THE SITUATION REVIEWS OF AGRO-ECOLOGY INITIATIVES, STAKEHOLDERS AND NETWORKS IN LAO PDR

MISSION COMPLETION REPORT

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February, 2016

GRET
Professionals for Fair Development

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EXECUTIVE SUMMARY

The Situation review of agro-ecology initiatives, stakeholders and networks in Lao PDR reports the information and data on the six most significant agro-ecological practice/schools (SRI, CA, Organic Agriculture, IPM, Agroforestry and VAC/Integrated farming) collected between October to December 2015. It provides a current status of the policy framework, the stakeholders, the initiatives and the achievements related to the agro-ecology in Lao PDR. A desk review combined with interviews and field visits was used for this study. The main finding can be summarized below.

The national strategies and legal frameworks to promote and support agro-ecology exist and are clearly formulated by the government of Lao PDR under the principles of "Sustainable resource utilization and land-use planning". The "Clean, Safe and Sustainable agriculture" is furthermore integrated in the five year plan of the Ministry of Agriculture (70,000 certified organic producers and 100,000 certified GAP producers in 2030). Furthermore, the country's diverse biodiversity has been considered as one key to poverty alleviation and protect the current asset base of the poor. Several laws, decree and regulation have been adopted in order to support such policy, e.g. law on agriculture, forestry law, land law, decision of the MAF on Organic Agriculture Standards, regulation on the control of pesticides in Lao PDR.

While the policies, strategies, laws and regulations regarding agro-ecology are clear formulated, it is important to mention that some policy implementation tends to have negative consequences to the agro-ecological practices, e.g., the promotion of foreign investment and the land concession seems to have an impact of Land Use, more land under food and cash crops have been converted into the industrial crops. The changes leads to land use conflicts. The rapid Land Use Change has affected the agro-ecological system of Lao PDR, whilst the agro-ecological practices.

By addressing the six agro-ecological practices (Conservation Agriculture, Agroforestry, SRI, VAC/integrated farming, Organic Agriculture and IPM), 60 agro-ecological initiatives managed by 59 stakeholders have been identified during this survey, who can enrich a future network with a diversity of experiences. Sometime it was difficult to delineate clear boundaries between the stakeholders and the different agro-ecological practices because some initiatives combine different agro-ecology practices and vis-versa different stakeholders involved the one practice, e.g. SAEDA – a Lao NPA – involved in the Organic agriculture, SRI and Agro-ecology, the NU-PCR is a multi-stakeholder project (CCL and CARE International).

It is important to mention that the initiatives and the stakeholders presented in this report, it isn't an exhaustive. More potential stakeholders are still need to be explorer in the

KEY DATA

Name of Project:

Agro-ecology Learning alliance in South East Asia (ALiSEA)

Activity:

Situation review and stakeholder mapping in Lao PDR

Contracting Authority:

GRET LAO PDR

Start / End Date:

October - December 2015

Team work:

Pierre Ferrand
(Mission supervisor)

Phengkhouane Manivong
(Team leader)

Souliyouan Viengkhamsone
(Field assistance)

future. Some of stakeholders have been contacted during the survey. However, we didn't obtain sufficient information to be able to include them in the stakeholder list. On the other hand, some of potential stakeholders interviewed don't promote yet the six agro-ecology practices. However, they might become the active stakeholders in the future.

The farmer's groups and the private companies represent the majority of stakeholders identified, accounting for 32% and 31% respectively. The large existences of them are related to the boom of the organic agriculture practice in Lao PDR. In detail, all farmers groups and almost of private companies are involved in the organic agriculture production and the marketing. In term of location, the agro-ecology initiatives are relatively high developed and diversified in the northern provinces of Lao PDR, where the favorable factors of the agro-ecology were found, such as small scale farmers, the availability of family labors, the support from government agencies and the rural development projects. Phongsaly, Luang Prabang, Xiengkhouang and Vientiane province are the most diversified agro-ecological practices with four agro-ecology practices (SRI, Organic Agriculture, Agro-forestry and IPM).

Among the six most significant agro-ecological practices cited above, the organic agriculture is the most developed with more than 85% of identified stakeholders involved in this activity. The agroforestry and SRI are followed distinctly with 10 and 6 stakeholders respectively. Although small number of stakeholders was found in CA and IPM, both agro-ecology practices have disseminated in a large area of Lao PDR by the international organization. The IPM practice has been promoted by the FAO via the FAO-IPM project using the Farmer Field School concept. Now the FAO – IPM is expanded in nine provinces of Lao PDR. The CA practice is promoted by CIRAD – a French research center – thought the NUDP-EFICAS project covering five Northern provinces of Lao PDR. VAC/Integrated farming is the less present agro-ecological practice in Lao PDR. However, the survey team still believes that this agro-ecological practice exists in Lao PDR in the household scale and scatter in the ground level (district and provincial level) that seems difficult to label them without the in-depth study.

According to the Case studies in three provinces of Lao PDR where the broader diversity of initiatives related to the six agro-ecology practices were found, farmers adopt a sub-set of the principles proposed by each practice rather than a complete technical package. As a consequence, trying to delineate precise boundaries between practices will divide more than synergize and may widen the gap between agro-ecology discourses and field/farm realities. For more detail in the Case studies, please refer to Chapter III: Agro-ecology networks in Lao PDR.

The agro-ecology stakeholders confirm a shared interest for bridging and synergizing these initiatives, in order to exchange and enrich experience, to increase the visibility of the practices and scale up their adoption by farmers and inclusion in public policies, as well as to increase their capacity of fund raising for strengthening the existing networks. Some stakeholders are already cooperating together, e.g. NUDP-EFICAS collaborated with NU-PCR in the SRI practice, SRI-LMB works in partnership with FAO-IPM in the dissemination of SRI and IPM in the rice field.

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LIST OF ABBREVIATION

- AAN: Alternative Agriculture Network
- ACIAR: Australian Centre for International Agricultural Research
- ACISAI: Asian Centre of Innovation for Sustainable Agriculture Intensification, AIT
- ACTAE: Accompagner la Transition Agroécologique dans la region Mékong" (Toward Agroecology Transition in the Mekong Region),
- ADB: Asian Development Bank
- ADDA: Agricultural Development Denmark Asia, International NGO
- ADS2025: Agriculture Development Strategy to 2025 and vision to 2030
- AFD: French Agency for Development
- AGPC : Association des Groupements des Producteurs de Café du Plateau des Bolovens
- ASDSP Association pour le Soutien au Développement des Sociétés Paysannes
- ASFN: ASEAN Social Forestry Network
- ASOCON: Asia Soil Conservation Network for the Humid Tropics
- CA: Conservation Agriculture
- CAA: Community Aid Abroad
- CANSEA: Conservation Agriculture Network for Southeast Asia
- CGIAR: Consultative Group for International Agricultural Research
- CIRAD: Centre for International Research on Agricultural Development, France
- DAEC: Department of Agriculture Extension and Cooperatives
- EU: European Union
- JICA: Japan International Cooperation Agency
- FAO: Food and Agriculture Organization of the United Nations
- FFS: Farmer Field Schools
- GAA: Welthungerhilfe, German Agro Action
- GAP: Good Agricultural Practices
- GRET : Groupe de Recherche et d'Echanges Technologiques, France
- IBI: International Biochar Initiative
- IPM: Integrated Crop Management
- IFOAM: International Federation of Organic Agriculture Movements
- INGO: International NGO
- IRD Institut de Recherche pour le Développement, France
- KKU: Khon Kaen University
- LWU: Lao Women Union
- LDD: Land Development Department, Thailand
- MAF: Ministry of Agriculture and Forestry
- MI:The Mekong Institute
- NAFRI: National Agriculture and Forestry Research Institute, Lao PDR
- NARC: Lao National Agriculture Research Center
- NSDS: National Sustainable Development Strategy
- NGO: Non-Governmental Organization
- NLMA: National Land Management Authority
- NOUL: National University of Laos
- NSEDP: National Socio Economic Development Plan
- OA: Organic Agriculture
- PADETC: Participatory Development Training Centre, Lao NGO
- PRONAE : Programme National d'Action en Agroécologie
- PROSA : Programme sectorial en agro-écologie
- RECOFTC: Regional Community Forestry Training Centre for Asia and the Pacific, The Centre for People and Forests
- SAEDA: Sustainable Agriculture and Environment Development Association, Lao PDR
- SDC: Swiss Agency for Development and Cooperation
- SEAMEO: Southeast Asian Ministers of Education Organization
- SEANAFE: South-East Asia Network for Agro-Forestry Education
- SEARCA: Southeast Asian Regional Centre for Graduate Study and Research in Agriculture
- SEATO: Southeast Asia Treaty Organization
- SRI: System of Rice Intensification
- VAC: Vuon, Ao, Chuong in Vietnamese which means garden/pond/livestock pen

- t: ton
- Mt: Million tons

INTRODUCTION

The Situation review of agro-ecology initiatives, stakeholders and networks in Lao PDR is an inception phase of the component 2 under ACTAE project known as ALiSEA. The ALiSEA is implemented by GRET aiming at promoting the emergence of a new regional agro-ecological learning alliance in South East Asia and strengthening knowledge and experience sharing among agro-ecological initiatives and actors, at increasing the visibility and the credibility of agro-ecological movement towards policy makers and consumers, and at scaling up the development and adoption of agro-ecological practice among farmers.

The ultimate goal of the inception study is to consolidate the maximum information on the six most significant agro-ecological practices/schools (SRI, CA, Organic Agriculture, IPM, Agro-forestry and VAC/Integrated farming) promoted in four countries of Mekong region (Lao PDR, Cambodia, Myanmar, and Vietnam) and provide some in-depth information through stakeholders field level case study. The three main objectives of the study are:

- Understand the policy framework related to the Agro-Ecology at national and regional level;
- Identify main stakeholders (allies and champions) for the promotion of agro ecology across the Mekong Region, as well as existing networks in order to understand the agro-ecology dynamics and initiatives
- Establish the Agro-Ecology initiative database to support the Mekong Region Agro Ecology Web portal

For Lao PDR, the study was conducted between October and December 2015 by the national consultancy team composed of two people with the collaboration of ALiSEA coordinator and GRET. The author was recruited as a Team Leader to conduct this survey on behalf of Lao team.

This report aims at sharing key findings of 25 working-days during October to December 2015 through a review of the literature combined with the stakeholder's consultation and the Case study in three provinces of Lao PDR (Xiengkhouang, Luang Prabang and Vientiane Capital) where the broader diversity of agro-ecology schools were found. This report provided a broad, yet non-exhaustive, overview of the current situation of agro-ecology in Lao PDR with some in-depth information on the outstanding agro-ecology initiatives though the twelve Case studies. The report organized in three main chapters below:

- CHAPTER I: Policy framework related to the agro-ecology in Lao PDR

  Describe an overview of national strategy and existing laws, decrees and regulations promoting and supporting the six agro-ecology practices/schools (SRI, CA, IPM, Integrated farming/VAC, Agro-forestry, Organic Agriculture);
- CHAPTER II: Agro-ecology initiatives and stakeholder in Lao PDR

  Describe the current status of stakeholders and the dynamic of their practices related to the six agro-ecology schools (SRI, CA, IPM, Integrated farming/VAC, Agro-forestry, Organic Agriculture) though the ago-ecology geo-mapping, current context description and Case study;
- CHAPTER III: Agro-Ecology networks in Lao PDR

  Describe an overview of different types of agro-ecology networks exiting in the Mekong sub-region and Lao PDR.

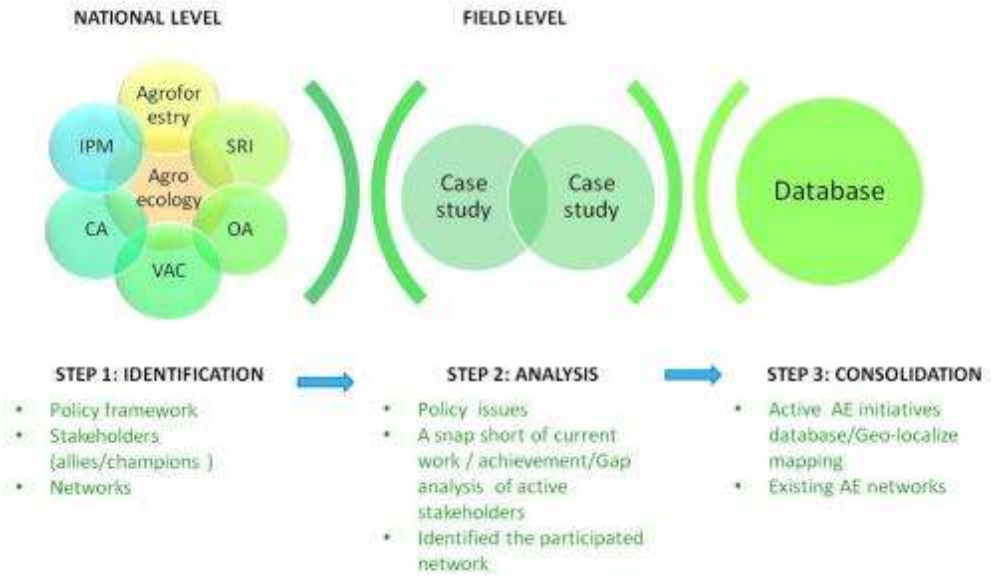
IMPORTANT NOTICE:

It is important to mention that this study has some following limits due to the short duration of the survey (October to November 2015):

- The stakeholder list isn't an exhaustive list. More potential stakeholders need to be explorer in the future. Some of potential stakeholders have been contacted during the survey. However, we didn't obtain sufficient information to be able to include them in the stakeholder list. On the other hand, some of potential stakeholders interviewed don't promote yet the six agro-ecology practices. However, they might become the active stakeholders in the future;
- Some data on the Agro-ecology database is missing and need to be update in the future;
- Only a few networks are identified

METHODOLOGY

The methodology employed for this study included three main steps presented below.



ACTIVITY 1: REVIEW OF THE AGRICULTURAL POLICY FRAMEWORK

The consultancy team conducted a desk review on the existing national strategy, laws, decrees and regulations addressing the topic presented below were conducted:

- National strategy and plan related to the agriculture sector, protection of biodiversity, etc.
- Laws, decrees and regulations promoting or supporting the six significant agro-ecology practices/schools (SRI, CA, IPM, Integrated farming/VAC, Agro-forestry, Organic Agriculture)
- Laws, decrees and regulations promoting or supporting small scale farming, food security and sustainable agriculture;
- Climate friendly agriculture or climate smart agriculture and green growth;

The interviews of some key informants were conducted to have a better understanding of policy contexts and have deeper information. A list of all contact persons and interviewees is enclosed in this report.

ACTIVITY 2: AGRO-ECOLOGY STAKEHOLDER, INITIATIVE AND NETWORK REVIEW

Step I: identification

Institution/organization level: The starting point of the stakeholder, initiative and network survey is the list of agro-ecology stakeholders provided by GRET. This list contained a certain number of the agro-ecology stakeholders that considered as “active” until 2013. Based on this list, the consultancy team revised their current status in order to understand their current work, achievement, action plan and their networks. At the same time, the consultancy team seeks to identify new stakeholders from potential stakeholders (government, NGOs, farmers’ organization, funding agencies, etc.) who promote/support the agro-ecological practices.

A short questionnaire was sent to the contact persons identified from the previous stakeholder list together with the potential stakeholder list. In total, 70 people have been contacted. More than half of them have been interviewed during this survey. A list of all contact persons and interviewees is enclosed in this report.

Individual level**:** The champions who disseminate the agro-ecology practice in Lao PDR have been identified throughout the following criteria:

- Contribution (value): Does the stakeholder have information, counsel, or expertise on the issue that could be helpful to the project / network?
- Legitimacy: How legitimate is the stakeholder's claim for engagement?
- Willingness to engage: How willing is the stakeholder to engage?
- Influence: How much influence does the stakeholder have? (And "who" they influence, e.g., government, NGOs, consumers, investors, etc.)
- Necessity of involvement: Is this someone who could derail or delegitimize the process if they were not included in the engagement?

Step II: Analysis

Base on the list of stakeholder identified in the IDENTIFICATION step, the consultancy team conducted twelve "Case studies" in order to understand the current work/achievement of active stakeholders at local and provincial level. It is important to note that the Case studies are seen as illustration of the different practices and outstanding agro-ecology initiatives. The Case studies have been conducted in Xiengkhouang, Luang Prabang province and Vientiane Capital, where the broader diversity of initiatives has been found. The selection has not been made through a statistical tool and they are not comprehensive.

