feed business – CP Laos is the leading manufacturer and distributor of livestock feed in Laos. The main products are chicken feed and swine feed, distributed under the CP HI-GRO and HOG brands. All feed productions sell 70% to local markets and 30% support the CP farm itself.

Farm business – CP Laos operates an animal breeding, animal farming, and basic meat-processing business, with its farms located in Xaithani, Vientiane. The main products are parent stock chicken broilers, parent stock chicken layers, broiler chicks, layer chicks, piglets, live chickens, chicken eggs, swine, and basic processed meat. Besides operating its own farms, CP Laos implements projects to support local farmers in raising broiler chickens and swine in areas surrounding Vientiane and its branches.

Food business – CP Laos produces semi-cooked food, fully cooked food, and ready-to-eat products, including Five Star roasted chickens and Five Star fried chickens, for sale locally under the Five Star brand (Charoen Pokphand Foods PLC, Annual Report 2011).

The investment type of CP Laos is considered as green field, by setting up new farms and facilities as well as recruiting new local staff to support the business. Recently, CP Laos has opened four branches in Savannakhet Province, Champasak Province, Khammaune Province and Laungprabang. Recently, CP Laos has employed about 600 local workers and 30 Thai staff.

Right after signing the contract, the local farmers will be trained on how to control the food for pigs, how to feed the pigs, and how to write weekly reports on the condition or status of the progress of pig feeding. The CP technical expert will visit the farm once a week in order to follow up with the farmers and at the same time, the local farmers must return weekly reports to the CP technical staff. The reports will record the daily activities such as feeding, symptoms of the pigs, and other things that happen during the week's operation.

3.1.2 *Key reasons for investing in Laos*

In case of CP Laos, the CEO of CP Group revealed that investment in Lao PDR is a part of CP's expansion plan in Asia. The company plans to run integrated businesses, including feed mills and livestock farms as well as aquaculture businesses and further processing businesses for distribution in Laos as well as exports to foreign countries. Additionally, CPF received a trust from The Lao People's Democratic Republic for leasing its land and animal farm for 20 years to run their businesses. There are some reasons that CP decided to invest in Laos.

Political point of view:

(1) The government of Laos is expecting to see the new advanced technology that CP will give to the Laos people. For instance, CPF will bring advanced technology, useful knowledge in producing quality meat, and beneficial techniques in aquaculture to Laos's agriculturists.
(2) Sharing a long border from North to South, both countries have been doing border trade together for a century.

Economy, culture, and investment promotion point of view:

(3) Laos is another country that CPF's study group found to offer good investment potential, and CP expects to see Thai capital flow to Laos increase, as it is a natural investment location for Thailand given the geographic and cultural proximity, and Thailand's expertise in agriculture and energy, two key growth sectors for Laos.
(4) CP is looking at Laos as a land of new business development.

(5) Laos, Myanmar, and Vietnam have a wealth of natural resources that could support the group's products from farm to table.
(6) There are similarities in language and culture of both countries.

Market demand point of view:

(7) Laos still needs more improvement in agricultural development by applying new techniques and new business models to improve the agriculture sector.
(8) There are more demands on agriculture products, but less production in the host country.

3.1.3 *CP Laos entry strategy and its mode of investment*

The CP Laos Company Ltd entered Laos as a green field investment. The company leased land from the government of Laos and developed its own facility, for instance, animal farm, feeding factory, and contracts with farmers to support the farm. The interaction with local farmers is called ‘contract farming’, which developed as shown in Figure 2.

The contract farming mode (2 + 3, Figure 2) was selected in order to speed up production capacity to supply to the CP processing factory. At the same time, CP also tried to avoid investing in an asset by sharing the benefits and risks among farmers, the company, and the nation. Besides reducing import costs and costs of transportation, securing the demand of the local market is also a key reason for this mode.

For the selected mode 2 + 3, CP Laos will be responsible for technical support and marketing. At the same time, the swine farms will take care of construction of farms, labour, and finance to support the daily operations.

