



Bringing Agroecology to conventional markets: the approach of the Agro-Processing Development (APD) Co. Ltd.

*Lao Upland Conference,
Session 3.1. Bringing agroecology to the market: Innovative market
approaches and institutional settings
March 13th 2017, Luang Prabang*



Outline

- Context
- Developing agro-processing in Laos
- Objectives and philosophy
- Examples of activities in partnership
- Do we contribute to sustainable development in the Lao Uplands?
- Ways forward

Context (1/3)

1. Consumption trends: an increasing demand for livestock products (hence animal feed) in SEA.

Region	Meat (kg/capita/year)			Milk (kg/capita/year)		
	1964-1966	1997-1999	2030	1964-1966	1997-1999	2030
World	24.2	36.4	45.3	73.9	78.1	89.5
Developing countries	10.2	25.5	36.7	28.0	44.6	65.8
East Asia	8.7	37.7	58.5	3.6	10.0	17.8

http://www.who.int/nutrition/topics/3_foodconsumption/en/index4.html

Context (2/3)

2. Current situation in Laos

- **Livestock products imported** from neighboring countries
- **Limited animal feed processing:** raw material exported to neighboring countries (FAOstat: *3 million tons of cassava and 1.5 tons of maize produced in 2016 in Laos... and mostly exported*)
- **Concentrate feed imported** for fish, poultry and pig production



Context (3/3)

3. Trade in agricultural commodities (Lao-Thai 2016)

• Lao Imports	28,355 million Baht
- Live pig	3,235 million Baht
- Pig parent stock	0,564 million Baht
- Animal feed	0,333 million Baht
• Exports	5,212 million Baht
- Cassava chips	1,759 million Baht
- Cassava roots	0,523 million Baht
- Bananas	0,160 million Baht

Source : OAE Thailand

Developing agro-processing in Laos

1. At the national level

- **2 factories for animal concentrate feed** production located in Vientiane (Nong Teng) and Luang Prabang (Nam Nam bac)
- **1 slaughter and packaging facility** (Nam Xuang) to promote Lao fresh meat and consumption in urban center markets.



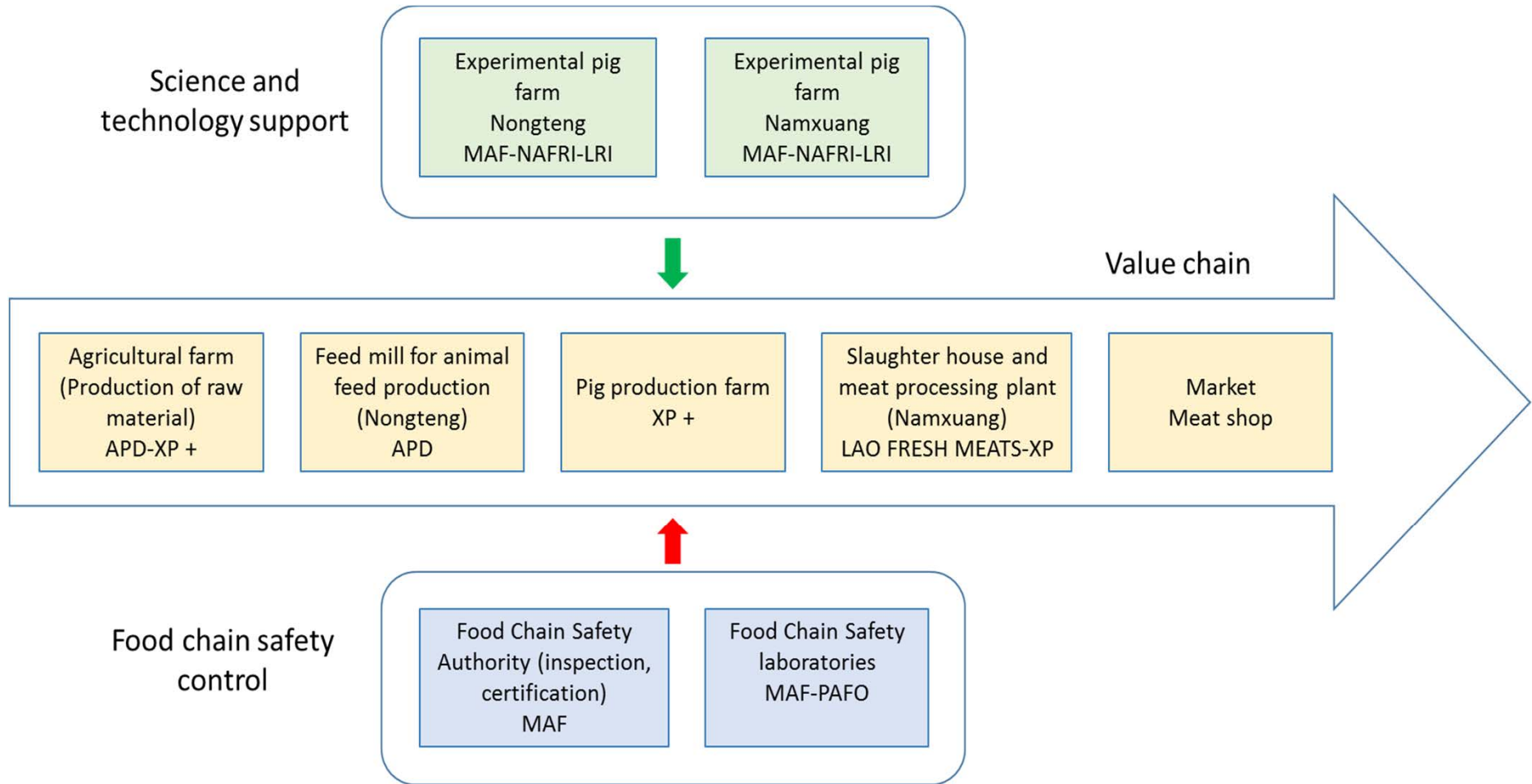
<https://www.facebook.com/LaoFreshMeats/>