The Case studies were selected based on two following criteria:

- **Criteria 1**: The practice must fall under at least one of the six schools of AE (Agro-forestry, Conservation Agriculture, System of Rice Intensification, Integrated farming / MPF / VAC, IPM, Organic Agriculture). The seeds and planting materials should be of natural ones or open pollinated lines (no GMO) and locally available;
- **Criteria 2:** Small farmers fall under the following criteria:
  - be an owner of the land used for the gro-ecology practice, no temporary settle farmer;
  - be able to document the practice;
  - do not hiring an extensive external labor for the practice
  - be not controlled by local authorities for the choice of crops and cultivation methods;
  - be involved in a practice at least 2 to 3 cropping cycles and some peer-farmers have adapted the practice

Step III: Consolidation

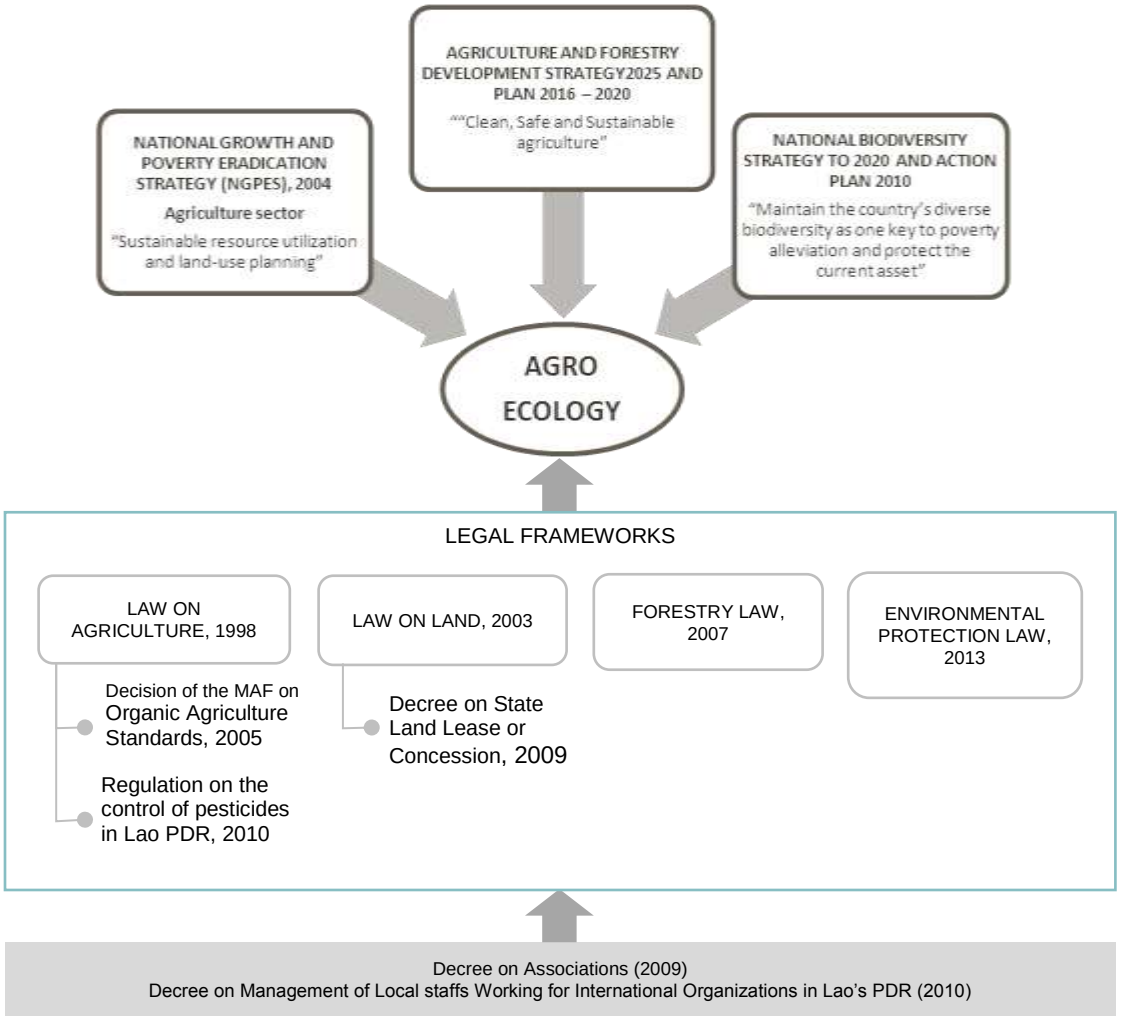
The main information and data collected during the study related to the six agro-ecology practices (SRI, IPM, Organic Agriculture, CA, VAC/Integrated farming, and Agro-forestry) have been gradually refined and consolidated in the "Agro-ecology database", the factsheet and the stakeholder geo-mapping. In additional, the short account of the network history, missions, structure and governance, partners and members thought the Network ID sheet.

CHAPTER I: POLICY FRAMEWORK RELATED TO THE AGRO-ECOLOGY IN LAO PDR

This section presents the findings from the desk reviews on the policy framework addressing, promoting, and supporting the agro-ecology practices in Lao PDR. Internet or online search was the main method used for collecting information. The interviews of key informants were effectuated to have a better understand of policy contexts and have deeper information.

Starting with the adoption of the New Economic Mechanism in 1986, the Lao PDR government has undertaken several economic and policy reforms. The overarching development goals of the Lao PDR are "**to reduce poverty and achieve growth with equity, with the aim of graduating from the "Least Developed" category of countries by 2020**". The recent adopted policy and strategy related to Agriculture sector, particularly in the Agro-ecology initiatives is summarized in the Figure 1 below.

Figure 1 : POLICY FRAMEWORK RELATED TO THE AGRO-ECOLOGY



I. NATIONAL STRATEGY RELATED TO THE AGRO-ECOLOGY

1.1. NATIONAL GROWTH AND POVERTY ERADICATION STRATEGY (NGPES), 2004

The National Growth and Poverty Eradication Strategy (NGPES) has been adopted in 2004 aimed at enhancing growth and development and reducing poverty, particularly in the 47 poorest districts in the country. The NGPES focuses on four main sectors: i) Agriculture/Forestry, ii) Education, iii) Health, and iv) Transport. The other sectors are further identifies, either as supporting sectors necessary for poverty reduction[1], or as key crosscutting sectors[2].

The NGPES is at the centre of the national development agenda and reflects the Government's policy and strategy framework to achieve the country's 2020 goal of exiting Least Developed Country status. As the NGPES clearly states, it is the Government's firm commitment to gradually lessen the country's high dependency on official development assistance (ODA). Widely distributed, the NGPES also aims to promote debate and discussion at the local level.

Each sector has established priority strategies to support the NGPES. The principles of "**Sustainable resource utilization and land-use planning**" are considered as priority in the Agriculture sector. In detail, it include several aspects, such as food security, promotion of commodity production, stabilization of shifting cultivation and eradication of poppy cultivation, conservation of the natural environment and protection of threatened species and habitats; maintenance of forest cover, and improvement of rural livelihoods.

1.2. AGRICULTURE DEVELOPMENT STRATEGY TO 2025 AND VISION TO 2030 AND THE FIVE-YEAR AGRICULTURE AND FORESTRY SECTOR DEVELOPMENT PLAN 2016 – 2020

The Agriculture Development Strategy to 2025 and vision to 2030 (ADS 2025) was approved by a Prime Minister decree on the 20th of February 2015. The ADS 2025 vision remains "to ensure national food security through clean, safe and sustainable agriculture and build an agricultural production potential highly contributing to the nations' economy according to its objectives of industrialization and modernization".

- The ADS 2025 Goal 1is to ensure national food security through food production
- The ADS 2025 Goal 2 focuses on agricultural commodity production

These goals form the basis of the Five-Year Agriculture and Forestry Sector Development Plan2016 - 2020, which in turn focuses on three areas: i) Food production/Food security, ii) Agricultural Commodities Production and Forestry.

The country plans to reach 2,600 to 2,700 kcal per day per person in 2030 through the increasing of the availability, the accessibility and the stock of products. The target commodities are rice, vegetables, beans, sesame, fruits, sugar, meat, fish and eggs. The rice production plans to reach 3.1 million tons in 2025 (4.5 tons/ha in 2020, and to 5.0 tons/ha in 2025). 1.5 million tons of vegetables and 800,000 tons of fruit are also targeted for 2025.

In term of agricultural commodities, rice, maize, coffee, sugar, cassava, rubber, medicinal herbs & NTFPs, wood processed products, and cattle are still targeted to boost the agricultural sector growth with focus on the domestic, regional and international markets. 1.5 million tons of rice is expected to export in 2025, following with 1.5 million tons of cassava and 1.3 million of maize. Production for export must follow the regional and international

[1] Trade, tourism, manufacturing and energy, environment, gender, population and capacity development
[2] Drug control and UXO decontamination

standards of GAP, which targeted 70,000 certified organic producers and 100,000 certified GAP producer in 2030 (*DOA, February 2015*).

In terms of forestry, the improvement of legal framework and the promotion of fair and equal use of forest resource are set out in this 5 year plan. The increase forest cover up to 70 % and the restoration of 500,000 ha of forest production are further formulated.

The MAF is translated the 5 year plan into 10 action plans described below in order to promote the province comparative advantage.

- Food production for food security
- Crop / livestock -commercial production
- Forest resources management
- Rural employment
- Infrastructures
- Land development and management
- Action-Research
- Extension
- Disaster risk reduction and management
- Human resources development

1.3. NATIONAL BIODIVERSITY STRATEGY TO 2020 AND ACTION PLAN 2010

The National Agricultural Biodiversity Programme (NABP) is a policy document related to the long-term strategy for implementing a coordinated approach to better using, developing and conserving agricultural biodiversity national biodiversity conservation have been endorsed in December 2004. The NABP is consistent with, and was designed to be integrated with the implementation of the National Biodiversity Strategy (2020) and Action Plan (2010), the Government's Strategic Vision for Agricultural Sector, and the National Growth and Poverty Eradication Strategy. It is also consistent with other national sustainable development strategies and plans.

The National Biodiversity Strategy and Action (NBSAP) is to maintain the country's diverse biodiversity as one key to poverty alleviation and protect the current asset base of the poor as support to the implementation of the government's priority programmers. The six main objectives are formulated in seven programmes:

- Scientific Data and Biodiversity Knowledge Development
- Biodiversity Management
- Human Resource Development
- Public Awareness and Involvement
- Institutional and Legal Frameworks
- NBSAP Implementation
- International Cooperation

The progress and the achievement of each programme are available in an Assessment of Lao PDR's National Biodiversity Strategy to 2020 and Action Plan to 2010 report.

II. LEGAL FRAMEWORKS RELATED THE AGRO-ECOLOGY

2.1. LAW ON AGRICULTURE (1998)

The Law on Agriculture establishes the principles, rules, and measures regarding the organization and activities of agricultural production which is the basis of the country's economy. It includes the management and preservation of agricultural activities (Part II), the production of agricultural activities (Part III & IV) and the monitoring of agricultural activities (Part VI) in order to encourage, promote, and expand agricultural production to guarantee the food supply and commodity production.

To support the Law on Agriculture, several decision and regulation have been adopted. The recent adopted decision and regulation related to the Agro-ecology schools are:

DECISION AND REGULATION NAME	PRINCIPLES
Decision of the MAF on Organic Agriculture Standards, 2005	• Promote Clean Agriculture within the agriculture and forestry sector • These Organic Agriculture Standards are based on the IFOAM Basic Standards • These Standards for the certification of Organic products govern the management, harvesting and processing stages.
Regulation on the control of pesticides in Lao PDR, 2010	This regulation defines the principles, rules, and measures for controlling activities that involve pesticides in Lao PDR in order to protect human, animal and plant health, and the environment, and to be harmonized with international obligations and regulations in which Lao PDR is contracting party.

2.2. LAW ON LAND, 2003

The objectives of the Land Law are to determine the regime on the management of land, protection and use of land in order to ensure efficiency and conformity with land-use and with laws and regulations, and to contribute to national socio-economic development as well as to the protection of the environment and national borders of the Lao People's Democratic Republic.

To support the Land Law (2003), the Decree on the implementation of the Land Law (2008) and the Decree on State Land Lease or Concession (2009) have been approved.

DECREE NAME	PRINCIPLES
Decree on State Land Lease or Concession (2009)	This Decree determines the principles, procedures, and measures regarding granting of state land for lease or concession with the aim to ensure the uniform management and use throughout the country, to boost the development of state land, to turn land into capital, to promote the investment for cash crop production and for services, and to build income for the state budget.

2.3. FORESTRY LAW, 2007

This Forestry Law determines the basic principles, regulations and measures on sustainable management of forestry activities (Chapter III), sustainable management of forestland (Chapter IV), preservation and development of forest and forestland (Chapter V), and utilization and inspection of forest resources and forestland (Chapter VI and VIII) in order to maintain a balance of nature, making forest and forestland stable sources of living and use for the people, ensuring a sustainable condition and protection of the environment, water resources, protection from soil erosion and maintenance of soil quality, protecting plants, tree species wildlife and aquatic life, as well as contributing gradually to national socio-economic development.

2.4. ENVIRONMENTAL PROTECTION LAW, 2013

The Environmental Protection Law defines principles, regulations and measures related to environmental management and protection (Part III), conservation and utilization of natural resources (Part IV), Environmental Rehabilitation (Part V), and Environmental Emergencies and Natural Disasters (Part VI). This law aims to provide balance between social and natural environment in order to sustain and to protect natural resources and public health; and contribution into the national socio-economic development and reduction of global warming.

2.5. LAW ON INVESTMENT PROMOTION, 2009

The Law on Investment Promotion defines principles, regulations and measures regarding the domestic and foreign investment promotion and administration in order to enable investments expediently, quickly and in conformity with laws and regulations, as protected by the Government, and to ensure the rights and benefits of investors, the state and people. It aims to enhance benefits and role of investments for continuous and sustainable socio-economic growth, and to significantly contribute towards national security and development of the country.

2.6. PRIME MINISTERIAL DECREES THAT REGULATE CIVIL SOCIETY

There are two key Prime Ministerial Decrees that regulate civil society activity in Lao PDR, both recently promulgated. The Decree on Associations (2009) is new and signals a policy change from government that local civil society has a place in the development process, while INGO Decree (2010) is a revision of a previous decree.

The Decree on Associations (2009) sets the rules and regulations governing the establishment, operation and management of associations registered as legal entities in Lao PDR for the purposes of:

- Promoting the Lao people's rights of freedom, creativity and ownership in the organization of associations aiming at national protection and development;
- Providing references to individuals or organizations intending to set up their associations;
- Providing references to government organizations concerned in managing, facilitating and encouraging lawful activities by associations, promoting associations' contributions towards socio-economic development and poverty eradication, as well as countering and restricting activities affecting national stability, social order and individual rights of freedom.

The Decree on Management of Local staffs Working for International Organizations in Lao's PDR (2010) regulates all matters related to a management of local staffs working for international organizations in Lao's PDR with an aim to protect the rights and interests of local staffs and international organizations and ensure the enforcement of the relevant national laws of Lao's PDR.

III. LESSON LEARNT FROM THE POLICY FRAMEWORK REVIEW

Figure 2: Policy framework and their impact on the agro-ecology

The national strategies and legal frameworks to promote and support the agro-ecology exist and well formulate. The agriculture sector takes part of four sector priorities of NGPES2004. The principles of "Sustainable resource utilization and land-use planning" are considered as a priority in the Agriculture sector. The five year plan of the MAF (2016 – 2020) is further to ensure that the "Clean, Safe and Sustainable agriculture" is integrated in the action plan, e.g. the production for export must follow the regional and international standards of GAP, which targeted 70,000 certified organic producers and 100,000 certified GAP producer in 2030. The country's diverse biodiversity has been considered as one key to poverty alleviation and protect the current asset base of the poor. The seven programmes of NBSAP aim to maintain the country's diverse biodiversity are in action.

On the other hand, several laws, decree and regulation have been adopted in other to support the "Clean, Safe and Sustainable agriculture", e.g. law on agriculture, forestry law, land law, decision of the MAF on Organic Agriculture Standards, regulation on the control of pesticides in Lao PDR.

While the policies, strategies, laws and regulations regarding the agro-ecology exist, deficiencies remain in enforcing rules and regulations, including inadequate transparency and poor accountability. It is noted that the government's policies, strategies, laws and regulations regarding the agriculture sector and the agro-ecology were not well disseminated, implemented and enforced at both central and local levels. Some policy implementation causes unintended consequences to the sector, such as the Law on the foreign investment and the decree on State Land Lease or Concession.

The Government of Lao PDR has promoted rubber and other cash crops as alternatives to shifting cultivation. The Land Use Change, more land under food and cash crops keeps changing to other crops such as industrial crops and the changes leads to land use conflicts. More than 140,000 ha of rubber planted is predicted and 300,000 ha in 2020. The rapid and uncontrolled expansion of rubber plantations has had a number of unintended consequences. From an environmental perspective, conversion of primary forest, forest fallow and other agriculture land has affected and impacted on ecosystem goods and services, particularly biodiversity and water resources. In addition, the rapid expansion of rubber plantations has affected food security of poor farmers as previously open access land for grazing or collection of non-timber forest products has been affected.

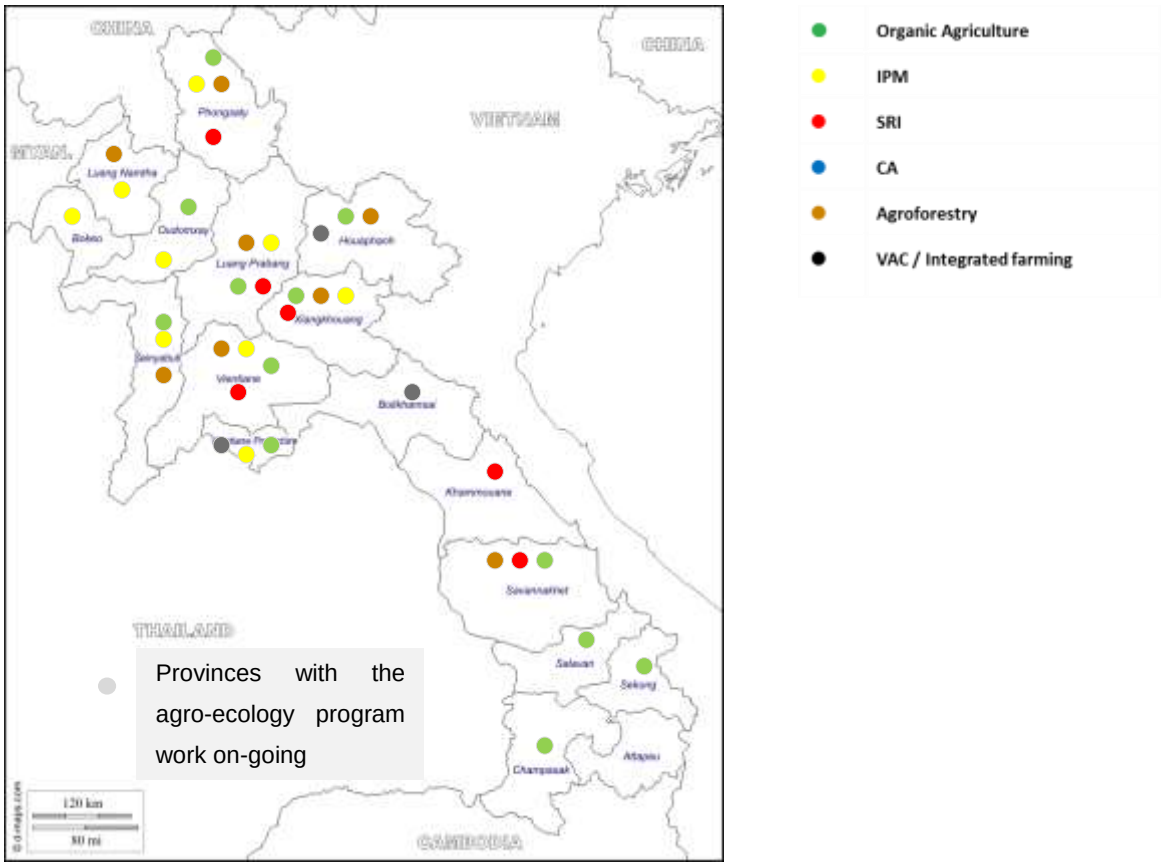
CHAPTER II: AGRO-ECOLOGY STAKEHOLDERS AND INITIATIVES IN LAO PDR

The term of "Agro-ecology" covers a wide range of practices aiming at enhancing the sustainable use of locally available resources in order to increase production and preserve the soil fertility. Although several agro-ecological practices exist, this section will focus on the six most significant agro-ecological practices (SRI, IPM, Organic Agriculture, CA, VAC/Integrated farming, and agro-forestry).