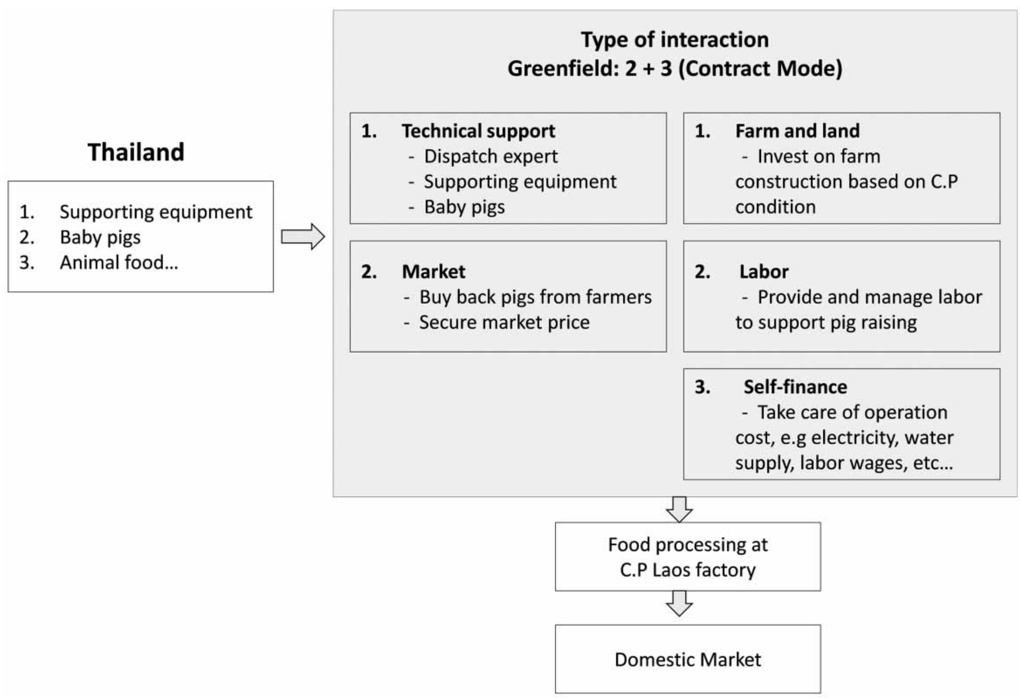

Figure 2: Supply chain of CP Laos.
Source: Based on interview Mr Thamnong Pholthongmak, Director of CP Laos Company (January 2013)

When the pigs are ready to be sold, CP will buy them back from the contract farmers/pig raisers, and the pigs will be sold in the local market in northern and southern parts at the price agreed between CP Laos and the farmers. CP, currently, does not do any processing on the meat produce except eggs, however, in the near future, according to the interview of the director of CP Laos, to increase productivity.

3.1.4 *CP Laos Company Ltd R&D*

Each year, at the headquarters, CPF sets up an R&D budget to support new product development for the company, and to support market or plant expansion in overseas markets. The farm in Thailand will set up a farm of the same standard in an overseas plant with the concept of adopting advanced technology and modern farm management systems for implementation of the farming process at every step, including computerized production controls. However, the R&D and technology development happen rarely in Laos, because most of the technology equipment to set up a CP facility is imported. The CP product will keep the same development model as the headquarters; for instance, feed for animals will use the same formula as the headquarters so as to maintain the standard of the product. The final products will be distributed to the local market with the CP brand and with the same packaging style.

3.2 *Chinese firm (Huawei)*

Chinese investment in Laos has increased rapidly since the end of year 2011. If the rate of increase remains unchanged, China will become the largest foreign investor in the near future, said the Director General of the Investment Promotion Department. The rapid increase in Chinese investment is due to the Chinese government's policy to encourage companies to expand into overseas markets including Laos. At the same time, the Laos government has been strongly promoting foreign investment in order to boost its economic growth.