Developing agro-processing in Laos

2. Operating concept

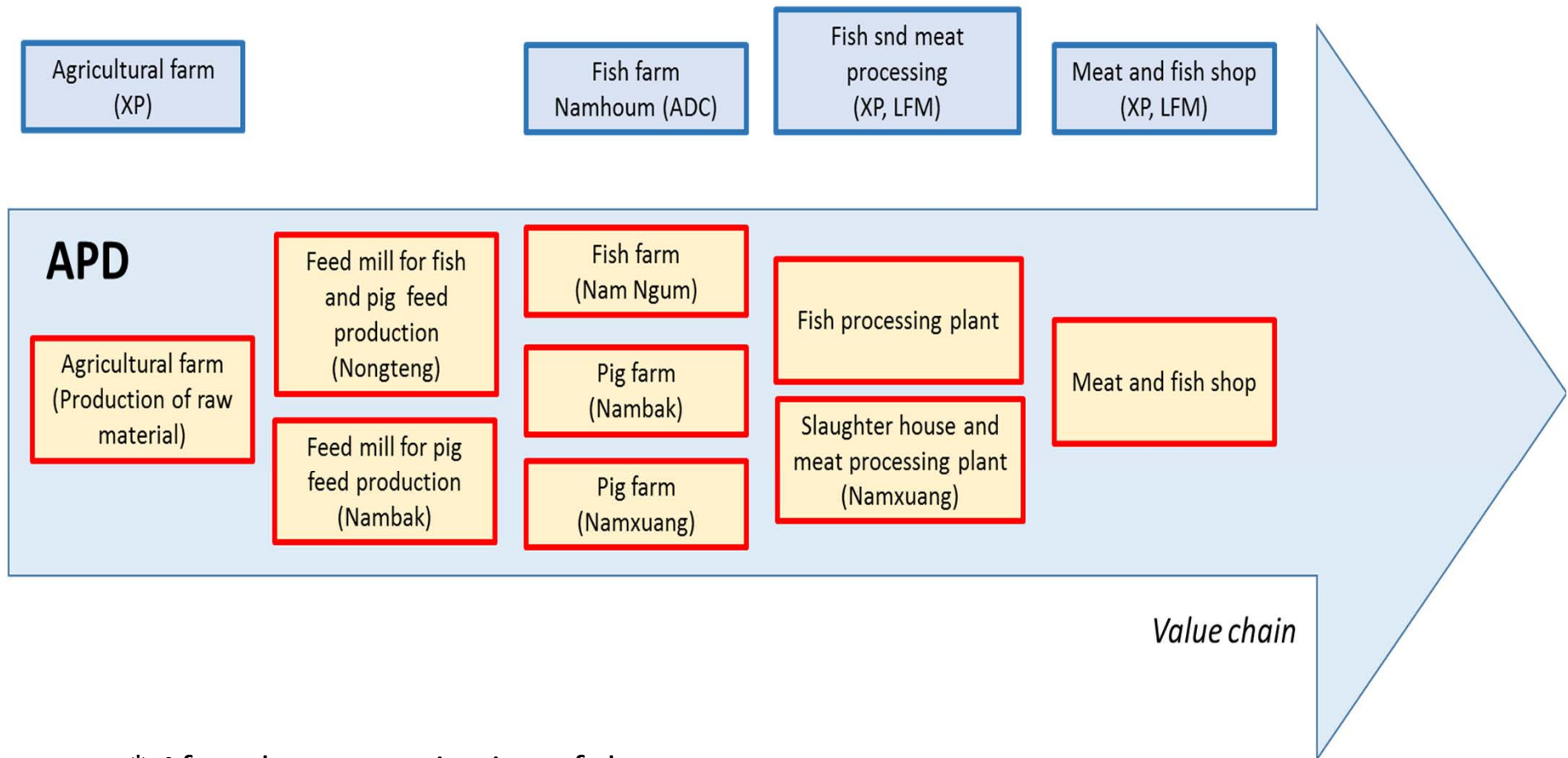
- **Close collaboration** with a Hungarian tied aid loan program.
 - aims to establish an integrated production system of pig and fish;
 - profit will be realised through the marketing of the final high quality and safe meat and fish products.
- Legal background of the operation is an **Agreement with the Ministry of Finance**. The PPP contributes to the sustainability of the results of the tied aid loan program and also to the payback of the loan.
- Includes demonstration and extension components and research & development projects.