The section described the key findings of the stakeholder's consultation combined with the visit of some outstanding agro-ecology initiatives in three provinces (Xiengkhouang, Luang Prabang, and Vientiane Capital), where the broader diversity of initiatives has been found. For more information on the Case study initiatives, please refer to the Case study factsheet.

The key information and data collected during the stakeholder consultation for the six agro-ecology practices (SRI, IPM, Organic Agriculture, CA, VAC/Integrated farming, and Agro-forestry) have been consolidated in the "Agro-Ecology database" and the stakeholder geo-mapping in Figure 3 below.

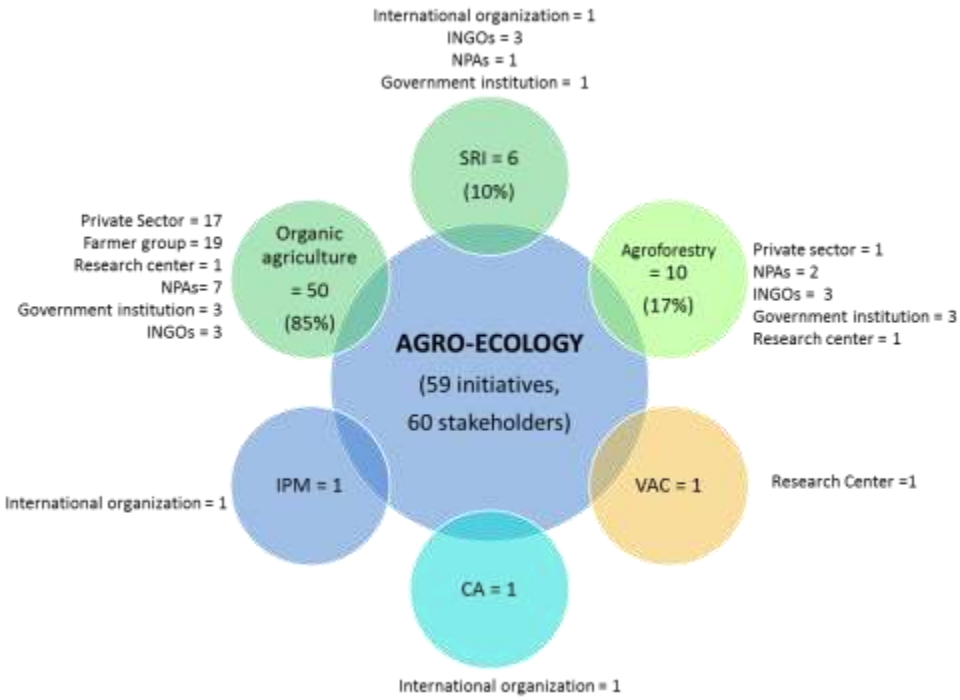
Figure 3 : Agro-ecology initiatives geo-location mapping



Until the end of survey date (15 December 2015), 60 initiatives related to the six agro-ecological practices (SRI, IPM, Organic Agriculture, CA, VAC/Integrated farming, and Agro-forestry) have been identified and managed by 59 stakeholders. It is important to mention that the number of stakeholders and initiatives cited above isn't an exhaustive list, some potential stakeholders described in Appendix 1 need to identify/exploit.

As illustrated in Figure 3 above, the agro-ecology initiatives are relatively high developed and diversified in the Northern provinces of Lao PDR where the favorable factors of the agro-ecology were found, such as small scale farmers, the availability of family labors, the support from government agencies and the rural development projects. Phongsaly, Luang Prabang, Xiengkhouang and Vientiane province are the most diversified agro-ecological practices with four agro-ecology practices (SRI, Organic Agriculture, Agro-forestry and IPM).

Figure 4 : Number of stakeholders involved in the six agro-ecology practices



Among the six agro-ecological practices (SRI, IPM, Organic Agriculture, CA, VAC/Integrated farming, and Agro-forestry), the organic agriculture is the most developed with more than two-third of identified stakeholders involved in this activity (see Figure 5 below).

The agro-forestry and the SRI are followed distinctly with 5 and 4 stakeholders respectively. Although small number of stakeholders was found in CA and IPM, both agro-ecology practices have disseminated in a large area of Lao PDR. The IPM practice has been introduced in Lao PDR by the FAO via the Farmer Field School concept. Now the FAO – IPM is expand in nine provinces of Lao PDR. The CA practice is implemented by NUDP-EFICAS project covered five Northern provinces of Lao PDR (see Figure 4).

Table 1: Number of stakeholders involved in the six agro-ecology practices

Organization name	Agro-forestry	CA	SRI	IPM	OA	VAC	Total stakeholders	%
Farmer's groups					19		19	32%
Private companies	1				17		18	31%
Non-Profit Associations	2(1)		1(1)		7		7	12%
Governmental Institutions	3		1		3		6	10%
INGOs	3		3(1)		3		5	8%
Research Centers	1(1)	1	1(1)		1	1	3	5%
International institution				1			1	2%
Stakeholder (by practice)	10	1	6	1	50	1	59	100%

Source: The agro-ecology survey, October – December 2015
Note: (1) Double accounting

As illustrated in Table 1 above, multi-stakeholders engage in the six agro-ecological practices, included private company, farmer's group, NPAs, International institution, Government institution, INGOs and Research center. The farmer's groups and the private companies represent the majority of stakeholders identified, accounting for 32% and 31% respectively. The NPAs and government institutes are followed distinctly with 12% and 10% respectively.

The large existence of the farmer's group and the private companies in the identified stakeholder list is related to the boom of the organic agriculture in Lao PDR. In detail, all of farmer's groups and almost private companies identified are involved in the organic production and marketing. The farmer's group is created with the support of sustainable rural development projects, which support the small farmers to gain access to premium markets and reduction of their certification cost. At the same time, the local small businessmen perceived the potential for the organic market in Lao PDR and started their involvement in the organic sector. More detail on the organic producer and the private sector involved in the organic production in Lao PDR will describe in the section I of this chapter.

Table 2 : NPAs involved in the agro-ecology practices

Nº	NPA name	Project name	Type of Agro-ecology involved
1	ASDSP		Organic Agriculture
2	CoDA	SCOPE	Organic Agriculture
3	CPC		Organic Agriculture
4	Luang Prabang Organic Agriculture Association		Organic Agriculture
5	PADETC		Organic Agriculture
6	SAEDA	NUDP	Agro-forestry
		SAMADP	Organic Agriculture, SRI
7	SuDHiCA	Vangborn organic farm	Organic Agriculture, Agro-forestry, IPM

The NPAs involved actively in the agro-ecology practices are CPC, ASDSP, PADETC, SAEDA, CoDA, Luang Prabang Organic Agriculture Association and SuDHiCA. Most of them are involved on the Organic Agriculture. The other agro-ecology practices are SRI, IPM and Agro-forestry (see Table 2). Some of them collaborate with the INGOs and the International institution, e.g. SAEDA is collaborating with CCL and CARE International in the NU-PCR project. SAEDA also collaborates with the international project, such as NUDP project.

Table 3: INGOs involved in the agro-ecology practices

Nº	NPA name	Project name	Type of Agro-ecology involved
1	Agrisud International	FORAE	Organic Agriculture
2	CARE International	NU-PCR	Organic Agriculture, Agro-forestry, SRI
3	CCL	NU-PCR	Organic Agriculture, Agro-forestry, SRI
4	JVC		Agro-forestry, SRI
5	PRO-NET 21	PRO-NET 21 (III)	SRI

The International NGOs (Agrisud International, JVC, PRO-NET 21, CCL and CARE International) work actively in the dissemination of SRI, Organic Agriculture and Agro-forestry though out the different projects, such as FORAE, PRO-NET, NU-PCR and JVC.

For the government institutions, the Ministry of Agriculture and Forestry is the main actor of the promotion of the Agro-ecology schools. The main concerned parts are the Department of Planning and cooperation, the department of Agriculture (Clean Agriculture Develop Center, Horticulture Research Centre, and Standard division), Department of Agriculture Extension and Cooperatives and NAFRI. The LAO-China Cooperation Agriculture research center and the Huaysorn-Huaysua Agriculture development and service center are the local research centers working on the VAC/Integrated farming and the Organic Agriculture. CIRAD, a French research center, promoted the CA practice dissemination in five provinces of Lao PDR.

I. ORGANIC AGRICULTURE (OA)

1.1. ORGANIC AGRICULTURE CONTEXT IN LAO PDR

The organic agricultural concept has been introduced in Lao PDR in the 2000s. A Swiss NGO, Helvetas has been supporting the emergence of organic rice and vegetable production in Vientiane Capital in 2005 while CIRAD, a French research institute, supported the organic coffee production in the Champassack province. Both worked in close partnership with the Ministry of Agriculture and Forestry (MAF). They were instrumental in drafting a decree on organic agriculture standards and creating the Clean Agriculture Development Centre (CADC) and a Lao Certification Body (LCB) as part of the Department of Agriculture (MAF) in 2005. Nowadays, the organic agriculture spreads on the country, particularly in Vientiane Capital, Champassack, Luang Prabang and Xiengkhouang province where more than half of organic agriculture stakeholders are found. There are two types of organic producers in Lao PDR:

Figure 5: Lao Organic Agriculture Seal, certified by the Standard division of DOA

Certified organic producer: who received the organic certification either by the Standard division of DOA/MAF, or the international certifying bodies (IFOAM Asia, EU, NOP and JAS);

Non-certified organic producer: who produces the organic products and use the "Organic claims" without the certification. Some of them are in-conversion period.

The survey conducted in 2012 by the UNCTAD project described that there were over 100 kinds of products sold in the markets bearing an "Organic claim". More than half of them were fresh produce like fruits and vegetables. The next big range was in organic coffee and tea products (see Table 4).

Table 4 : Type of organic products in Lao PDR

Product	Range	Leading stakeholders	Certification status
Vegetables	50 – 60 kinds of vegetables with seasonal variation	18 Farmer groups, Private company (LFP, AgroAsie farm, Faaxay arm, Phonesack farm, etc.), PADETC, SAEDA, Agrisud International	Mostly certified
Fruits	Less than 10 kinds	Vientiane Organic Vegetable Group	Most are produced on organic vegetable farms, no dedicated organic fruit orchards
Rice	Less than 5	Santhong Organic Rice Group AgroAsie, Lao farmer's product ASDSP	All certified
Coffee	5 - 10	Sinouk, AGPC	All certified
Tea	5	Lao Farmer Products, ASDSP	All certified
Mulberry tea	5 - 10	Mulberry, Silk Tea	All certified
Jam	*5 - 10*	*Lao Farmer Products*	*Not certified*
Mulberry wine	*1*	*Mulberry*	*Not certified*
Silk textile products	*10 - 20*	*Mulberry*	*Not certified*
Soybean	*1*	*AgroAsie*	*Not certified*

Source: Lao's Organic Agriculture: 2012 Update, June 2012

1.1.1. Certified organic agriculture

The data from the Standard division of DOA/MAF showed that there 90 farmer's groups and 17 companies received organic certification, which represent 1,637 farmers and 3,240 ha of the organic agriculture land. Around 3,375 tons of certified organic products are produced. More than 50 applicants are on-process of certification (see Table 5). The in-conversion organic land is estimated 1,175 ha (Bounyasouk 2014).

The organic agriculture land has increased by 80% from 2008 to 2015. The Government of Lao PDR has targeted 70,000 certified organic producers by 2030[3] according to the MAF strategy 2030. The Figure 6 below illustrated the location of certified organic products.

The tea is the first certified organic of Lao PDR. Lao Farmers Products received the organic certification from the Lao certifying body for its organic tea project in 2006. The coffee is the second certified organic product. Sinouk Coffee and Jhai Coffee Farmer Association were certified by the Lao certifying body in 2008. Currently, 5,000 hectares of coffee plantation carried an international organic certification (IFOAM Asia, EU, NOP and JAS) and Fair Trade (FLO-Cert, Fair Trade Laos).

Table 5: Organic agriculture land and production certified by Lao certifying body, 2015

Type of organic agriculture	Land and production	Rice	Vegetable	Fruit	Coffee	Other products	Total
Certify by Lao certifying body (1)	Land (ha, %)	466	1,740	25	658	351	3,240
		14%	54%	1%	20%	11%	100%
	Production (t, %)	1,332	1,306	71	416	239	3,364
		40%	39%	2%	12%	7%	100%
Certify by the international certifying body (2)	Total land (ha)	-	-	-	5,000	-	5,000
	Production (t, %)	-	-	-	1,036	-	1,036
Total land (ha, %)		466	1740	25	5,658	351	8,240
		6%	21%	0.3%	69%	4%	100%
Production (t, %)		1,332	1,306	71	1,452	239	4,400
		30%	30%	2%	33%	5%	

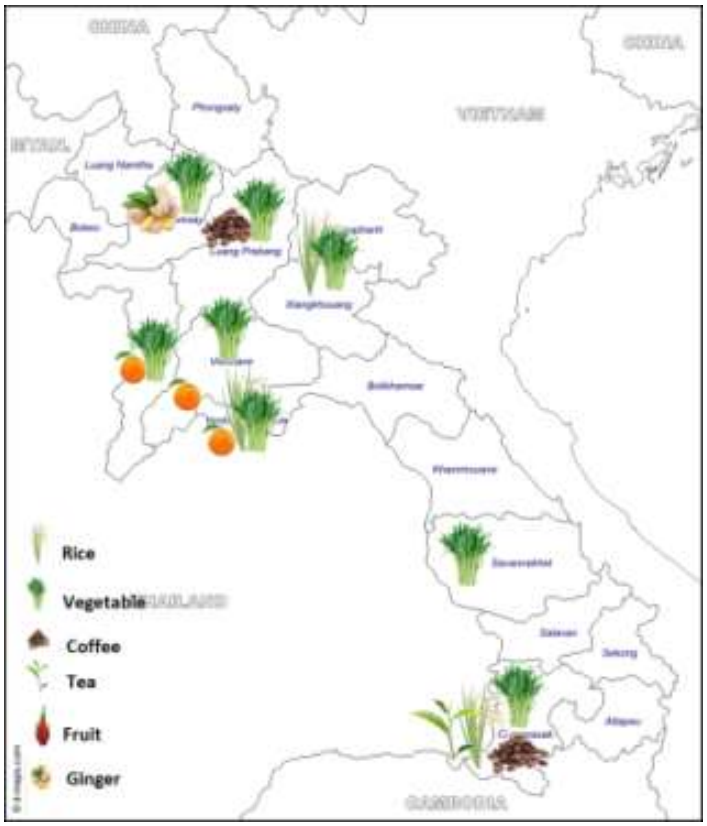
Note: (1) Data from the Standard division, DOA, 2015
(2) Data from the CPC data, 2015
- : Missing data

According to Table 5 above, the current certified organic products are tea, coffee, rice, vegetable, fruit, ginger and mushroom. The organic agriculture land is dominated by coffee plantation with 69% of the certified organic land, followed by vegetable and rice land, 21% and 6% respectively.

Coffee, rice and vegetable remain the major organic products with 1,452 tons of coffee, 1,332 tons of rice and 1,306 tons of vegetables. The organic crops were found in eight provinces of Lao PDR. Champassak province is where a broader diversity of organic crops was found. In the cited province, coffee, tea, vegetable and rice are cultivated (see Figure 6).

[3] MAF action plan and strategy 2015 to 2030

Figure 6: Type of certified organic products and location



Province where the organic crops are produced:

- Sayaburi
- Oudomxay
- Xiengkhouang
- Luang Prabang
- Vientiane province
- Vientiane Capital
- Savannakhet
- Champassack

Although the organic activity is well developed in Lao PDR, only organic coffee, tea and rice are exported to EU market via the organic and Fair-trade market channels. The fresh produce (vegetable and fruit) is locally sold though the organic weekly markets and the organic shops. Currently, there are four organic vegetable markets in Lao PDR located in four provinces of Lao PDR (Xiengkhouang, Luang Prabang, Vientiane Capital, Savannakhet province). About 30 tons of organic fresh produce are sold weekly through these four organic weekly markets and generated more than 45 million kip per week (Bounyasouk 2014).

Figure 7: Domestic organic market in Lao PDR

Vientiane Capital started in 2008 by DOA and PROFIL project with 23 tones/week and generate around 30 to 35 million LAK of revenue per week

Xiengkhouang province started in 2011 by Pek DAFO and SAEDA (1.6 tones/week and generate about 10 million LAK of revenue/week)

Luang Prabang province started in 2011 by TABI project and Luang Prabang PAFO(1 tones/week)

While the organic vegetable market is successfully developed in Lao PDR, the organic vegetable in Vientiane capital is facing the selling place issue. The That Luang organic market, the first organic vegetable in Lao PDR and the most popular organic market place, is now stopped due to the Vientiane Municipality decision. The management committees of Vientiane organic vegetable market explains that they prefer to sell the product in this

place because the That Luang place has a high frequenting rate of customers, which bring them a high sale rate compared to the other market place. Currently, the Vientiane organic vegetable farmer's group sells their products in Faa Ngum, Km8 and Asian mall place and plans to expand to Houay Hong market, where are the less know than the cite above.

1.1.2. Non-certified organic agriculture

The non-certified organic producers are mostly supported by NPAs, INGOs and the international project, who offered the training on sustainable agriculture, the organic farming and marketing. They usually work in partnerships with national or local government agencies, such as the Clean Agriculture Develop Center, Horticulture Research Centre, Standard division, and the PAFO/DAFO. Currently, several initiatives work in the Organic Agriculture promotion and marketing, such as LOAPP project (JICAS), TABI project (SDC), SNRMPEP (IFAD-ADB), Oxfam Belgium, ADB-TA8163, SAMADP (SAEDA), and FORAE (Agrisud International). The number of farmers involved and the area of production is difficult to quantify. Some of them are in-conversion period.