3.2.1 *Overview on Huawei*

Established in 1988, Huawei Technologies is a high-tech enterprise, which specializes in development, production, and marketing of communications equipment, providing customized network solutions for telecom carriers in optical, fixed, mobile, and data communications networks. By the end of 2008, it had supported the Lao Telecommunication Company (LTC) to open the first 3G network in Laos, bringing the Laos telecommunications industry up to international level. Huawei's telecommunication equipment serves 80% of the population of Laos. Huawei's products, equipment, and services have received a lot of praise from customers. The company continues to invest in technology products, in terms of R&D, sales channels, and so on. There are several star products in the market such as Honor, D1, MediaPad, etc.

The company entered Laos as a green field investment by holding 100% of the shares. For every contract won or purchasing order from Laos telecom companies, the company recruits five telecom and information technology (IT) technical experts to work as full-time staff to support technical work and to support the telecom system for Laos telecom, and to and fro after-sale service. Besides, the company has also recruited five operational staff to work on administrative management and marketing for the company. The company operates as a representative branch based in a Cambodia office and imports telecom equipment from China and India. It has established a long-term cooperative partnership with Laos telecommunication operators, namely LTC, Enterprise of Telecommunications Lao, VimpelCom Lao Co. Ltd., and Star Telecom Co. Ltd.

The technical support from Huawei will provide training to Laos telecommunication technical staff on telecom systems, which starts from installation of the new system, telecom platform, and all new knowledge related to new equipment bought by Huawei. The training will take place over several weeks and will be followed by on-the-job training to Laos staff. The Laos staff will work closely with Huawei telecom experts in order to learn about troubleshooting and the new system (Source: www.huawei.com).

3.2.2 *Research and development*

About 46% of the expenditures are engaged in R&D. Each year, Huawei invests no less than 10% of its sales revenue in R&D. Huawei has established joint laboratories with Texas Instruments, Motorola, Microsoft, Intel, Sun Microsystems, and others for the development of processors, optical apparatus, application platform, etc.

Since the company operates as a turnkey operation, the R&D and technological capability development in Laos are not quite wide enough and do not take place in Laos. Most of the technology transfer is for the contract partners among Huawei and Laos telecommunication. We hardly see innovation in this sector by Laos technical staff, which is because all new updates of the equipment will be proposed by Chinese firms to Laos telecommunication (Huawei Company Profile: Corperate Sustainability Report, 2011).

3.2.3 *Huawei entry strategy and its mode of investment*

Huawei set up the business office in Laos since 2011 as a green field operation investment, with a total registered capital investment of USD 500,000 under the name of Huawei Technologies (Laos) Co. Ltd. The business was 100% FDI with interaction with local partners as turnkey investment. The company imports and acts as a representative office and distributor for electronic and telecommunication equipment, installation, and maintenance, and provides training to contract buyers under local partner conditions specified in the contract.

In terms of knowledge and technology transfer to local staff, Huawei (Laos), one of the major Chinese telecommunications companies in Laos, has won the contract to train the Laos Telecom officials. The training that it will provide to local partners includes mobile phone data, training on IT, and transmission and internet. For each contract, the training will take place for several weeks, followed by Huawei technical IT expert follow-up with Laos technical experts by visiting the Laos telecom offices and working together with their IT team until the end of the contract warranty.

The training that Huawei provides to local contract partners is divided into two levels: first, training conducted for the management level to give an overview of the functionality of new technology from China in telecom development. The IT engineers from Huawei will demonstrate and illustrate what and how the equipment works. Second, the training provided to the technical level – the IT engineering and technical staff at the IT department will attend one or two weeks' training course depending on the task; this type of training focuses on technical issues about the equipment and all systems that support the telecom network. After training, Huawei will provide follow-up and support on technical matters to the contract partner in the form of on-the-job training (Figure 3).

In terms of seeking market, Huawei will attempt to bid for the selling contract with Laos telecom companies. After entering into the contract, the company will arrange for and import equipment from China and India to Laos together with the concerned technicians to manage the installation and training of the IT staff. The company will provide after-sale service to local contractors at the same time, which is called Maintenance Agreement with local telecom providers (Mr Souphol Chanthavixay, Manager of Service Operation Department, Laos Telecom Company, January 2013).