“Pig integration” scheme



Facilities to be operated by the APD*

Partners



* After the reorganization of the company

Developing agro-processing in Laos

3. At the local level:

- Establish **Harvest Centers** and **Post-Harvest Centers** to meet the drying, storage and feed making needs of village farmers (XP trading Co.)



Grain bins



Ovens with fans



Hoppers with baggers

Objectives and Philosophy

1. Develop local (Lao) entrepreneurship

- APD is **Lao majority-owned** company (70%)
- Objectives of 1) increase **local production** of pork, eggs, poultry and beef for the local and urban center demands using **local breed** (pig); 2) Develop Lao-produced raw commodities, specifically targeting **proteins production** for concentrate feeds



Soybean



Black Soldier Fly larva



Cassava leaves

Objectives and Philosophy

2. Invest on quality – food safety

- Invest in **feed quality control** lab (Nong Teng, 2018)
- Control the level of pesticide residues on inputs (raw material) and outputs (concentrate feed)
- **No antibiotics** added to the concentrate feed
- **No preservative** added to the fresh meat sold



Example of activities in partnership

1. Promoting soybean production

- In partnership with projects and local PAFO/DAFOs (Xkg, Lpg)
- Investing in **trust building** with farmers (XP trading):
 - Visit of the processing factory
 - Commitment to buy up to 2,000 tons of soybean (2017)
 - Guaranteed minimum price according to quality (3,500 LAK/kg for grade A and 3,000 LAK/kg for grade B)
 - Donation of a soy/corn dryer



Farmers visiting XP trading factory in Xieng Khouang 2017

Example of activities in partnership

2. **Improving local breed (pig) and cassava leaves protein content with NAFRI**
3. **Valorizing local recycling solutions**
 - Purchase of BSF dry larvae and maggot meal with Waseco Co. (Waste Eco solution) as protein source for concentrate feed



Research & Development Projects

- **Research** has been carried out in cooperation with **NAFRI** and **NUoL** in the following areas:
 - use of non-conventional protein resources (e.g. insect protein, Artemia)
 - closing the life-cycle of indigenous aquatic species;
 - development of feed formula for indigenous species (pig and fish);
 - nutrient recycling in farming systems;
 - sustainable intensification in animal and fish farming;
 - development of post-harvest technologies;
 - development of organic production and certification;
 - marketing and consumer's communication.

Do we contribute to sustainable development in Lao Uplands?

Some questions

- Does the initiative support the adoption and dissemination of **diversified farming systems and/or agro-ecological practises**?
- Does it support **smallholder farming** and **community-based agricultural development**?
- Are the **public benefits** anticipated from the PPP partnership **clearly defined**?
- Are investment contributions and **risks shared**?
- Do **all partners play an active role** at various stages of the PPP project life-cycle?

Do we contribute... (ctd.)

Criteria	Assessment/ expected results
<ul style="list-style-type: none"> Agroecological practises 	<ul style="list-style-type: none"> Promotion of locally-produced protein sources and of N-fixing legume crop that will contribute to soil fertility improvement Support recycling (BSF, pig manure recycling)
<ul style="list-style-type: none"> Smallholder farming and community-based development 	<ul style="list-style-type: none"> Directly through Harvest and Post-Harvest Centers Indirectly through partnership with projects and agricultural extension agencies
<ul style="list-style-type: none"> Expected benefits clearly defined 	<ul style="list-style-type: none"> Alternative income to maize (income diversification) Soil quality improvement Reduced farmers dependancy to external inputs (imported AI feed and fertilizers)
<ul style="list-style-type: none"> Shared investment and risks 	<ul style="list-style-type: none"> Initial investments mainly supported by APD Production risks supported by farmers
<ul style="list-style-type: none"> Active roles for all partners 	<ul style="list-style-type: none"> APD: market, capacity building (harvest centers Mgt) District: technical advisory, facilitation Producers: implementers

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Ways forward

- Limited human resources to engage directly into GAP / eco-friendly innovation design and promotion with farming communities
- But ready to develop partnerships and support all initiatives in line with our objectives and philosophy i.e:
 - Develop agro-processing in Laos
 - Develop local (Lao) entrepreneurship
 - Improve the quality & safety of inputs (raw materials) and outputs (animal products)



Thank you for your attention