The data presented in the Table 6 below gave some information collected during the survey. It is important to mention that the data on table 6 came only from the surveyed province and visited stakeholders. It could be anticipated that the number of non-certified organic producers is higher than the cited number.

Table 6: Location and number of participated farmers in the organic agriculture in Lao PDR

	Some data and location	Type of crops
Non-certified organic producer	- Xiengkhouang (11.5 ha) (1) - Luang Prabang (550 farmers, 212.17 ha) (2) - Khammouane (1 village, 29 farmers, 43 ha) (3) - Savannakhet (10 PGs, 10 villages, 156 farmers) (4) - Champassack (1 PGs of 55 farmers) (5)	1. Vegetables

Note:
(1) Sourced of information: Data from SAEDA project
(2) Source of information: Data from Extension unit, PAFO Luang Prabang
(3) Source of information: Data from SNRMPEP project
(4) Source of information: Data from the annual report 2014, PAFO Savannakhet
(5) Source of information: Data from SNRMPEP project

1.2. CURRENT ORGANIC AGRICULTURE STAKEHOLDERS AND INITIATIVES IN LAO PDR

Table 7: Stakeholders involved in the Organic agriculture

Type of stakeholders	Rice	Vegetable	Fruit	Coffee	Other product (1)	Total by stakeholder
Private company	1	7	5	3	2 (2)	17
Government institution	0	3	0	0	0	3
NPAs	1	5	0	1	1 (2)	7
INGOs		3	0	1	0	3
Research center		1				1
Total by product	**4**	**32**	**5**	**5**	**3**	**50**

Note: (1) Tea, Mushroom, Mulberry tea, ginger
(2) Double accounting

Among of 59 stakeholders identified during the survey, 50 stakeholders involved in the Organic Agriculture. Although the organic agriculture is initiated by the INGOs in 2004, the organic business operations in Lao PDR are currently managed mainly by local stakeholders, including 19 farmer's groups and 17 companies (see Appendix 2). The donors (AFD, SDC, ADB), International NGOs (Agrisud International, CCL and CARE International) and the NPAs (CPC, ASDSP, CoDA, SEADA, PADETC and SuDHiCA) continue their support to the organic agriculture promotion through their sustainable rural development project, such as SNRMPEP, TABI, LOAPP, FORAE, NU-PCR, SAMADP and Vangborn organic farm.

The following section will give a snap-short of current work and the achievement of some organic agriculture stakeholders.

1.2.1. Santhong organic rice farmer group

The Santhong organic rice farmer group was established by PROFIL project/Helvetas in 2006. Currently, the group is an independent association depending on the Santhong district in Vientiane Capital. The group covers 10 villages of the Santhong district, which includes 284 households and 369.6 ha of organic land. Around 1,108 tons of organic rice is produced annually. The group plans to extend the organic production to the neighboring village (Nong Boa village) in 2016. Some of Nong Boa farmers have learnt the compost and the bio-extracted liquid fertilizer production.

Figure 8: Organic paddy rice field, Gnai Nachaleun village, Santhong district, Vientiane Capital

SITE VISIT #1 : MR BOUTDY SIMMALAVONG, A HEAD OF SANGTHONG ORGANIC RICE FARMERS GROUP, GNAI NACHALEUN VILLAGE, SANGTHONG DISTRICT, VIENTIANE CAPITAL

"I and my family grow rice since I was young with the traditional method called "Organic by default" because we don't put any chemical fertilizer on the production step

My rice field is fertilized by the direct applies of crop residue and cattle manure. I have learnt how to fertilize the soil with the compost in 2004 with the CUSO project and PRORICE Project in 2006.

Currently I have 3 ha of certified organic rice with the yield of 3.1 t/ha. I sell about 2/3 of my production to Lao Farmer's Product company and Agro-Asie company. The price of organic rice is 3,600 kip per kg in 2014. I started the production of vegetable seeds in 2013 for the vegetable farmer group in Vientiane Capital".

SITE VISIT #2 : MRS. BOUNTHANH CHANTHALA, ORGANIC RICE PRODUCER IN HAITAY VILLAGE, SANGTHONG DISTRICT, VIENTIANE CAPITAL

"I started the organic rice production in 2004 after my visit in Thailand where I have learnt the organic rice production method (the compost and the bio-extract technology).

The reason why I am interested in the organic agriculture is due to my health concern from the intensive uses of the chemical fertilizer. Nowadays, I have 2 ha of certified organic rice with the yield of 4.5 t/ha. I sell 50% of my production to the organic network (Lao Farmer's Product company and Agro-Asie company).

In addition, my farm becomes the "Learning center" for several activities, such as the compost and the bio-extracted liquid fertilizer production (BE), the mushroom production, and the frog production. The compost-BE producer group is composed of 15 people from the Lao Women Union.

Mr. Boutdy Simmalavong is pioneer farmer of organic rice and he becomes a head of Santhong organic rice farmers group, vice-village chief of Gnai Nachaleun village and recognized as a motor of organic rice development in Santhong district.

The group produces several formulas of compost and the bio-extracted liquid fertilizer for selling to the organic producers in Santhong district and the other provinces. The compost is sold 500 kip/kg and the bio-extracted liquid fertilizer 7,000 kip/l.

1.2.2. Vientiane organic vegetable producer group

Vientiane organic vegetable farmer group was established by PROFIL project/Helvetas in 2006. Currently, the farmer group is an independent association belonging to Vientiane municipality in Vientiane Capital. The Vientiane organic vegetable farmer group is the main producers who supplies for the Vientiane organic market. The group covers 8 villages of four districts of Vientiane Capital (Saysettha, Sikhottabong, Sisattanak and Xaythany district), which includes 38 households and 20.86 ha of organic land. Around 221 tons of organic vegetables are produced annually

SITE VISIT #3 : MR OUNKENG, VIENTIANE ORGANIC VEGETABLE FARMER GROUP LEADER, NONTAE VILLAGE, XAYTHANY DISTRICT, VIENTIANE CAPITAL

“I used to be a conventional producer of vegetables for the Vientiane market for 20 years. In this period, I used a lot of agrochemicals in the vegetable production. I decided to switch to organic farming after my wife and I suffered health problems caused from the use of agrichemicals. I have learned how to make organic fertilizer with the PROFIL project study tour, where I have seen the success cases of the organic farming system in Thailand.

Nowadays, I have 0.5 ha of organic vegetable garden. I have learned how to fertilize the soil with the compost, grow vegetables better and grow more vegetable varieties (lettuce, Chinese cabbage) with the project.

SITE VISIT #4: MR BOUNMY, BROAD OF VIENTIANE ORGANIC MARKET COMMITTEES, NASALA VILLAGE, SIKOTABONG DISTRICT, VIENTIANE CAPITAL

“I have learned how to make organic fertilizer with the PROFIL project study tour. After returning home, I realized that I didn't need to buy the expensive chemical fertilizer. I started produce and use the compost and the BE in my vegetable garden. I noticed that the quality du soil is improved when I switched to organic fertilizer.

My vegetables are sold in to the Vientiane Organic market, my income from the vegetable production is more than 50 million kip a year.

With the know-how learnt from FFS from the FAO IPM, I

Mr. Ounkeng is a strong believer that organic farming can provide him with better income and healthier products. He grows various kinds of vegetables including lettuce, cabbage, beetroots and celery, and rotated them accordingly. These allowed him to gain higher and received a consistence income of 40 to 50 million kip per year since 2010. Mr. Ounkeng is the head of the Vientiane Organic Farmer Group and a member of the committee managing Vientiane's thriving Organic market.

produces about 60 tons of compost and 300 l of BE a year. I sell them 1,250 kip/kg of compost and 10,000 kip/l of the BE to the organic producers in Vientiane Capital.

Mr. Bounmy is a pioneer farmer of the Vientiane Organic Farmer Group and a member of the committee managing Vientiane thriving Organic market.

1.2.3. AgroAsie Company

The AgroAsie Company is registered as an organic business in 2010 and opened the retail outlets of locally-grown organic foods in 2011 in Vientiane Capital. 150 product-types are found in the AgroAsie shop including organic products (fresh vegetables, fruits, tea, coffee, rice and dried pulses), nutrition supplements, healthcare products and handicrafts. The fresh vegetables, fruits and coffee are the most selling products, which represented more than 60% of sales. In addition of the retail shop, the Agro-Asie sold the products via 18 minimarts and home delivery basket started in 2012. The main clients of the shop are 95% temporary foreign residents and 5 % of Lao residents (Dierden and all 2015).

Figure 9: AgroAsie shop in Vientiane Capital

The majority of fresh produce sold in the AgroAsie shop came from their farm located in Santhong district of Vientiane province. The farm covers 5 ha of organic land and grows the tea, spices, beans, maize, fruits and vegetables. AgroAsie Company buys around 10 to 20 tons of the organic rice from the Santhong organic rice producer group.

Figure 10: Products of AgroAsie farm

1.2.4. Lao Farmer's products Company (LFP)

Lao Farmers Products Company founded in 1995 is a private enterprise aiming to encourage the small agricultural producers in producing a good quality of various products (fruits, organic rice, organic tea, etc.). LFP process and commercial the products under Fair Trade channels (Solidar's Monde-Artisans du Monde, Gepa, Claro, and Oxfam Fair Trade-Belgium) and local market. More than 80% of LFP products are exported.

FIGURE 11: ORGANIC RICE SOLD IN LFP BRANDS ORGANIC TEA SOLD WITH LFP BRAND

LFP started to develop the organic small chicken rice (Khao Kai Noi) in Xiengkhouang province and tea production in Champassack province in 2007. Both products were certified by BCS certifying body. However, the company renounced in 2011 to produce any more the organic small chicken rice and the organic tea due to the small demand and the high production cost of product.

Currently, LFP Company re-started the promotion of the organic production and works in partnership with ASDSP – national NPA. The LFP and ASDSP have a close relationship because the founder of LFP is involved in the ASDSP as a chairperson[4]. They support the small organic rice producers in 10 targets villages of Santhong district (285 members with 370 ha of rice field and annual rice production of 1,110 tons) and the small organic tea producers in 10 villages of Paksong district of Champassack province (139 members with 100.5 ha of tea plantation and 112 tons of annual production). The farmers received the technical assistance from Oxfam-Belgium.

1.2.5. Lao organic agriculture promotion project (LOAPP)

LOAPP project started in September 2013, which aims at strengthening and enhancing the capacity of DOA/MAF human resource and structure related to the inspection and certification in order to ensure the organic system in Lao PDR are fully functional. The three main expected outputs of LOAPP are:

- Strategic Plan for the promotion of the organic agriculture development is finalized;
- CADC's capacity for the promotion of the organic agriculture is Improved;
- Standard Division capacity for the promotion of the organic agriculture is improved.

The project works in partnership with the Earth net foundation in Thailand and the local consultant Company (Mixai Techno Engineering & Consulting Company). Earth net foundation supports the seminar, the implementation of ISO17065 system to enhance the management system of the Lao certifying body under the Standard division. The CADC and Standard division staffs have been trained by Earth net foundation and the LOAPP counter-part in JAPAN to become a qualified inspector and auditor. In additional, CADC and Standard division staffs received the exchange study tours, ICS training, etc. Mixai Techno Engineering & Consulting

[4] Dry Sisaliao Savengseuksa

Company conducted the baseline survey in order to review the current situation and issues to be addressed in Lao organic agriculture. LOAPP conducts the training for Standard division staff on the organic agriculture certification and supports the field inspection.

1.2.6. Forestry and Agro-Ecology in Lao Rural Uplands (FORAE)

The FORAE project follows on the initiative established between 2005 and 2012 by Agrisud International aiming to support the food security for women and rural poor. The objective of the FORAE project is to build the capacity of agricultural communities in the mountainous area of Viengkham District in Luang Prabang Province to produce sustainably and to manage the conservation of their natural resources.

- **Implementer:** Agrisud International project
- **Partners:** PAFO Luang Prabang, DONRE, DHO, LWU, SAEDA, Etc Terra
- **Donors:** AFD, Foundation Ensemble, France Volontaires
- **Implementation zone**: Viengkham District, Luang Prabang Province
- **Number of participants**: 20 villages (1453 households, 600 ha)
- **Project status** : Ongoing (2014-2018)

The project has been divided into sub-objectives:

- Promotion of farming systems that is technically, economically and environmentally effective in 550 farming families. The project adopted the organic agriculture system to address the problems of food security and soil degradation, in particular. A total of 600 ha of farming land is target for the organic agriculture.
- Ten land use plans, twenty local development plans and eight gravity-fed water supply systems will be put in place. 800 ha of communal land will be made available for the establishment of local development zones. 9300 ha of forest will be registered and managed in accordance with national legislation and village regulations. 1000 ha of land will be rehabilitated to protect source water and transport routes (roads and rivers) and conserve local flora and fauna. The technical center will produce some of the seedlings for the forest activities and train one nursery worker per village.

Agrisud International cooperates with NUDP-EFICAS project to develop the vegetable nursery seeds in Viengkham district of Luang Prabang province.

1.2.7. Sustainable agriculture market access development project (SAMADP)

- **Project description**: SAMADP project is implemented by SEADA with the funding support from Bread for the World. The project cooperates with DAFO of Pek District
- **Project duration:** 2013 to 2015
- **Project site:** Paek district in Xiengkhouang province
- **Project activity:**
    - Promoting the organic vegetable and marketing

- Promoting Sustainable Rice System (SRS)
- Support/setting Organic Farmer Association (OFA)

SITE VISIT # 5: MRS. CHANTHALY, YUAN VILLAGE, KHUN DISTRICT, XIENGKHOUANG PROVINCE

"I and my husband grow the small chicken rice in 0.54 ha with the conventional method since 1975 and switch to the SRS technique in 2009. The organic vegetable production is started later in 2012 with the promotion of SAMADP project. My vegetable garden (40 m x 40 m) is located near to my rice field.

Figure 12 : Mrs. Chanthaly farm land, Yuan village, Khun district, Xiengkhouang province

The project provides the technical support on the organic vegetable cultivation, such as the seed selection, the compost and BE production, and the pest control. For the other vegetable seeds that I can't produce by myself, I buy from the local market. I produce about 10 to 15 kinds of vegetables per year. The vegetable plantation cycle lasted 21 to 30 days depending on the vegetable types (Land preparation/soil amendment (7 days) → Seedling (7 days) → Replanting (7 to 14 days). The vegetables are sold in the organic market in Paek district (twice/week). I received about 14 to 15 mill kip/year for the vegetable sale".

Nowadays, Mrs. Chanthaly is a "Model farmer for the SRI and the organic vegetable". She trained the farmers in Oudomxay province on SRI and organic vegetables.

SITE VISIT # 6: MRS. KHAMPHIW PHILAVONG, THERN VILLAGE, PEK DISTRICT, XIENGKHOUANG PROVINCE

"I and my family grow the small chicken rice with the conventional method since 1980. My family has 1.2 ha of rice field. I started the organic vegetables for the home-consumption in 2009 because I have heard about the health benefit from the organic vegetable. I started to produce the organic vegetables for the Xiengkhouang organic vegetable market in 2011. The agricultural revenue is 50 million kip per year.

Figure 13 : Mrs. Khamphiw farm land, Thern village, Paek district, Xiengkhouang province

Mrs. Khamphiw Philavong extends her agro-ecology knowledge to the other agro-ecology practices. She produces 0.32 ha of SRI and practices the integrated farming system/VAC (Fish pond + Chicken farm + Vegetables). She has learnt the integrated farming system from the site visit in Vietnam.

Nowadays, Mrs. Khamphiw Philavong is a "Model farmer" for the organic vegetable, and SRI. She received the visitors from local and other country (Vietnam), who come to visit her farm.

II. SYSTEM OF RICE INTENSIFICATION (SRI)

2.1. SRI CONTEXT IN LAO PDR

The first organization introducing the SRI in Lao PDR was Oxfam Australia, which conducted the first SRI trials during the rainy season of 2001 with the cooperation with the NARC/MAF. The project came up with the

conclusion that “the likelihood of disseminating SRI throughout Lao PDR is extremely slim.” As a result of this verdict, the spread of SRI within Lao PDR was, thereafter, limited. The new introduction of SRI restarted in 2006 by Pro-net 21 project, which is a cooperation of Department of Irrigation/MAF and Pro-net - a Japanese NGO. The project is supported by the ADB and JICA and the ADB-funded Northern Community Management Irrigation Sector Project (NCMI) with the Department of Irrigation (DoI) which demonstrated the feasibility of SRI in favorable environments.

The boom of SRI began in the end of 2008 after the MAF’s Notice on “Increase of Rice Yield through SRI Promotion in Irrigated Areas” after the MAF adopted a policy of promoting the extension of SRI. As a result the DoI has actively extended SRI techniques in all irrigated areas together with different organizations such as CUSO-VSO, SAEDA, WWF or ADRA Japan. An impact assessments of the NCMI project has shown that adoption of SRI techniques has been relatively high in Luang Prabang Province due to the presence of favorable factors such as small paddy areas and high availability of family labor force (due to little external employment opportunities during the dry season). In 2010, the total area under SRI (including NCMI and Pro-Net 21 projects) was 3625 ha for 10666 households.