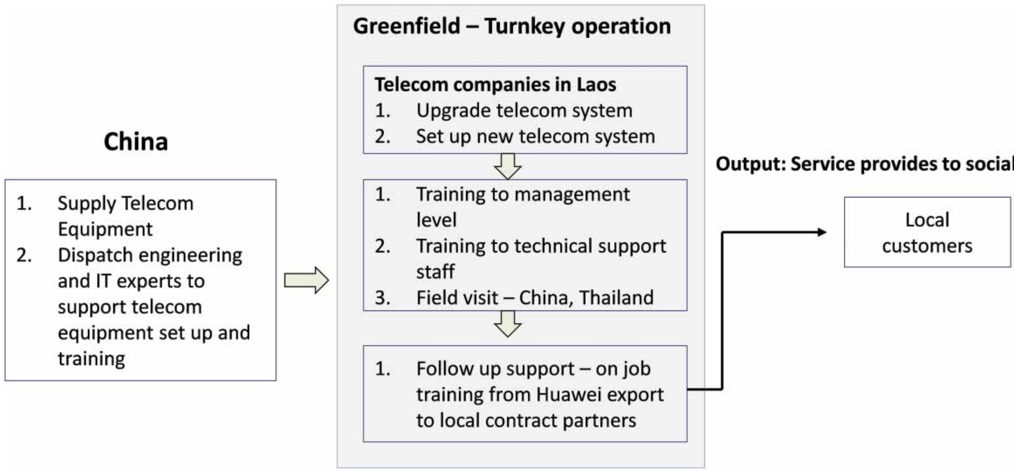

Figure 3: Supply chain of Huawei, Laos Office.
Source: Based on interview Mr Sengthavy Boudsady, Human Resource Division Officer of Huawie Technologies (Lao) Co., Ltd (December 2012)

3.2.4 *Key reasons for investing in Laos*

The reasons that the Chinese investors decided to invest in Laos include:

Political point of view:

(1) Laos and China have a similar trade and investment policy to support and have a harmonious and friendly relationship.
(2) The two governments are eager to promote good cooperation and friendship.

Economy, culture, and investment promotion point of view:

(3) Laos is a friendly partner of China, and it will benefit both nations to invest in Laos and strengthen economic, trade, and cultural exchanges.
(4) China and Laos share a border as well as good friendship for a long time.

Market demand point of view:

(5) There is huge demand for IT development in Laos, especially in the telecommunication sector because Laos lacks telecommunication innovation and development.
(3) Due to the high competition in IT and telecommunication in Laos, each telecom service provider is willing to invest in new technology to support the business.

3.3 *Vietnamese firm (HAGL – Hoang Anh Attapeu Company Ltd.)*

Vietnamese firms have expanded their foothold in Laos with a total investment of USD 3.45 billion in 212 projects, mainly in hydropower, mining, agriculture, and forestry. Currently, Vietnam's investments have been poured into 16 of Laos' 17 provinces, mainly in the greatest-potential and key economic sectors of the country. However, this article has selected HAGL (Attapeu Rubber Plantation) as our case study.

3.3.1 *Overview of HAGL (Attapeu)*

HAGL is a public company listed on the Ho Chi Min (HCM) City Securities Trading Department, Vietnam and the Global Depositary Receipt (GDR) certificates listed in London Stock Exchange, with total assets up to Vietnamese Dong (VND) 25 trillion as of 31 August 2011, equivalent to USD 1.25 billion (Hoang Anh Gia Lai Group, Wikipedia 2012). To date, the investment of HAGL in Laos has made up to 60% of overall HAGL investment in Laos. HAGL has contributed by creating jobs for the people of the two provinces and the neighbouring provinces and will employ up to 20,000 people in the future (currently, there are around 6000 people with regular work).

HAGL started investing in Laos as a 100% Vietnamese-owned firm in 2008 with the first project being that of developing the athletes' village for South East Asia (SEA) Games 2009, with grant funding from the government of USD 4 million and a USD 15 million loan without interest for three years.

Recently, HAGL has started a subsidiary and several joint ventures in the rubber industry, including HAGL Rubber (200 billion VND capital, 99% owned by HAGL), Hoang Anh – Quang Minh Rubber (100 billion, 57.5%), Ban Me Rubber (25 billion, 66.6%), and Hoang Anh – Mang Yang Rubber (45.39 billion, 40%) (Nguyen Quang Thong, 2011).

3.3.2 *HAGL entry strategy and its mode of rubber investment*

By focusing on rubber green field investment of HAGL in Laos, the government has granted a license to the Vietnamese HAGL Group to plant rubber trees on 10,000 ha in Attapeu Province, in the southern part of Laos. HAGL (Attapue (ATP)) got the approval for land concession for 30 years to support rubber plantation, and a new extension of land concession from 75 to 95 years starting from 2012 for an area of 199,550 ha, with a total of 1592 local staff and 120 Vietnamese staff, according to the discussion with the Head of Investment Promotion sector in Attapue Province, 2012.

The company sets up a factory to process the rubber oil after cultivating and before exporting to Vietnam. The semi-rubber product will be exported from Laos to Vietnam and then the rubber agents in Vietnam will export it to the EU, Chinese, and USA markets. This type of investment strategy is called vertical integration. The company will cultivate its own farm or plantation using Laos labour for cultivation and supply to the factory before processing and export with little involvement with Lao labourers who work on the rubber site. The total investment on rubber plantations in Attapeu Province is USD 155,757,936 with a registered capital of about USD 80,000,000. The new rubber plantation project expects to create 3800 jobs for local people with an average income of between USD 150 and 170 per month (Figure 4).

Under this type of investment mode, there are two main approaches to invest in plantations in Lao PDR according to Poverty Environment Initiative Lao PDR, Issues Brief 04/2010 – large-scale concessions to companies and smallholder plantations. HAGL has selected large-scale concessions of land to operate its business in Laos. The company leases land for 95 years and hires local Attapue people to establish, operate, and harvest from the rubber plantation, which helps the company to maintain a high level of autonomy in how the plantation is set up and managed and to own its entire plantation. As the production and technical manager said, this mode gives them more efficient and more consistent production.

In this production model, HAGL has a relatively high level of autonomy in managing the cultivation and production of rubber. At the same time, most of the R&D is done at the headquarters in Vietnam and the development is then transferred to the host country. Therefore, HAGL is fully

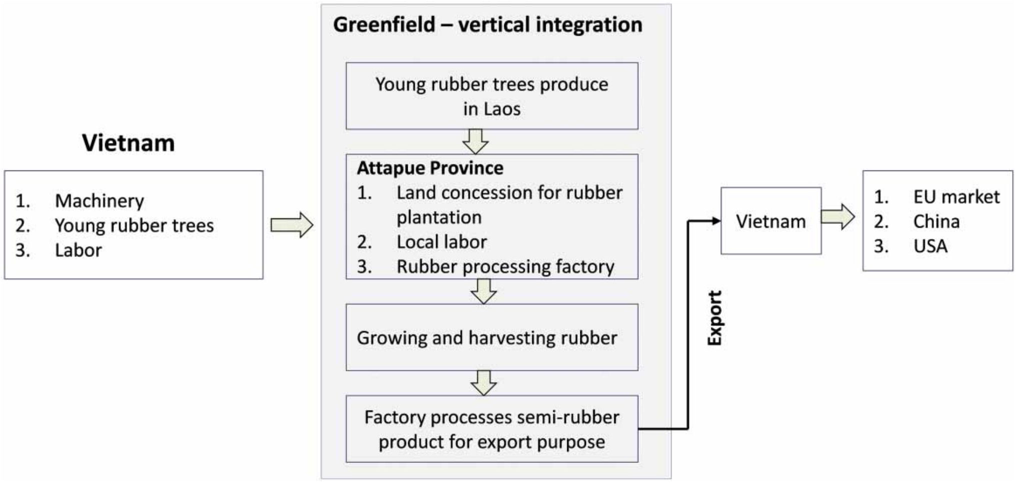

Figure 4: Supply chain of HAGL Rubber Plantation, Attapue Province.
Source: Based on Interview Mr Dang Van Tua, Production and Technical Manager of HAGL Attapue (December 2012)

responsible for capital, techniques, planting material, sourcing labour, and marketing its products (Charlotte et al. 2009).