Table 8 : History of SRI extension in Lao PDR

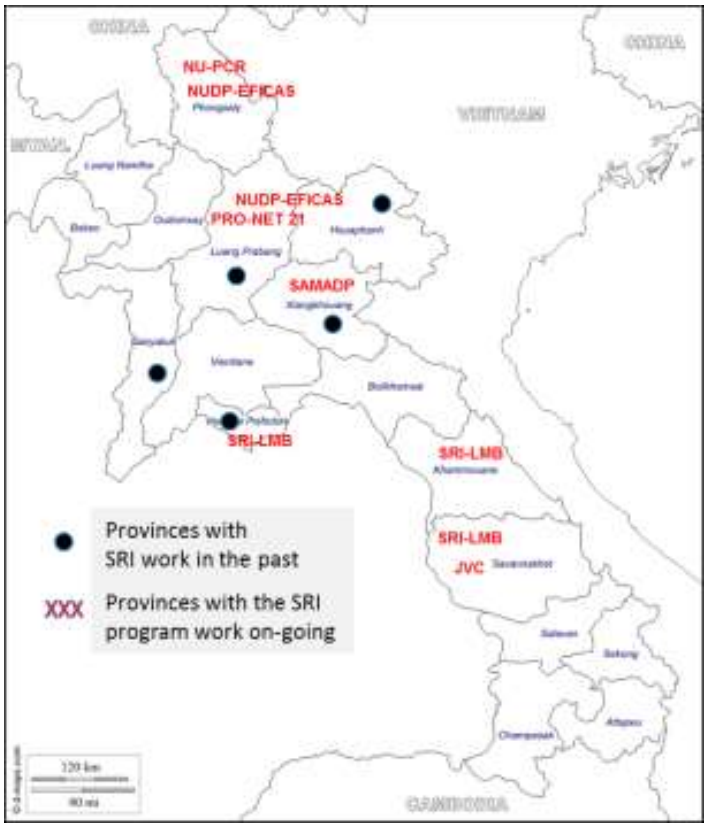
YEAR	ACTIVITY
2014	• Lunched the SRI-LMB in Lao PDR and target 3 provinces (Vientiane capital, Khammouane and Savannakhet province • Pro-Net 21 enters to the Phase III of SRI project in five Districts of Luang Prabang Province
2009 -2011	• Implementation of Pro-Net 21 Phase II (Demonstrate of SRI methods)
2006-2008	• Implementation of Northern community management irrigation sector project (NCMI) in five provinces (Luang Prabang, Sayabouri, Huaphanh, Xiengkhouang, and Vientiane Capital) • Support the SRI by the INGOS, such as CUSO-VSO in Vientiane Capital, SAEDA in Xiengkhouang province, ADRA Japan and JVC in Khammouane province • 1st SRI trial in dry season in Vientiane Capital, Luang Prabang province and Sayaburi province, cooperation with DOI and Pro NET 21 Phase I
2001	• First introduction of SRI to Lao PDR by CAA/Oxfam Australia

Source: http://sri.ciifad.cornell.edu/countries/Lao PDR/Lao PDRArchives.html#archives

2.2. CURRENT SRI STAKEHOLDERS AND INITIATIVES IN LAO PDR

Until the end of the survey (15 December 2015), five projects belong to eight organizations work actively on the dissemination of SRI practice in six provinces of Lao PDR (see Figure 13). The PRO-NET 21, a JICA project, continues their dissemination of SRI in Luang Prabang province. The recent SRI project launched in 2014 is “Sustaining and Enhancing the Momentum for Innovation and Learning around the System of Rice Intensification in the Lower Mekong River Basin”, SRI-LMB, which targets 3 province of Lao PDR (Vientiane Capital, Khammouane province and Savannakhet province). The snap-short of SRI project is presented below.

Figure 14: Current SRI stakeholders and location



JVC, CARE International, CCL, and SAEDA are further the NGOs supporting the dissemination of SRI practice. CARE International, CCL, and SAEDA work together in the NU-PCR project. SAEDA promotes the SRI combined with the organic production activity in Xiengkhouang though SAMDP project.

In additional, NU-PCR project cooperates with the NUDP-EFICAS in the development of SRI in Phongsaly province.

2.2.1. SRI-LMB project

Figure 15 : CFPAR of SRI-LMB

CFPAR in Fouang district, Vientiane province

CFPAR in Champone district, Savannakhet province

The Sustaining and enhancing the momentum for innovation and learning around the system of rice intensification in the lower Mekong river basin – SRI-LMB project is a regional project covered four countries (Lao PDR, Vietnam, Cambodia and Thailand). The project implementation period is for 60 months from June 2014. The project is implemented by the Asian Centre of Innovation for Sustainable Agriculture Intensification (ACISAI) created at AIT in 2013. The Project Management Unit of Lao PR is the DAEC/MAF, with the cooperation of the Faculty of Agriculture, under NUOL.

The main objective of the project is to contribute to enhance resilience of rainfed small-scale farmers of Lower Mekong region confronting climate by stimulating of local innovation using SRI and Farmers' Field School (FFS) approaches.

In 2015, about 5,000 rice farmers in Cambodia, Thailand, Laos and Vietnam are learning SRI method of rice production at 172 sites in 32 districts of 11 provinces. In Lao PDR, nine districts of three provinces have been selected as a pilot site.

CFPAR in Yommalath district, Khammouane province

Province	District
Vientiane province	Kasi, Fouang, and Vangvieng
Khammouane province	Mahaxay, Yommalath, Nakay
Savannakhet province	Champhone, Songkong, Sayaburi

The inception workshop is held in November 2014. The project provided the season-long farmer's training, known as Central Farmer's Participatory Action Research (CFPAR) where the participants farmers have been trained to develop location specific rice production technologies under the guiding principles of SRI by setting experiments, documenting information and reporting key results and challenges concerning crop production at the community level. During CFPAR period, four intensive trainings will be conducted for approximately 36 selected farmer trainers chosen from the 3 provinces, 12 in each 3 provinces (Savannakhet, Khammouane and Vientiane province). TDK 8 and Lambak rice varieties were selected by farmers for the SRI experiences. In Khammoune province, many SRI fields were set-up without any chemical fertilizers as commonly practiced in the three selected districts.

2.2.2. PRO-NET (Phrase III), 2014-2020

PRO-NET 21 (Phase III) is an on-going SRI dissemination in Luang Prabang Province initiated in 2007 by the Japanese NGO (PRO-NET) and implemented with cooperation of the PAFO Luang Prabang. The project is supported by the JICA Partnership Programme. Since 2007, the SRI technique has been disseminated to over 600 farmers in 21 villages in seven districts of Luang Prabang province with representing over 300 ha of SRI filed in the wet season and 200 ha in the dry season.

PRO-NET 21 (Phase III) will focus on 12 villages in 5 districts (Nambark, Nan, Xieng ngern, Ngoy and Viengkham) of Luang Prabang province, which is represent 500 households and 600 ha of SRI land. In additional of SRI promotion, the PRO-NET 21 (Phase III) will introduce the Organic SRI, the livestock raising and the micro-credit to the farmers. The project provides the small fund (2 million kip per farmer family) for the livestock raising (pig and poultry). The project expert trains the farmers on the organic SRI (compost production) to improve soil fertility, whilst reducing of agrichemical uses.

SRI filed in , Nakhern Village, Nane District, Luang Prabang province

SITE VISIT # 7: MR. LAE and Mr. Souk, NAKHERN VILLAGE, NANE DISTRICT, LUANG PRABANG PROVINCE

Mr. Lae and Mr. Souk are the two of four SRI pioneer farmers of PRO-NET 21 (Phase I) in 2007. They become the SRI trainers for the SRI dissemination in Luang Prabang province. Luang Prabang province is leading the way in using the innovative SRI method, and farmers there are very enthusiastic and supportive of the new technique after profiting from increased yields. In Nan district where we visited, 491 families in Nan district adopted the SRI, which is represent 291.43 ha of SRI land.

"They joined PRO-NET 21 and switched the rice production method from the conventional method to the SRI technique in 2007 when the PRO-NET (phase I) was launched. They decided

SRI tools: Rake of grid marker and Rotary weeder

to join the progamme because they were curious to try the new technique that they have trained and visited. After adopted the SRI, the rice yield has been increase from 1.5 t/ha in 2007 to 4.8t/ha in 2014".

The project provides the technical support and some tools (rake marker and Rotary weeder) to the pioneer farmers. The participated farmers manage by themselves for the tool utilization.

Base on their experiences, Mr. Lae and Mr. Souk explain the benefits of SRI method compared to conventional methods of paddy cultivation as following:

- SRI method increases the rice yield, e.g. from 1.5 t/ha to 4.8 t/ha;
- SRI method requires a small quantity of seedlings for transplanting. So they use less paddy rice for the seed compared with the conventional method, e.g. from 10 to 15 kg/ha for the conventional method and 5 to 7 kg/ha for the SRI method;
- SRI method reduces the use of chemical fertilizers and agrochemicals. Mr. Lae and Mr. Souk explained that the SRI grows with SRI method seems more healthy than the conventional method. So they don't need to apply an intensive dose of fertilizers and agrochemicals, they applied only if it is necessary;
- SRI reduces the production costs by reducing the labor use during the transplantation, e.g. from 20 to 30 persons for the conventional method to 10 persons for the SRI. They explain that the transplantation period is reduced due to the spacing size. One person is in charge of space marking and 10 persons are in charge of transplantation. Consequently, the number of workers and the time of work are reduced.

It is important to note that the benefits of SRI method explained above should be taken with caution because they came from the opinions of the SRI farmers without any justified data and/or experimentation measure. Some of the benefits quoted might contradict with the SRI experiences in the other countries. For example, SRI is seen as a labor-intensive technique while the interviewed farmers, who relying in the family labor, explained that the SRI technique can reduce the use of an external labors during the transplantation stage. An in-depth study on the comparison of SRI and the conventional paddy rice cultivation should be conducted in order to provide the evidences on the SRI benefits in the small scale farmer with the family labor against large scale farmer with an intensive labor use.

2.2.3. Sustainable agriculture market access development project (SAMADP)

As explained in the section 1.3.4 that SAMADP project is involved in two agro-ecological practices: i) Organic vegetable production and ii) Sustainable Rice System – SRS.

Figure 16: Closing demonstration of harvesting Sustainable Rice System

SAEDA promoted the Sustainable Rice System- SRS technique- in 2010 under SAMADP project. The SRS method seems as a combination of SRI and the Organic method because only the organic materials (compost, manure and bio-extract) are allowed to use in the SRS method. For more detail of SRS technique, please refer to section 2.3. Each year, SAEDA organized an event called "Closing demonstration of harvesting Sustainable Rice System (SRS)", which moves from the SRS village to the other SRS village. In 2014, the event was organized at Namtom village of Paek district in Xiengkhouang province. Participants attended are from Organic Farmers Association (OFA) and farmers. Quoting Mr. Thongdam, a SAEDA director, *"the SRS result showed that farmers use this technique are satisfied as to save value of seeds, production increased, use less labor, good weight, easy to do, appropriate to the farmer and soil fertility*".

SITE VISIT # 5: MRS. CHANTHALY, YUAN VILLAGE, KHUN DISTRICT, XIENGKHOUANG PROVINCE

"I and my husband grow the small chicken rice in 0.54 ha with the conventional method since 1975. We received only 1.5 t/ha from the conventional method and it isn't enough to feed my family. I was looking for the high yield method. When the SAMADP started, they explain to me that the SRS technique can help to increase the rice yield. So that is the reason why I participated in SRS. I also visited the SRI farmers in Luang Prabang province and convince that the technique can help to increase the rice yield.

From the harvest season 2010 until now, the rice yield is increasing from 1.5 t/ha to 2.5 t/ha.

SITE VISIT # 6: MRS. KHAMPHIW PHILAVONG, THERN VILLAGE, PEK DISTRICT, XIENGKHOUANG PROVINCE

"I and my family grow the small chicken rice with the conventional method since 1980. My husband and I observed the health concerns due to the use of agri-chemicals. For this reason, I would like to try the SRS technique to reduce the use of agri-chemicals because the SRS method uses only the organic materials to improve the soil fertility We converted 0.32 ha of 1.2 ha of rice field in SRS in 2010.

Currently, the rice yield is increasing from 1.5 t/ha to 3.2 t/ha. In additional, we started the organic rice production in the rice season in 2011 by using the compost and BE technology learnt from the project. The organic rice yield is 2.5 t/ha.

2.2.4. Northern uplands promoting climate resilience (NU-PCR) project

The NU-PCR project is a multi-stakeholder project building on and extends CARE International and CCL's current implementation experience in Phongsaly province and throughout Lao PDR, as well as on SAEDA's experience working with rural communities. The purpose of the NU-PCR project is to prepare poor farmers against climate disasters, which are increasingly threatening their livelihoods by destroying the agricultural production. The NU-PCR project aims to reach 78,000 people in three districts (Samphan, Ngot Ou and Mai districts) of Phongsaly province, which is about half of the population of the province. The project has started in September 2013 and will be implemented till August 2017.

The project promotes several activities to farmers, such as cardamom plantation, tea garden, organic agriculture, SRS, conservation of resources, forest conservation, organization of producer's group, animal health care, and enhancing the ability of DAFO and PAFO staffs and farmers. According to the data obtained by the project director, 31 villages with 1783 households are currently participated in the NU-PCR project.

Figure 17: SRS rice filed in Phongsaly province

With the collaboration SAEDA, the project introduced the SRS technology and the organic agriculture to 683 farmers in Yot Ou districts to improved agricultural practices, which can boost their rice yields.

In additional, the project cooperates with NUDP-EFICAS project in 10 villages (610 households) of Samphan district for the promotion of SRS on four local varieties of rice called Laboun, Hinsung, Nok and None. These rice varieties came from the Houykod rice extension center in Luang Prabang province.

According to the experimentation, Hinsung and None were those obtaining the high yield, 3 t/ha and 2.8 t/ha respectively according to the data provided by EFICAS project.

2.3. SRI VS SRS TECHNIQUE

The SRI and SRS technique described by the farmers of SAMADP and PRO-NET 21 project is summarized in Table 8 below.

Table 9: SRI/SRS technique explained by SAMADP and PRO-NET 21 project

Steps	SRI description by PRO-NET 21	SRS description by SAEDA
Land preparation	After the harvest, the animal manure is bringing to the rice field. The manure is left on the rice filed until the first irrigation, which is effectuated 1 week before the first ploughing. The second ploughing will effectuate 1 to 2 weeks before the transplanting.	Similarly to SRI technique
Nursery bed preparation	- Farmers select the paddy seeds with the salt water method trained by the project. For Nan district, the TDK 8 and TDK 11 are commonly varieties uses;	- Use the local varieties, such as Small chicken rice and non-glutinous rice

	- 7 kg of submerged paddy seeds is soaked for 12 hours for 1.5 ha of paddy fields; - The nursery bed is prepared at the corner of main paddy fields. - Young seedlings (9 – 10 days) will be transplanted	- Use 6 kg of submerged paddy seed soaked 24 hours - Apply the compost into the nursery beds - Young seedling (17 – 18 days)
Transplanting	- After the preparation of the paddy field, the young seedling is transplanted in the respective space marking by the grid marker (30 cm x 30 cm or 20 cm x 20 cm) depending on the soil quality	- 30 cm x 30 cm
Weed management	- Use the rotary weeder within 7 days after the transplanting - . After the first weeding, about 10 to 15 days interval during the vegetative growth stage of paddy, the farmer will effectuate the 2nd and 3rd weeding	- The manual weeding was done after transplanting. Weeds are removed and collected from crop fields by hand. The collected weeds are piled on bunds or in case of certain weeds taken home to feed animals
Water management	- Irrigate the land after 7 days of transplanting; - Observe the plant health. If the farmers think that the plant is healthy, they can start the practice of the alternate wetting and drying system (5 days dry against 5 days wet) until the maturity - The water in the paddy field is drained at 14 - 21 days before harvest	- Irrigate the land until 10 to 15 cm after 7 days of transplantation and maintain the level until the maturity; - In the maturity stage, irrigate the land until 20 cm - No alternate wetting and drying system, the water stand on the rice field until the maturity.
Plant care	- Chemical fertilizer is allowed to use depending on the farmers observation during the vegetative growth stage.	- No insecticide and fungicide were used in this method; - 2 to 3 weeks after the transplantation, the liquid bio-extracted fertilizer (Foliar formula) was applied 2 to 3 time per week; - 4 to 5 weeks after the transplantation and during the panicle initiation, the liquid bio-extracted fertilizer (Panicle formula) was applied.

It appears that there are few differences between SRI and SRS technique. SRI, as stated below in Table 8, relies on alternating wet and dry practice while SRS is not relying on the alternating wet and dry practice. The level of water in the rice field is maintained 10 to 15 cm after 7 days of transplantation until the rice maturity. In additional, the rotary weeder is not applied in the SRS and the agro-chemicals use is allowed in SRI. Whatever the SRI or SRS, the technique is promoted and known as “One-seedling method” in Lao PDR.

III. CONSERVATION AGRICULTURE (CA)

3.1. CA CONTEXT IN LAO PDR

Quoting FAO, the Conservation agriculture (CA) has emerged as an alternative to conventional agriculture as a result of losses in soil productivity due to soil degradation (e.g. erosion and compaction). The CA aims to reduce soil degradation through several practices that minimize the alteration of soil composition and structure. CA maintains a permanent or semi-permanent organic soil cover consisting of a growing crop or dead mulch. CA may have different meanings for different people as the CA utilizes many practices, such as minimum or no-tillage, and inter-cropping system. Hence, the differentiating feature of CA and conventional agriculture is the mind-set of the farmer.

The CA has been introduced in Lao PDR in 2007 by PROSA and PRONAE[5] project. The PROSA was providing institutional support to the MAF for the development and dissemination of the agro-ecology and the CA and preparing the implementation and management of a regional CA network for South East Asia (CANSEA). The PROSA established the Centre de Recherche et de Formation en Agriculture de Conservation - CERFAC in Poa village, Paek district of Xiengkhouang province in 2007 in order to head a national programme for training and experimentation with the engineering of zero-tillage direct seeding systems. From 2007 to 2011, two MSc-PhD, 23 BSc, 20 specialized technicians, 52 field officers and 881 farmers have been participate in the project activity (Legoupil 2013).

The PRONAE featured agronomics research in a hands-on context in Sayabouri and Xiengkhouang province for the design, adaptation and promotion of alternative cropping systems based on the principles of conservation agriculture (CA) and zero tillage direct seeding. The Corn Development Fund[6] in Sayabouri province and the National Conservation Agriculture Centre (NCAC) / NAFRI are established by PRONAE, which enable research and promotional activities related to CA and zero tillage. In additional, the PCADR-PASS project (2005 – 2009) worked on the CA extension in maize mono-cropping system with the association or rotation of leguminous crops in in four Southern districts of Sayaburi Province. The farmer groups have been establishing in 44 villages, involving about 1 100 households and 1,500 ha of land cultivated with direct seeding mulch- and maize-based cropping systems. The Conservation Agriculture Development Fund (CADF) was set up in 2009 to continue supporting agricultural extension activities (Lestrelin 2015).

The recent research by CIRAD in 2015 has documented the situation of the CA dissemination in Sayaburi that the proportion of farmers applying CA techniques (mainly direct seeding mulch based maize cropping systems) has slightly decreased from 2008 to 2015 from 40% to 25%. On the other hand, the number of CA practitioners has doubled with some differentiation at the village level (Lestrelin 2015).