Currently, the factory developed by HAGL has not yet started the production and processing of rubber. Right after the completion of the factory, HAGL will send technical experts on rubber processing to manage and supervise the factory. According to Dang Van Tue, production and technical manager, the engineers from HAGL will transfer factory skill to local staff to manage and operate the factory, and then engineers will be replaced by local staff trained by HAGL experts. In this case, we will find that there is no interaction between the HAGL factory and the local firm.

3.3.3 *Key reasons for investing in Laos*

HAGL Laos noticed many things suitable and convenient for HAGL investment as enterprises in particular and Vietnam in general and decided to invest in Lao PDR. These reasons include:

Political and geographical point of view:

(1) Laos Government and the Government of Vietnam have a special relationship with other countries of the world in political, economic, and social aspects.
(2) Vietnam and Laos share long borders; there are many international border gates where the transport is very convenient and, especially, Attapue Province is close to HGAL headquarters in Vietnam.
(3) Laos exports goods through ports such as Qui Nhon Vietnam, Da Nang, and it is very convenient to export rubber after harvesting through these ports directly to Vietnam.

Economy, culture, and investment promotion point of view:

(4) In terms of the relationship with the local people, there are two ethnic Vietnamese and Laos with similar cultures and a long diplomacy at both central and provincial level.
(5) Laos has great hydropower potential, abundant minerals, and fertile land suitable for growing rubber trees, sugarcane, and palm oil.

(6) The government of Laos also promotes this area in order to utilize the empty land to generate more jobs and investment in the country.

4. Analysis of the three cases

Table 5 focused on cross-case comparison within a country whereas Tables 6–8 explain about the mode of knowledge transfer, MNCs strategies, and technology transfers to the host country.

Which is the better mode of interaction for knowledge and technology transfer to the local host country? The choice of investment mode and interaction among these three companies is green field investment with less technology innovation and technology transfer to the local

Table 4: Selected FDI indicators, 2010

Country/region	FDI inflows (USD million)	FDI inflows (% GFCF)	Inward FDI stock (% GDP)
Lao PDR	350	19.8	32.3
Vietnam	8173	22.9	66.1
Cambodia	783	38.8	52.4
Thailand	5813	7.3	39.9
Southeast Asia	79,408	16.4	51.5
LCDs (total)	26,390	22.8	27.8

Source: UNCTAD World Investment Report (2010).

Table 5: Cross-case comparison within a country

Key strategies and investment	CP Group (Thailand) Agribusiness (farm)	Huawei (China) Communication provider	HAGL (ATP) Rubber Plantation
Strategies	Three benefits: (1) National benefit, (2) people benefit, (3) company benefit green field	Service provider/main supplier telecommunication components	Vertical integration and green field
Type of business	Contract farming and 100% end product supplied to the local market	Telecommunication components/parts and service provider	Rubber plantation and processing
Mode of entry	99.6% or 100% FDI (green field investment)	100% FDI import of telecom equipment (green field investment)	100% green field investment
Outputs	Food and meat sale in the local market + young baby pig	New end products for clients/telecom companies in Laos	Semi-rubber product for export
Obstacles	Lack of skilled labour	Number of competitors are increasing every year	Labour skill and lack of labour to support plantation and harvesting
	No new technology development in the host country	Lack of technicians in the local country and it is expensive to import Chinese experts	Labour absent from regular work, such as for rice farming in season
	Farmers still do business in the traditional way		High labour turnover
	People are slow in obtaining new knowledge transfer		

Table 6: Mode of knowledge transfer

Mode of knowledge transfer	CP Group (Thailand) Agribusiness (farm)	Huawei (China) Telecommunication provider	HAGL (ATP) Rubber Plantation
Main mode of transfer	Contract farming	Turnkey	Almost nothing (all main activities are carried out inside the company)
Trend in transfer mechanisms in the past five years	CP expands more contract farming mode with farmers; three factories expand in three provinces of Laos	The company has more contracts with telecom company in Laos (from one to four telecom service providers)	Plantation development and expansion of the land, less technology transfer
	Local staff and farmers learn new technology form CP	The telecom skill transfer from one local firm to three other firms	
Consultancy fees/ technical service fees	Using consultants and technical experts from CPF headquarters	Included in contracts between Laos Telecommunication and Huawei Company	Pay per contract to experts to train and support HAGL (ATP) on the plantation and technicians at the factory
Training (by and to whom, duration, type of training)	CP experts will train local contract farmers based on the situation that might occur with the farm	Yes, every time when purchasing new equipment from Huawei	Training to head of unit, and head of unit trains labour, office staff and engineers at the rubber plantation factory
	A major training will be conducted once a year for farmers	Company will hire technicians to impart training to Laos telecom	
Personnel exchange (who? how long? how often?) joint development projects (who? where? how long? how often?)	Contract farmers visit Thailand and Cambodia for exchange experiences and knowledge – twice a year for one week duration	Yes, but based on contract conditions between Laos telecom and Huawei (one to two weeks)	For office staff only and normally one to four weeks period (two times a year) which depends on the scope of job assignment
		Two company staff are sent to study in Thailand and China	

country. All modes have their advantages and disadvantages. In general, the choice will depend on the circumstances that the firms are facing. If the firms are seeking to enter the market where there are already high-demand markets, where competitors in host country are not strong enough or where existing companies of the host country are not well established, it may pay to enter via an FDI in the form of green field with a different interaction strategy.

In this case, we found that all of them are 100% FDI but the difference is the interaction strategies of each firm selected. However, CP Laos and HAGL have had to spend more time in the installation of the field, farms, and factory to support the cultivation, which includes skill, knowledge, as well as new technology transfer to local partners. This strategy takes more time, because

Table 7: Outputs of cross-country knowledge transfer: what and how

Outputs	CP Group (Thailand) Agribusiness (farm)	Huawei (China) Communication provider	HAGL (ATP) Rubber Plantation
New products (global/ASEAN/ National)	Not now, but in a few years from now, CP will introduce food-processing technologies	None (everything is done under a turnkey contract)	None (only produces semi-finished products for export to Vietnam)
New processes	New process breaks the traditional way of raising pig	Better network and new technology to serve users, high-speed internet and mobile internet	None
New knowledge	Local contract farmers will gain new technology and knowledge from CP experts sent to follow-up the farm, e.g. feeding method, modern pig house, medical support in raising techniques and follow-up plan	Laos telecom company will gain new technology knowledge from Huawei technicians in terms of network development, mobile network, internet speed, and service centre	New knowledge obtained in some aspect based on HAGL planned
Significantly improved engineers/ technicians/R&D personnel	Farmers learn techniques for raising pigs: risk management, reporting, raising technique based on CP formula, weight control of pigs, modern pig house	Limited skill in IT and telecom innovation and development. All equipment is imported and installed by Huawei engineers; better service provided to customers	Office staff gain management skills, however, farmers do not gain any skill because growing rubber and extracting rubber oil are skills that farmers already have
Significantly improved technology development/ R&D system	None	None	None

local partners are new to new technology and have less educational background where they have not studied in colleges. Yet, in the long run, after the skill transfer, the firms will enjoy this investment.

To tackle labor shortage, Huawei needs to find or recruit experts to support the system development during the obtained contract. Therefore, when the technical work is taken over by foreign labor, the company will pay more money to foreign experts to support the work. Hence, it is seen that the technology and knowledge transfer is limited to Huawei and contract partners.