The Conservation Agriculture Network for South East Asia (CANSEA) was created in September 2009. CANSEA is made up of eight institutional partners from six South East Asian countries. The CIRAD, which cooperates with all these partners in South East Asia is also a founding member of the network (Legoupil 2013). For more detail on the CANSEA, please refer to Chapter III: Agro-ecology networks in the Mekong Sub-region. During this survey, the NUDP-EFICAS was identified as an active organization on the dissemination of CA in Lao PDR. The snap-shot of this project is presented in the section below.

It is important to mention that the CA initiatives survey does not include Soil and Water Conservation techniques such as techniques preventing soil erosion and water runoff through physical and biological measures, and Slope Agricultural Land Technology (SALT). There might be other organizations working on the promotion of other CA initiatives.

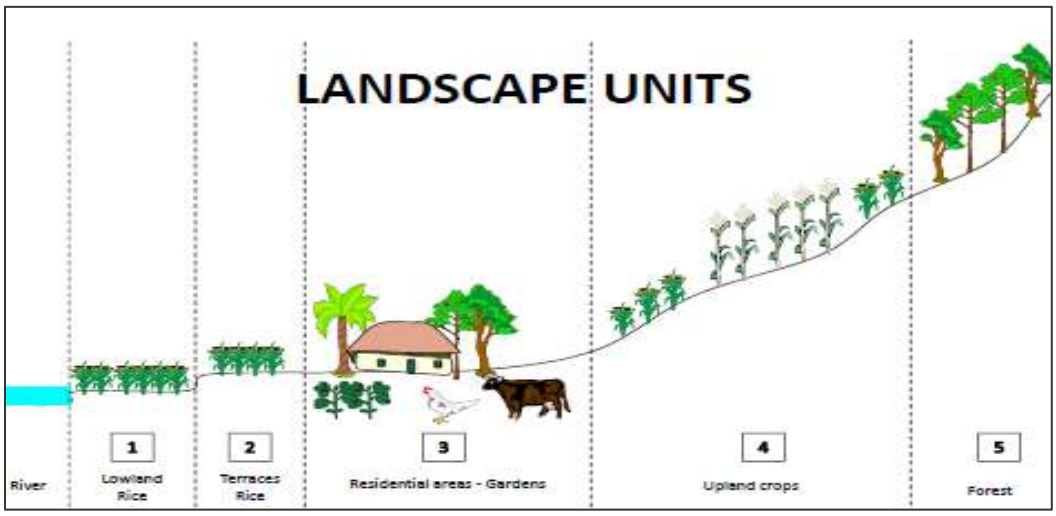
[5] Funded by AFD, FFEM and French Ministry of Foreign Affairs
[6] This development mechanism is funded by a contribution of $1 US/ton by exported maize

3.2. NUDP-EFICAS

3.2.1. Context and approaches

The Eco-Friendly Intensification and Climate resilient Agricultural Systems - EFICAS Project is funded by the European Union Global Climate Change Alliance and the AFD for 3 years period (2014-2017). The project aims at developing innovative methods and intervention approaches to support farmers' adoption of climate smart agricultural systems based on conservation agriculture. EFICAS project join NUDP and merge some activity together. The project is now called NUDP-EFICAS. The project is implemented by the CIRAD researchers with the DALAM/MAF, PAFO and DAFO of implemented site as national counterparts. In additional, NUDP-EFICAS work closely with the NU-PCR for the promoting of SRI in Phongsaly province. The approach of EFICAS Project is based on the village and community involvement in the project activity. The three main components are:

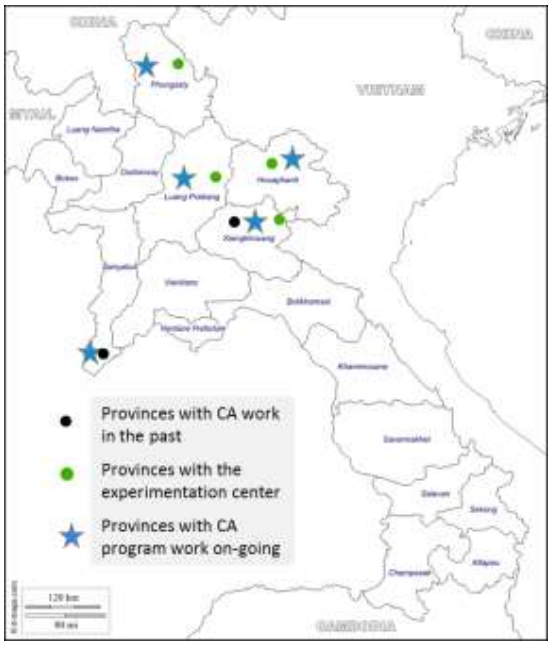
Figure 18: Approach of EFICAS Project



- Involve the whole village community in the planning and innovation processes
    - Land use plan and village development plans are developed with the Village
    - Land Management Committee with the support of the district staff and the project and then agreed/adjusted by the whole village,
- The whole village community is involved in project activities
    - Action plans and schedule agreed by the whole community are implemented collectively with clear indicators of success/failure developed together before implementation
- Integrated approach to intervention on crops, livestock, forest systems
    - Different divisions of DAFO and DONRE, all projects working in the district can be mobilized to support villager's activities through project coordination.

The project targeted 5 provinces of Lao PDR, 3 of which are the target provinces of the NUDP project (Luang Prabang, Huaphanh and Phongsaly). The remaining provinces, Sayaburi and Xiengkhouang Province, are a previous project site of PRONAE. In each province, 4 villages in 2 districts will be selected for the implemented village and the control village. In additional, the project has established the "Technical learning center" in four provinces.

Figure 19: Project site and technical learning center of EFICAS project



Province name	District name	Technical learning center
Huaphanh	Viengxay Houamuang	Phonethong village, Veingxay district
Phongsaly	Mai Samphan	Had Tham village, Mai district
Sayaburi	Kentao	
Luang Prabang	Pakseng Viengkham	Muangmouay village, Viengxay district
Xiengkhouang	Paek Kham	Poa village, Paek district

Source: EFICAS annual workshop, December 2015

3.2.2. CA activities in NUDP-EFICAS project

Based on the presentation in the annual workshop of NUDP-EFICAS project held in 8 December 2015 in Xiengkhouang province, the agricultural activities implemented in 2015 of NUDP-EFICAS can resumed in following topics:

Lowland farming diversification	Crop diversification (inter-cropping/crop rotation), SRI for the local rice variety, dry season crops, IPM, organic vegetable garden, orchard tree planation etc.
Livestock system and improvement of pasture	Forage land cultivation and management, forage seed conservation training on animal health care, etc.
Upland management and improvement	Improvement of fallow land by the direct-seedling, Agroforestry, Cardamom plantation, coffee plantation improvement, Forest seedling center etc.

Some information on the number of farmers involved and the acreage under EFICAS activities are summarized below.

Province name	Activity
Xiengkhouang province	Pasture land management(344.25 ha) Forage plantation (30.6 ha) Inter-cropping and rotation crop system (30.25 ha) Wet land conservation (23.25 ha)
Luang probing province	Pasture land development (88 ha, 71 ha) Forage plantation (15.46 ha) Inter-cropping and rotation crop system (115 households, 62.48 ha)
Phongsaly province	Pasture land management (73 household) Forage plantation (3 ha)
Huaphanh province	Inter-cropping and rotation crop system (114 households, 36.62 ha) Forage plantation (2.26 ha)

During the field survey, we had the opportunity to visit two activities of EFICAS that are illustrated in the snap-shot hereafter.

A. Inter-cropping pigeon pea, upland rice and stick lac in the fallow land

Several rotation and inter-cropping cultivation techniques are employed in the NUDP-EFICAS, e.g. the alternating maize rows with peanut or pigeon pea, the upland rice is directly seeded into a dead mulch of forage legume (Stylo guianensis) on non-irrigated flat land. The other grouping possibility is the cassava plantation on the Stylo guianensis or the cardamom and soybean plantation.

Figure 20 : The raising of stick lac in the pigeon pea, in Huaphanh province

SITE VISIT # 12: : MR. VIENGSONE CHANTHUMA, PROJECT COORDINATOR PAFO-LPB

I am a project coordinator of EFICAS project in Luang Prabang province. The project promoted several inter-cropping systems to the farmers in the four target villages (Houayvat, Hatsom, Samsoum and Photong) in Pakseng and Viengkham districts, such as pigeon pea + upland rice + stick lac insect, soybean + red bean, maize + pigeon pea, and cassava + Stylo Urbon grass

The inter-cropping pigeon pea trees and upland rice is the one of inter-cropping system proposed to the farmers. In additional, we combined the inter-cropping cultivation with the entomo-forestry (Stick lac insect raising). In 2014, 33 households (29.13 ha) have growth the pigeon pea, the upland rice with the inter-cropping system and produced 70 kg of stick lacs. The inter-cropping pigeon pea, upland rice and stick lac in the fallow land is described as below

Land preparation	- The pigeon pea and the upland rice variety inter-cropping system are cultivated in the fallow land; - The land preparation (weeding, land clearance, etc.) is started in March to April
Planting technique	- The Pigeon pea seed is dibbled into the soil in May. The planting distance of pigeon pea is about 1m x 1 m or 2m x 2m depending on the land landscape - Using 3 to 5 kg of pigeon pea seed per ha (2 to 3 grains per hole) - The upland rice can grow at the same time or 2 weeks after the Pigeon pea planting.
Plant care	- The weeding is necessary during the cropping period, at least 3 times before the harvesting season of upland rice in December

Water management	- Rainfall system
Soil fertilization and pest control	The farmers never used chemical fertilizers, but they did use the small amount of insecticide.
Stick lac raising	- The stick lac insect will put on the host trees (pigeon pea) after the harvest of the upland rice (1 or 2 brood lacs per host tree) - The first collection of stick lac is in between June and July - The second collection is in December - Remove the brood lacs after the second collection and place in the other host tree
Yields	- Upland rice: 2.3.tones/ha - Stick lac: 20 to 30 g/host tree

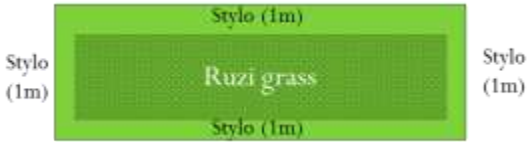
B. Minimum tillage system for the forage production

The management of pasture land aims to improve the soil fertility by the regeneration of pasture lands through initial mineral fertilization, minimum tillage and introduction of Ruzi grass (Bracharia ruziziensis) and Stylo Urbon (Stylosanthes guianensis). The Stylo Urbon was used as “a Green fence” to protect the forage crops (Rizi grass). After three years of grazing, the commercial crops (upland rice and crash crops) will growth under a no-till and residue management system.

SITE VISIT # 8: MR. DACHANG, KHANG NONGLUANG VILLAGE, PAEK DISTRICT, XIENGKHOUANG PROVINCE

«I joined EFICAS in 2014 because I would like to have a pasture land for my cattle. The project provided the forage seeds, the barbed wire, the fertilizer and the land preparation equipment, which costs 4.5 million LAK. I have to refund this amount to the project after 3 years of production”. The fund will turn to the other farmers, who would like to participate in the activity.

My pasture land has 1 ha and I planted the Ruzi grass (Brachiaria ruziziensis) and the Ubon Stylo (Stylo guianensis). The minimum tillage technique is employed for the forage production as describe as following. In additional, I have learnt how to produce the fermented forage technique, the dried forage technique and the animal feed supplements (Mineral brick).

Land preparation	- After the land clearance, the lime from the crag is placed into the land for 7 days before the first ploughing to improve the soil pH; - The second ploughing is effectuated 14 days before the plantation of forage seeds. - The chemical fertilizer is applied in this stage
Plantation	- For the 1 ha of plantation, 8 kg of the Ruzi grass (Brachiaria ruziziensis) seeds and 3 kg of the Ubon Stylo (Stylo guianensis) are used - The grains is direct-seedling in the land after the second ploughing - The forage seed is planted in the respective space as show in the picture below  - The Stylo Urbon was used as “a Green fence” to protect the forage crops (Rizi grass) with the distance of 1 m of each edge of land
Water management	Rainfed system

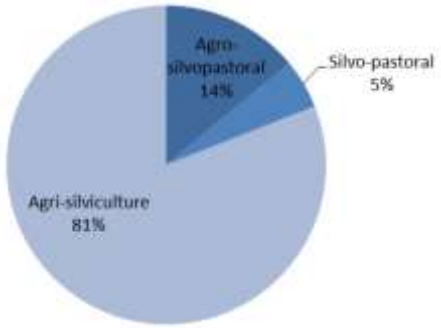
IV. AGRO-FORESTRY

4.1. CONTEXT OF AGRO-FORESTRY IN LAO PDR

The agro-forestry is defined as a system that integrates the trees, crops, and/or livestock. The agro-forestry system is intentionally designed and established in the same land. The management work together and yield multiple products and benefits. The agro-forestry system can help to create a permanent soil cover again erosion and enhances water storage, thus benefitting crops. Leguminous trees can fix nitrogen and provide leaf litter as a fertilizer to boost yields.

The SEANAFE project (1996 - 2005) supported the development of agroforestry curriculum. SIDA project (2004 – 2010) in collaboration with NARC and FSRC promotes the agro-forestry systems with plantations based on wood/commercial trees (such as rubber, candlenut, Jatropha, palm oil trees) in association with rice, corn or galangal/ginger cropping systems in Sayaburi, Luang Prabang, Oudomxay, Luang Namtha and Bokeo Provinces. ACIAR project (2008 – 2013) promoted the agro-forestry practice in Luang Prabang province though the project named “Enhancing on-farm incomes through improved silvicultural management of teak and paper mulberry plantations in Luang Prabang Province of Lao PDR”. The project promoted the inter-cropping of maize, pigeon pea, soybean and cassava under teak or paper mulberry spacing. In addition, GRET has developed bamboo production through sustainable management of natural forests with collaboration with SDC, NAFRI and FSRC in three districts of Huaphanh province starting from 2010.

Figure 21 : Agroforestry systems applied in Lao PDR , 2011



Source : KKU and NOUL study, December 2011

The study conducted in Oudomxay and Luang Prabang province in 2011 by the researchers of KKU and NUOL in the area of ACIAR project described that the agri-silviculture was mostly applied by the farmers, accounting for 81%. The integrate system is either two types of fruit trees (prunes, pomelo, lychee, mango, longan, orange, etc.) combined with a single type of woody tree (rubber tree, agarwood, and teak), or single type of woody trees combined a single crop (pineapple, soybean, galingale, upland rice, maize, etc.).

The agro-silvopastoral system accounted for 14%. Within this system, the types of fruit trees and woody trees are similar to those of the agri-silviculture. The most commonly raised livestock was poultry which was naturally free-grassing.

The recent project by World Renew with funding support from NUDP documented that the farmers in Mai District of Phongsaly Province practiced several agri-silviculture, such as

- Cardamom based combined with fruit trees (mango, persimmon, orange, mandarin, peach, guava) and/or crop (cassava, sugarcane, banana, pineapple, papaya, ketsana, rattan);
- Coffee and cardamom combined with fruit three (orange, grafted persimmon, etc.) and vegetable garden (eggplant) and the upland rice;
- Timber trees or teak combined with fruit trees (mango, persimmon, orange, mandarin, peach, guava) and/or crop (cassava, sugarcane, banana, pineapple, papaya, ketsana, rattan)

The motivation of the agro-forestry adoption in Mai District of Phongsaly Province is about the opportunity to increase the household income and the diversification of balanced diet. On the other hand, the lack of labour, a lack of knowledge, and the uncertain outcomes/results are considered as the barriers to adoption (Kelly 2014).

4.2. CURRENT AGRO-FORESTRY INITIATIVES AND STAKEHOLDERS

Until the end of survey date in October 2015, ten agro-forestry initiatives were found in eight provinces of Lao PDR (see Figure 24). These agro-ecology initiatives manage mainly by the International NGOs (CARE International, CCL, and JVC), institutions of MAF (DoPC, NAFRI and PAFO_LPB), and NPAs (SAEDA and SuDHiCA). Among of ten initiatives, NU-PCR is a joined project of two stakeholders (CCL and CARE International).

The stakeholders who promoted the agro-forestry practice promote also other agro-ecological practices, such as the organic agriculture, SRI, IPM, and CA (see Table 10).

Figure 22: Agro-forestry stakeholders and location

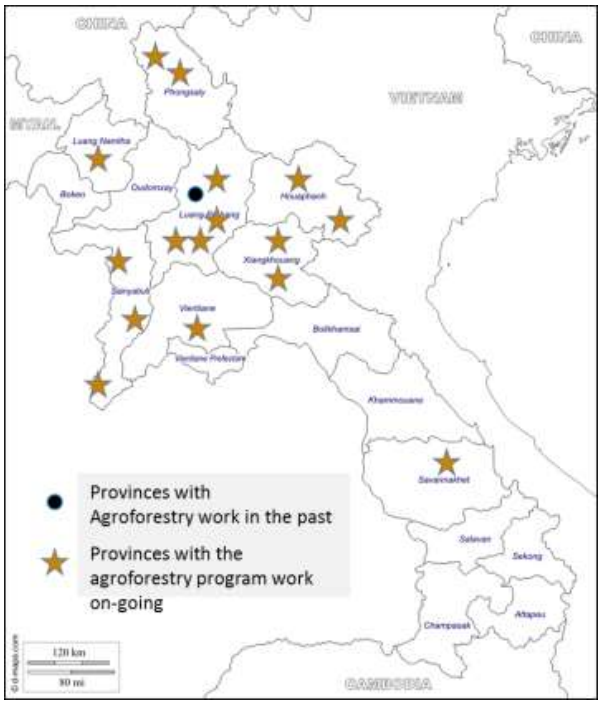


Table 10: Agro-forestry stakeholders in Lao PDR, survey 2015

	Organization name	Project	Organization type	Agro-ecology practices	Location
1	CARE International	NU-PCR	INGO	OA, Agroforestry, SRI	Phongsaly
2	CCL	NU-PCR	INGO	OA, Agroforestry, SRI	Phongsaly
3	JVC		INGO	Agroforestry, SRI	Savannakhet
4	SAEDA	NUDP	NPA	Agroforestry	Luang namtha
5	SuDHiCA	Vangborn organic farm	NPA	OA, Agroforestry, IPM	Sayaburi
6	CIRAD	EFICAS	Research center	Agroforestry, SRI, IPM, CA	Huaphanh, Luang prabang, Phongsaly, Sayaburi, Xiengkhouang
7	DoPC/MAF	TABI	Government institution	OA, Agroforestry	Huaphanh, Luang prabang, Xiengkhouang
8	NAFRI/MAF	Teak-based	Government institution	Agroforestry	Luang Prabang
9	PAFO_LPB/MAF	Sacha Inchi project	Government institution	Agroforestry	Luang prabang
10	Burapha Agroforestry company	Agro-forestry project	Private company	Agroforestry	Sayaburi Vientiane p

The snap-shot of the agroforestry dissemination in Lao PDR is described below

4.2.1. Burapha Agroforestry Company

The Burapha Agroforestry company has 6,000 ha of Eucalypt and Acacia plantations, most of which have been established in 2011. The company plans to increase the total plantation to 60,000 ha around Vientiane and Sayabouri province. The company develops the agroforestry programme on land rented from local people. The programme aims to allow the farmers to farm the rented land and receive income from participating in the management of the plantations.