As seen from Tables 5–8, the stakeholder ‘CP Mode of interaction in the form of contract farming’ is the most effective mode and provides more benefits to local partners in terms of knowledge and technology transfer, secure income, and new business knowledge gain than the other two companies. On the other hand, based on the interview conducted, CP Laos will gain more control on the output side of the final product over the farmers, either buying back from farmers or quality pig raising control. The security on investment and the income on investment at the same time show more promise to the company because the company supplies all fertilizers,

Table 8: Mode of knowledge transfer

Investors supporting programme	CP Group (Thailand) Agribusiness (farm)	Huawei (China) Communication provider	HAGL (ATP) Rubber Plantation
Training to local staff	Local staff at the office receive training regularly	Yes, every year one or two employees are sent to Thailand and China for field study; one to two weeks followed by on-the-job training	Yes, quite often but for office staff only
Technology transfer	New technology will be transferred to farmers and local staff	To contract partners (Laos telecom companies)	Very low, because most of technicians are Vietnamese
Promotion of local technical staff	CP Laos has the plan to promote Laos staff to replace Thai staff and to reduce the number of Thai technicians by replacing them by Laos technicians	No, because the company invests as service providers; key operations via contract as well as import equipment to install for contractors' systems	Yes, but up to vice director position, only for office staff, not for labour or farmers

baby pigs, and experts to support the local farmers. The farmers also gain credit of the CP brand, which will help them differentiate the CP products and those of the local farms who have not contracted with CP. That is why we can see that the local farmers gain new knowledge, new business ideas, and new processes of doing farm business as well as stable income and brand perception through CP investment.

On the drawback side, this investment mode (contract farming) will not give more opportunities to farmers to learn from CP's technical experts as well as less opportunity to have exchange programmes with headquarters because all technical side CP experts will manage and control without sharing technical skills with the local farmers. The farmers are not encouraged to take any initiative in improvement, innovation, and product development. Therefore, the contract farming mode will not give more potential to local farmers to become farm experts in the long run as the contract farmers are not counted as permanent staff in the CP company.

To summarize the analysis about which is the better mode of investment, we can conclude that

(1) CP Laos investment, according to the above analysis shows high return on profit to the company as well as to local people compared to the other two investment modes.
(2) It is the better mode of investment. This mode gives more ownership, participation, responsibility, knowledge, and technology transfer, securing the investment and fits the needs of the local partners. More importantly, green field investments will bring new production capacity techniques to be shared with the local host.
(3) In the long run and for sustainability, CP Laos shows more promise for local partners; even though they do not continue to have contracts with CP, they can still operate their own farms in the future.
(4) The contract farming mode will generate more self-employment and revenue at the grass root level; they can start from small farm to big farms based on knowledge and experience obtained from CP Laos.

5. Summary

This article has pointed out the different modes of entry FDI that the three companies selected as their business strategies when entering to do business in Laos. It has shown that green field investment is likely to support agribusiness more whereas turnkey operation mode is good for technology update for the local country when there is lack of engineering competency in the host country. Furthermore, each selected mode of entry focuses strongly on the cost saving mode of investments as well as on solving the problem of low productivity and low labour skill of the host country.

We saw some lessons learnt that all new technology developments of the three companies are done and guaranteed from headquarters. The benefit to the company is high besides income generation, but technology transfer to the locals is less and limited to a specific group of people. We also found that the office staff would have a chance to receive soft skills transferred by the three companies, whereas there is no hard skill transfer. When there is shortage of labour in the host country, the firms will import labourers from their own countries to support the production and business in the host country. More importantly, all three MNCs dominate the market and control all business operations of their own suppliers and distributors from input to output of production. At the same time, there is less involvement from local firms in joining production and supplying raw material to the firms, because these three firms rely on their own network; therefore, it is hard to receive benefit from MNCs' technology spillover. Finally, Laos is a small country and has a small market. Large MNCs will prefer to set up the production base in a large market; therefore, Laos will be chosen as a resource-seeking country.

To tackle these lessons learnt, the following policy implications should be taken into account:

(1) The government should emphasize at the very beginning that investors should allow local firms to be part of the investment chain. Even though the local firms lack the skill and technology to be co-producers, in terms of raw material supply and distribution, it should be open for local firms to participate.
(2) Even though there may be shortage of local labour and lack of competency compared to neighbouring countries, the government should make sure that these local labourers have enough opportunities to develop their skill through in-house training rather than importing labour to fulfil the firms' operation.
(3) When the government sees that there is little involvement and technology transfer to local labour or staff and when large firms seek resources in the country, the government should encourage FDI to set up factories to process the raw material as value-added product as well as set up joint training programmes with universities or any institutions for future development.

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