Figure 23: Plantation of Eucalypt and cassava of Burapha agro-forestry company

Source: ACIAR blog, 2014

The Burapha agro-forestry model is the agri-silviculture, which combined the woody trees (Eucalypt or Acacia) in rows spaced 9 m and the agricultural crops (rice or cassava) in between the trees. The plantations are grown on a 7 year rotation, with about 70% planted to Eucalyptus, 20% to Acacia and 10% to teak.

The farmers who are engaged in these ventures get their land ploughed and access to a range of livelihood activities: site clearing, planting and maintenance, and processing of agricultural crops, such as cassava. Under this system, land is rented from households or the village community for a 30 year period. According to ACIAR expert, many households can manage about 3 hectares of agro-forestry development each year. The company also facilitates markets for cassava, but retains ownership of the trees.

4.2.2. Sacha Inchi project in Luang Prabang province

Figure 24 : The Sacha Inchi nuts (Plukenetia volubilis), or Inca Inchi

The Sacha Inchi plant (Plukenetia volubilis), or Inca Inchi have been introduced by Lao company “Maï Savanh Lao”. The company has started producing these nuts organically. In Luang Prabang province, the Sacha Inchi plantation project has been promoted by the Extension unit/PAFO Luang Prabang province in 2010. The farmers received the small fund from the Government Forest Fund. In 2010, only four pioneer farmers in Chomphet district planted the Sachi Inchi, which is represent only 0.18 ha. Three year after, the plantation of Sacha Inchi in Chomphet district expands to 30 ha.

Nowadays, the Sacha Inchi plantation has been expanded to the other districts of Luang Prabang province, such as Nambark, and Phonexay districts. According to the statistic of PAFO Luang Prabang province 2014, more than 3,900 ha of fallow forest land in Luang Prabang is planting the Sacha Inchi.

Figure 25 : Sacha Inchi plantation of Mr Xayvong in Huaytan village, Chompet district, Luang prabang province

SITE VISIT # 9: MR. XYAVONG, HUAYTAN VILLAGE, CHOMPET DISTRICT, LUANG PRABANG PROVINCE

“I grow the upland rice since I was young. I heard about the high price of Sacha Inchi nuts. So I contact the PAFO Luang Prabang for the Sacha Inchi seeds. At the beginning, I started the Sacha Inchi plantation in 2 ha of my upland rice field. Now my entire upland rice field is planting 4.5 ha and I don’t grow rice anymore because I don’t have enough labor to take care both activities. In 2013, I sold 800 kg of Sacha Inchi nuts and earn 1.6 million kip. In 2015, I received 40 million kip for the Sacha Inchi and I buy the rice for my home consumption”. I recommend the Sacha Inchi to the other families in my villages. I sell the Sacha Inchi seeds to them (2 to 3 kg per family) for the plantation in 2015. Nowadays, I would like to Learn how to control the pest in the Sacha Inchi plantation as I observed some symptoms and infection. Mr. Xyavong explains the Sacha Inchi plantation as below

Land selection	The Sacha Inchi agro-forestry model is the agri-silviculture, which combined the woody trees (Teak or Agarwood) in rows spaced 1.5 to 2.0 m and the Sacha Inchi trees. After one year of planation, the association of the upland rice varieties in between the Sacha Inchi trees is possible
Planting technique	- Use the nylon rope for the grid maker and fulfill the rows spaced of 1.5 to 2.0 m - Digging a broad planting (20 cm), watering the hole and place the soaked Sacha Inchi seed (24 hours before), 2 nuts/hole
Plant care	- When the plant reach about 60 – 70 cm, stake the tree with the bamboo rod
Water management	Rainfed system
Soil fertilization and pest control	The organic and chemical fertilizer can be used in the nursery stage (1 time/month)
Harvesting	The Sacha Inchi nuts have harvested after 6 months of planation. The Sacha Inchi yield is 2 to 2.5 t of dried nuts per ha

4.2.4. Teak-based agroforestry systems to enhance and diversify smallholder livelihoods

The project partners:

- University of Queensland Australia
- Cash crop Research Center/NAFRI
- Northern Agriculture and Forestry College
- Souphanouvong University

Donor:

- Australian Center for International Agriculture Research (ACIAR)

Duration:

- 2016 - 2018

The "Teak-based agroforestry systems to enhance and diversify smallholder livelihoods in Luang Prabang province of Lao PDR" project aims to:

- To understand the impacts of spacing and tinning on productivity and value of teak woodlots in smallholder agricultural systems of northern Lao PDR;
- To develop options for diverse teak-based agroforestry systems involving native non-timber forest products, crops and production of fodder for livestock.
- To facilitate the adoption of viable teak-based agroforestry systems through the development of improved genetic resources.

Table 11: Number of farmers participated in Teak-based project

	District	Villages	Households
Agro-forestry experimentation	6	24	100 sites
Thinning trials	6	50	88 sites

V. INTEGRATED PEST MANAGEMENT (IPM)

5.1. IPM CONTEXT IN LAO PDR

Through the Integrated Pest Management Programme (IPM), FAO introduced the Farmer Field School approach (FFS) in Lao PDR since 1996 to support the development of pest management in rice and vegetables. The approach uses experimental learning to help farmers make decisions and find answers for themselves. Further Farmer Field Schools and field work has been accomplished through the collaboration and support of various

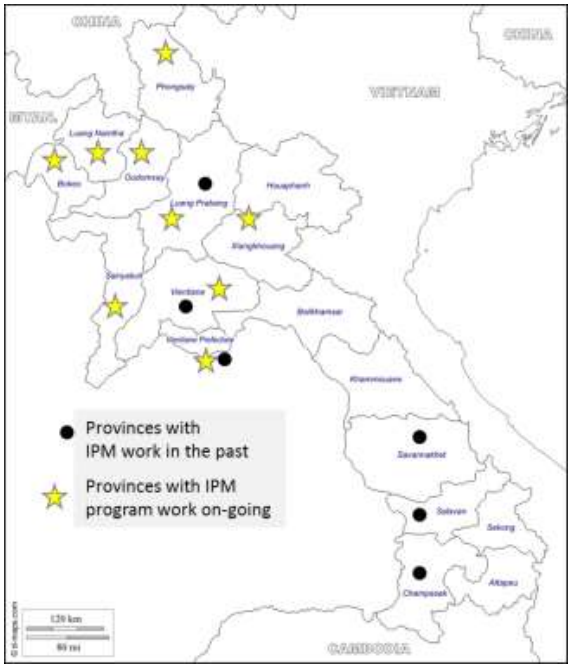
local and international NGOs (e.g. SEARICE/BUCAP for capacity building on participatory plant breeding, CIDSE for curriculum reform at agricultural colleges and OXFAM-Belgium with support for promotion of Good Agricultural Practices in vegetable production.

Under the Lao National IPM Programme 2002 - 2008, a total of 162 Farmer Field Schools on leafy vegetables (Cabbages, Chinese kale, head mustard, Packchoi) and fruit vegetables (cucumber, water melon, yard long beans, tomato) were conducted in six provinces (Luang-Prabang, Vientiane Capital, Vientiane, Savannakhet, Champassak, and Salavan). Some 7,000 farmers participated in and graduated from these season long IPM training courses (Taipangnavong 2011).

Currently, the National IPM Programme is implemented under guidance of the Plant Protection Centre (PPC)/DOA/MAF. The National IPM Programme aims to promote adoption of Integrated Pest Management practices among small-holder farmers and reduce health and environmental risk associated with indiscriminate use of pesticides through policy reform and capacity building for the sustainable management of agricultural chemicals.

5.2. IPM CURRENT STATUS

Figure 26: Intervention zone of FAO-IPM progarmme



FAO continues to support the National IPM Programme within the scope of a longer-term Regional Programme aimed at strengthening management of agricultural chemicals in the Greater Mekong Sub region. This Programme, in its current 2nd phase (September 2013-June 2018) is funded by the Swedish Government. Activities include training of trainers and farmer training on IPM and pesticide risk reduction. In September 2014, more than 4,900 farmers in 149 villages of nine provinces (Vientiane Capital, Bokeo, Luang Prabang, Louang Namtha, Oudomxay, Phongsaly, Sayaburi, Xiengkhouang and Vientiane Province) participated in training and formulation of community action plans on pesticide risk reduction for implementing in their own communities (see Figure 28).

FAO also continues to support the National IPM Programme with the implementation of Bactrocera Fruit Fly IPM training and Capacity Building for Spread Prevention and Management of the invasive Cassava Pink Mealybug. According to the data from the IPM Unit, twelve FFS have been promoted in four provinces of Lao PDR (see Table 12).

Table 12: Location of FFS, 2015

Name of province	Number of FFS	Type of crops	District name	Number of households
Sayaburi	3	Rice	Xienghon, Gneun, Kob	72
Xiengkhouang	3	Rice	Phaxay, pkhoukut, Khun	102
Savannakhet a	3	Rice	Khaisonphamvihane, Songkhone	91
Champassack	3	Rice	Phonethong, Pakse, Phathumphone	80
Total	**12**		**12**	**345**

Source: Activity report, IPM unit, 2015

The project plans to organize the field exchange, study tour and workshops between the farmer expert in Vientiane Capital, Savannakhet and Champassack province. In additional, the project will work in partnership with the SRI-LMB project for the development of SRI in the FFS for the cropping season of 2016.

5.3. IPM TECHNIQUE

Figure 27: IPM Technical training

"*Learning by doing, and seeing is believing*" are the approach of FAO IPM. The quality IPM technical methods require deeper analysis and understanding.

The "Integrated Farmer Field Schools - FFS," has employed in the FAO IPM programme to promote and to train farmers in the production of healthy and safe food, with minimum and more efficient use of agro-chemical inputs. Training initially focused on rice, reflecting the crop's vital importance to the country, as well as its relative advantages in building initial program capacity (Lao National IPM Programme/DOA, January 2010).

STUDY ⇩ **ANALYSIS** ⇩ **DECISION**

During the cropping season, 20 to 30 farmers meet to study all aspects of the crop's ecosystem, from the plant's development, to soil conditions, to pest problems, and how these are related.

Together, the group analyses their findings, and decides what crop management practices should be taken

- Although facilitators help guide the process, the real "teachers" are other farmers, and the crop itself
- The field studies to compare seed varieties or fertilizers, and insect zoos to study the life cycles and relationships of pests and natural enemies. Special topics can address issues ranging from problematic pests and plant morphology, to soil nutrients and non-formal education.

FFS is a training series composted of 3 main stages. The farmers start the stage 1 by conducting the baseline survey for the type of diseases and pest found in their own paddy field and the types of chemical use. The stage 2 consists of the risk reduction plan will developed for each FFS with the follow-up and monitoring plan (Stage 3).

SITE VISIT # 9: MR SOUNAN HEUANGPASEUTH, DONXINGXU VILLAGE, IN THE XAYTHANY DISTRICT

"I joined the IPM programme in the early 2000s. The farmer field school is perfect for me. I learned how to grow crops, to monitor and manage pests. I also now know how to make organic composts from animal waste and herbal insecticide.

With the lesson learnt from the FFS, I produce a safe vegetable for the markets and increase my yields. I am now growing white eggplants and betel leaves which are sold for European exports. In an area of 1 600 m^2, I earn a consistent income of more than 5 million Kip a month.

Mr. Sounan still uses chemicals but at minimal level to make sure that his produce meets Good Agricultural Practices (GAP). Therefore his white eggplants are qualified for exporting to Europe.

SITE VISIT # 10: MR KHAMPHOU PHANTHABOUN, NONETAE VILLAGE, IN THE XAYTHANY DISTRICT

"I would heavily rely on pesticides to grow vegetables in the mid-1990s, and even as such, I was struggling to earn a living from my vegetable farm. I joined a farmer field school in my community in 1998. For the first time, I learned how to grow healthy crops: "Since I joined the programme, I knew how to rotate crops. I learned about the pests' lifecycle and how to identify them. I learned new skills and techniques to manage them while avoiding the use of chemicals"

Mr Khamphou, with his increased technical capacity from the FFS programme, joined an organic farming project and is now a strong believer that organic farming can provide him with better income and healthier products. He grows various kinds of vegetables including lettuce, cabbage, beetroots and celery, and rotated them accordingly. These allowed him to gain higher yields and for the first time ever, I am no longer in debt. He is also the head of the Organic Farmer Group and a member of the committee managing Vientiane's thriving Organic market.

VI. VAC/INTEGRATED FARMING

This section addresses integrated farming approaches that have been promoted as alternatives to Green Revolution agriculture since the 1990s for self-sufficient farming. The New Theory farming system in Thailand and the VAC system in Vietnam (VAC in Vietnamese is Vuon, Ao, Chuong which means "garden/pond/livestock pen") consist in highly bio-intensive methods of small scale farming in which food gardening, fish rearing and animal husbandry are integrated. These intensive farming practices, which integrate food and energy systems, make optimal use of land, water and solar energy in order to achieve high economic efficiency with low capital investments. As for all integrated farming systems, the output from one subsystem becomes an input to another sub-system resulting in a total effect greater than the sum of the individual sub-systems.

In Lao PDR, the VAC/Integrated farming approach is the most difficult to identify among of six studied agro-ecology schools. During the survey, only two examples of VAC/Integrate farming were found: i) Huaysorn-Huaysua Agriculture development and service center, and ii) farmer in Naxaythong district of Vientiane province.

Figure 29: Location of VAC/Integrated farming practice in Lao PDR

However, the survey team still believes that this type of the agro-ecological practice exists in Lao PDR in the household scale and scattered in the ground level (district and provincial level) that seems difficult to label each of them since their practices are scattered and small scale. It seems to be that the VAC/Integrated farming looks like the farming system of Yao people - ethic minority in Lao PDR. But this assumption must be taken with caution and need in-depth study to confirm.

6.1. HUAYSORN-HUAYSUA AGRICULTURE DEVELOPMENT AND SERVICE CENTER

The Huaysorn-Huaysua Agriculture development and service center is established in 1995 in Nayang village of Naxaythong district of Vientiane Capital from the cooperation project between the DOA/MAF and the King Royal project of Thailand. The center received the technical support, experimentation fund, tools and equipment from the King Royal project. On the other hand, the MAF provided the functional fund and the human resource for the activity of the Center.

The center has 5 ha of land, which includes the office, fish pond, poultry and vegetable garden. The Center raises about 2,000 heads of chickens per year. The chicken farm is located in the fish pond with around 4 tons of fish raising. The chickens are feed (1 time per day) by the animal feed combined with the residue of vegetable from the vegetable garden. The vegetable garden is located around the fish pond. The vegetable garden is located in the road site of center. Around 3 tons of vegetable was sold annually. The animal dung and the residue of vegetable are used for the compost making. The shrimp, snails and fish found in the fish pond are used for the liquid bio-extracted fertilizer.

Figure 28 : Huaysorn-huaysua agriculture development and service center

In additional, the center provide the several training topics to the farmers in Vientiane Capital, Borikhamxay and Houaphanh province, such as the VAC, the orchard plantation, the liquid bio-extracted fertilizer making, the compost making, the mushroom cultivation, the fish and frogs breeding.

6.2. VAC FARMERS IN NAXAYTHONG DISTRICT

We came cross the VAC/Integrated farmer in the Naxaythong district of Vientiane Capital when we did the field visit to the organic vegetable producer in Nontae village. The farmer has 5 ha of land, which produces three types of products: fish, chicken and flower seedling. The chicken farm of 1,500 heads is built on the fish pond (3 tons). The fish pond will withdraw one time a year. The bottom lake soil will be store near the flower garden. The dried bottom lake soil will use for the flower pots. The farm owner explained that she practiced the VAC/Integrated farming system since 2008 when she participated in the study tour in Thailand.

Figure 29: Flowers and ornamental garden and Chicken farm on the fish pond

CHAPTER III: AGRO-ECOLOGY NETWORK IN LAO PDR

This section reviews the existing networks at national level addressing the agro-ecology practices that identified stakeholders in the Chapter II participate in. A short account of the network history, missions, structure and governance, partners and members is summarized in the Network ID sheet. In additional, a desk reviews on the regional network in the Greater Mekong Sub-region is conducted in order to understand the regional context.

I. AGRO-ECOLOGY NETWORK IN THE MEKONG SUB-REGION

The study conducted by CIRAD and GRET in October 2013 classified the agro-ecology network in the Mekong Sub-region in six categories based on the condition and the origin of the network.

1.1. PROJECT NETWORK

The project networks are the most common regional networks. They are usually initiated by a multi-location project aimed to develop exchanges between stakeholders from different countries around a topic of common interest. These networks usually start with a single stakeholder group such as researchers or development practitioners.

Table 13: Project networks in the Mekong sub-region

Network name	Foundation date	Foundation organization	Donor agency	Member	Vision and Principles
Asia Soil Conservation Network for the Humid Tropics (ASOCON)	1993	UNDP/FAO		China, Indonesia, Malaysia, Papua New Guinea, Philippines, Thailand and Vietnam	Assist member countries through a program of information exchange, regional workshops, expert consultations and learning activities in order to enhance the skills and expertise of those responsible for the development and dissemination of soil and water conservation practices for small-scale farmers
Southeast Asian Network for Agro-forestry Education (SEANAFE)	1999	-	SIDA	Indonesia, Laos, Philippines, Thailand, Vietnam	Solidify an effective regional and national networking infrastructure and to enhance university lecturers' capability to teach certain aspects of agroforestry
Conservation Agriculture Network for Southeast Asia (CANSEA)	2009	PROSA	AFD CIRAD	Cambodia, China, Indonesia, Lao PDR, Thailand, and Vietnam	Promotion of unifying agro-ecology concept, a learning process facilitating an agro-ecology transition in the region

Regional Community Forestry Training Centre for Asia and the Pacific (RECOFTC)	2009		FAO ADB	Cambodia, China, Lao PDR, Myanmar, Thailand and Vietnam.	Community forestry information, training, advocacy, and support in the Asia-Pacific region

1.2. INSTITUTIONAL PARTNERSHIP NETWORK

The Institutional partnership mechanism network has been developed by international research organizations to build lasting relations between their traditional partners in their host countries.

Table 14: Institutional partnership network in the Mekong sub-region

Network name	Foundation date	Foundation organization	Members/Partners	Description
Consultative Group for International Agricultural Research (CGIAR)	1971		15 countries	Field activities rely on national partners (National Agricultural Research Systems – NARS) and connections are built at regional and global levels to promote exchanges.
Laboratoire Mixte International (LMI)	-	IRD	IRD, CIRAD, UMR BIOEMCO, UMR ECO&SOL, SFRI Institute of Chemistry, LDD, DaLaM, NUoL, KU, KKU	Design and conduct research and training programs around well-defined and mutually agreed scientific goals, through the sharing of facilities, equipment and skills .

1.3. INTER-GOVERNMENT POLITICAL DECISION NETWORK

The inter-government political decisions lead the networks as instrument of regional politics.

Table 15: Inter-government political decision network in the Mekong sub-region

Network name	Foundation date	Foundation organization	Donor agency	Members Partners	Description
Asian Centre of Innovation for Sustainable Agriculture Intensification (ACISAI)	2013	AIT	EU	Thailand, Laos, Cambodia and Vietnam	“More intelligent pathway” for cultivating rice in Thailand, Laos, Cambodia and Vietnam through sustainable agriculture development and System of Rice Intensification (SRI)
Southeast Asian Regional Centre for Graduate Study and Research in Agriculture (SEARCA)	1966	SEAMEO		Southeast Asia countries	Provide to the participating countries high quality graduate study in agriculture; promote, undertake, and coordinate research programs related to the needs and problems of the Southeast Asian region; and disseminate the findings of agricultural research and experimentation

ASEAN Social Forestry Network (ASFN)	2005	SDC	Promote Social Forestry policy and practices in ASEAN Member States
Lao PDR National Science Council			Improve skills qualifications in developing countries, notably Lao PDR, in plant recognition.

1.4. COOPERATIVE NETWORKS

The cooperative networks are created by their members in response to a common need or motivation. For example, farming communities get organized at local level to defend their rights or to market their products. They assemble their forces to get stronger collectively and to affirm their position towards other stakeholder groups.

Table 16: Cooperative networks in the Mekong sub-region

Network name	Foundation date	Vertical connection	Country's member	Description
Alternative Agriculture Network (AAN)	1980s	IFOAM Helvetas-Profile GIZ-CEDAC PUAC-ADG	Thailand	Defend the traditional farming systems and building up an organic network that would provide access to alternative markets through certification schemes.

1.5. FEDERATION OF NATIONAL NETWORKS

Federation of national networks can be organized by the international institutions that have nurtured these national networks over the years, such as FAO in the case of IPM activities in Indonesia, Cambodia and Vietnam or by international organizations that collect information from the national networks and make it available to all, such as Cornell University in the case of SRI. While the initial mechanisms are different, i.e. direct involvement in the organization of the national networks in the former case but lower implication in the latter, the governance modes of the networks are similar once they are operational.

Table 17: Federation of national networks in the Mekong sub-region

Network name	Foundation date	Foundation organization	Country's member	Description
FAO inter-country IPM programme			Indonesia, Cambodia, Vietnam, Laos	implementing participatory IPM training according to the farmer field school (FFS) model
SRI International Network and Resources Centre (SRI-Rice)	2010	CIIFAD	51 countries (Asia, Africa and Americas)	collect and make available information on the System of Rice Intensification globally
International Biochar Initiative (IBI)	2006	World Soil Science Congress (WSSC)		Promote good industry practices, stakeholder collaboration, and environmental and ethical standards to foster economically viable biochar systems that are safe and effective for use in soil fertility and as a climate mitigation tool.

1.6. ALLIANCE CIVIL SOCIETY/RESEARCH/DEVELOPMENT

The alliance civil society, research and development are an initiative supported by government policies. This network model is well adapted in Australia with the Landcare movement. The Landcare movement is an alliance of civil society, research and development organizations led by actors of the civil society supported by local governments and technical service providers, who share knowledge about sustainable and profitable agriculture on sloping lands while conserving the environment and natural resources. The Landcare movement is established in 1986 with the objective to share knowledge about sustainable and profitable agriculture on sloping lands while conserving the environment and natural resources.

II. EXISTING AGRO-ECOLOGY NETWORKS IN LAO PDR

The existing agro-ecology networks presented in Table 8 below is from the quote by the stakeholders identified in Chapter II during the survey. It is important to mention that the agro-ecology networks in Lao PDR could be anticipated higher than the cited networks.

TABLE 18: Existing networks quoted by the stakeholders

Type of stakeholders	Organization name	Network name		
NAPs	Luang Prabang Organic Agriculture Association		LOAF	
NAPs	PADETC			LNN
NPAs	ASDSP		LOAF	
NPAs	CoDA			LNN
NPAs	CPC	LFN,	LOAF	LNN
NPAs	SAEDA	LFN	LOAF	LNN
Private sector	AgroAsie Company		LOAF	
Private sector	Lao farmer's products company		LOAF	
Farmers' organization	Paksong Organic coffee Farmer Group	LFN		
Farmers' organization	Vientiane Organic vegetable farmer group		LOAF	

2.1. NETWORK ID SHEET ≠ 1: LAO FARMER NETWORK (LFN)

Topic	Description
History	Lao Farmers Network was established in January 2014 from the exchange forums of Farmers Organisations in 2012 and 2013
Missions	LFN missions is to strengthening the farmer's organization network, to improve financial management system, to organize national farmer forum and the sharing center
Organization and management System	**Organization structure**: 12 people • Management committee: 7 people -all farmers (2 women) • General manager: 1 people • Accountant: 1 people • Coordinator: 3 people **Advisory committee**: DAEC/MAF, SAEDA, CDEA **Management System:** • 4 management meetings per year • 1 general meeting per year

Partner and member	There are currently 16 farmer organizations as members of the network, representing 4,202 farmers (1,832 women) from 10 provinces. For more detail, please refer to Appendix 3
Financial support	• LURAS/HELVETAS and SNV ($71,000) • AFSOP/MTCP2 ($147,000)

Since the establishment in January 2014, LFN conducted several activities and presented in the SSWG-FAB Meeting in September 2015 as follow.

- Information sharing: Document and share the farming good practices from farmer experts inside and outside the network
- Farmer organization development: Establish the fund to support the farmer's organization registration (organization registration, organic certification, etc.);
- Farmer learning: Conduct the trainings and learning exchanges between farmers on management, production techniques and marketing;
- Resource sharing: Establish the learning center at community level (coffee learning center, rice seed center, compost marking center)
- Marketing development: Establish a network of organic producers, joint outlet for the network production
- Access to fund: Establish the network fund
- Policy dialogue: Document farmers' voice, organize national farmer forum and participate policy dialogue
- Network development: Update the farmer's organization profiles, organize regular management meetings, improve financial management system, expanding to new members, improve the network human resources

Figure 30: Some achievement activities of LFN in 2015

Co-host a national consultation workshop on Global Agriculture and Food Security Program (GAFSP), 6 May 2015, Vientiane

LFN members on strategic planning, 28-29 May 2015, Thongmang village, Saythany district, Vientiane

Visit bitter bamboo group in Namor district, Oudomxay province

The activity 2016 is plan as follow:

- Continue the registration of LFP as a NPA (Nonprofit association)
- Organize strategic plan of each member organizations

- Document cases and organize a farmer conference on farmer indebtedness
- Study visit to Farmer Nature Network in Cambodia
- Establish the network development fund
- Establish vegetable farmers network
- Operate the market outlet in Dongkhamsang market

2.2. NETWORK ID SHEET≠ 2: LAO ORGANIC AGRICULTURE FORUM (LOAF)

Topic	Description
History	The LOAF is initiated by UNCTAD under the UN Inter Agency Cluster on Trade and Productive Capacity project "Enhancing sustainable tourism, clean production and export capacity in Lao PDR". • **March 2012**: The first Forum meeting is held in Vientiane city to discuss the challenges of Lao organic sector, prioritize them, and define the LOAF future activities; • **Mid-2014**: LOAF functions autonomously
Missions	LOAF is a platform to facilitate information and experience sharing among stakeholders interested in organic agriculture development in Lao PDR. The Forum is aim to encourage public-private partnership and dialogue and open to all stakeholders including producer organizations, trader associations, environmental groups research institutions, and consumer associations
Partner and member	• Non Profit Association (NPAs): CPC, SAEDA, LOMA • Farmer's organization (FO): LPB FO, Vientiane organic FO • INGOs: LOAPP, Earth Net Foundation, UNCTAD, OXFAM • Private sector: LFP, AgroAsie • Government institution: DOA
Achievement activities	Since the establishment in January 2012, LOAF organized 4 LOAF events and 1 technical workshop: • 4th LOAF (11 - 12 June 2015, Vientiane Capital) • 3rd LOAF (14 - 15 July 2014, Vientiane Capital) • 2nd LOAF (10 - 11 December 2012 in Luang Prabang) • 1st LOAF (23rd March 2012 in Vientiane Capital) • Technical Workshop (20-21 March 2012, Vientiane Capital)

In the longer term, LOAF expect to become a One-stop Service for the organic agriculture information and marketing place in Lao PDR, quoted by Dr. Monthathip CHANPHENGXAY, Director General of DOA in the 4th LOAF.

Figure 31: 3rd LOAF in Vientiane capital, 14 - 15 July 2014

2.3. NETWORK SHEET ≠ 3: LAO NPA NETWORK (LNN)

Topic	Description
History	The Lao NPA Network (LNN) is a network of Lao Civil Society Organisations working in development for poverty alleviation • **2009:** Lao NPA Network (LNN) was set up in 2009 by the officially registered NPAs • **August 2010:** Learning House for Development, a NPA, was established by members of the LNN and other CSOs, in response to a call from national CSOs for support and networking mechanisms to enable existing and emerging organisations to grow stronger. Learning House for Development was established with the support of Helvetas and the French Embassy (FSD)
Missions	**Our vision**: A strong and capable network of members that effectively contribute to the Lao social-economic development challenges **Our mission**: To contribute to the creation of an enabling environment in which Lao NPAs and other civil society group can effectively contribute to the inclusive & sustainable development of Laos through poverty reduction and socio-economic development **Our objectives:** • To create opportunities for Lao civil society to enhance mutual co-ordination, solidarity and sharing of information • To upgrade the skills of NPA staff to enable implementation of efficient development projects in their target communities
Partner and member	• **Members:** 39 NPAs (see Appendix 4) • **Donor partnerships:** Helvetas, Oxfam Novib, French Embassy, CUSO-VSO, SDC are a partner

CONCLUSION AND RECOMMENDATIONS

The study shows that the national strategies and legal frameworks to promote and support the agro-ecology exist and well formulate by the government of Lao PDR under the principles of "Sustainable resource utilization and land-use planning". 70,000 certified organic producers and 100,000 certified GAP producer in 2030. Several laws, decree and regulation have been adopted in other to support such policy, e.g. law on agriculture, forestry law, land law, decision of the MAF on Organic Agriculture Standards, regulation on the control of pesticides in Lao PDR. Furthermore, the country's diverse biodiversity has been considered as one key to poverty alleviation and protect the current asset base of the poor. While the policies, strategies, laws and regulations regarding the agro-ecology are clear formulated, it is noted that some policy implementation might cause unintended consequences to the agro-ecological practice. For example, the promotion of foreign investor and the land concession have an impact of Land Use, more land under food and cash crops keeps changing to other crops such as industrial crops and the changes leads to land use conflicts. The rapid Land Use Change has affected the agro-ecological system of Lao PDR, whilst the agro-ecological practice.

There are a significant number of initiatives and stakeholders contributing to the agro-ecology practice dissemination. Sometime it difficult to delineate clear boundaries between the stakeholders and the different agro-ecological practices as some projects combine different agro-ecology practices and vis versa, e.g. SAEDA – a Lao NGO – involved in the Organic agriculture, SRI and Agroforestry, the NU-PCR is a multi-stakeholder project (SAEDA, CCL and CARE International). So they can offer a panel of agro-ecological options to the farmers. The private sector and the farmer group represent the majority stakeholders related to the boom of the organic agriculture practice in Lao PDR.

Among the six most significant agro-ecological practices, more than two-third of 62 identified stakeholders involved in the Organic agriculture. The agroforestry and the SRI are followed distinctly with 5 and 4 stakeholders respectively. Although small number of stakeholders was found in CA and IPM, both agro-ecology practices have disseminated in a large area of Lao PDR. The IPM practice has been introduced in Lao PDR by the FAO via the Farmer Field School concept. Now the FAO – IPM is expand in nine provinces of Lao PDR. The CA practice is implemented by NUDP-EFICAS project covered five Northern provinces of Lao PDR. The VAC/Integrated farming is the less present agro-ecological practice in Lao PDR. However, the survey team still believes that this type of the agro-ecological practice exists in Lao PDR in the household scale and scattered in the ground level (district and provincial level) that seems difficult to label them without the in-depth study.

Existing agro-ecology practices (Organic Agriculture, IPM, SRI, CA, and Agroforestry) have already gained relative acknowledgment, adoption rates, coverage and impact of these practices (number of farmers, area, production and economic value) is deemed necessary for future networking activities.

The study also points out that it is crucial to promote and support not only alternative farming practices, but alternative extension approaches as well. Members of agro-ecology networks should be invited to revisit the principles of agro-ecology and at the same time get back to the fundamentals of FFS so that a community of practice can be gradually developed at the regional level. Last but not least, the economic incentives to farmers who join the "agro-ecology learning process" should be investigated collectively, tested in real conditions and lessons learnt should be largely disseminated.

Some agro-ecology stakeholders demonstrated already their willingness to exchange and enrich the agro-ecology experience to increase the visibility of the practices and scale up the adoption by farmers in the implemented zones, as well as to increase their capacity of fund access. This fact is already observed: NUDP-EFICAS project is collaborated with NU-PCR in the SRI practice, SRI-LMB collaborate with FAO-IPM in the dissemination of SRI and IPM in the rice field.

In term of the agro-ecology network, a regional agro-ecology learning alliance exist and quite well developed though different forms and structures (project network, institutional partnership network, inter-government political decision network, cooperative networks, federation of national networks, and alliance of civil society, research and development). In Lao PDR, the national agro-ecology networks were immerged and initiated recently (2012 – 2014) by the International organization, private sectors and NPAs. The outstanding will create an opportunity for the agro-ecology stakeholders in Lao PDR to enhance a mutual co-ordination, solidarity, sharing of information, and upgrade the skills in order to enable implementation of efficient development projects in their target communities.

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APPENDIX 1: POTENTIAL STAKEHOLDER LIST

Nº	Stakeholder name	Type of organization	Activity
1	AFC	NPAs	Natural Resource Management
2	Agro Forex company	Private company	NTFPs domestication
3	APB	International organization	IPM
4	ARMI	NPAs	
5	GAA	INGOs	Organic home garden/SRI/NTFPs domestication
6	Helvetas	INGOs	Organic
7	Lao Organic Movement Association/LOMA	NPAs	Organic
8	Oxfam	INGOs	Biodiversity/Local capital
9	SNV	INGOs	Organic/IPM
10	Tea Organic farmer groups	Farmer group	Organic
11	VFI_ACD or ACD	INGOs	Sustainable
12	Asian Food and Agriculture Cooperation Initiative (AFACI)	Research center	
13	Asian Network for Sustainable Organic Farming Technology (ANSOFT)	Research center	
14	LURAS/HELVETAS and SNV		

APPENDIX 2: LIST OF STAKEHOLDERS BY PROVINCE

Organization name	Project name	OA	Agro-forestry	SRI	IPM	VAC	CA	Province
FAO	IPM				IPM			BOKEO
Huaysorn-Huaysua Agriculture development and service center						VAC		BOLIKHAMXAY
Nonesavanh Organic Agriculture vegetable group		OA						CHAMPASACK
Ban na organic vegetable		OA						CHAMPASACK
Paksong Organic Agriculture coffee Farmer Group		OA						CHAMPASACK
DoPC/MAF	SNRMPEP	OA						CHAMPASACK
ASDSP		OA						CHAMPASACK
CPC		OA						CHAMPASACK
Sinouk LAO Coffee Company		OA						CHAMPASACK
Heritage Growth Champassack Import-Export company		OA						CHAMPASACK
Club green company		OA						CHAMPASACK
Pavyna Agriculture development Company		OA						CHAMPASACK
Lao farmer's products company		OA						CHAMPASACK
LAO-China Cooperation Agriculture research center		OA						CHAMPASACK
Huaysorn-Huaysua Agriculture development and service center						VAC		HOUAPHANH
DoPC/MAF	TABI	OA	Agroforestry					HUAPHANH
CIRAD	EFICAS		Agroforestry	SRI	IPM		CA	HUAPHANH
DAEC/MAF	SRI-LMB			SRI				KHAMMOUANE
FAO	IPM				IPM			LUANG NAMTHA
SAEDA	NUDP		Agroforestry					LUANG NAMTHA
LPB Organic vegetable farmer group		OA						LUANG PRABANG
Ma and Longlan Organic vegetable farmer group		OA						LUANG PRABANG
Xieng ngern Organic vegetable farmer group		OA						LUANG PRABANG
DoPC/MAF	TABI	OA	Agroforestry					LUANG PRABANG
Agrisud International	FORAE	OA						LUANG PRABANG
Luang Prabang Organic Agriculture Association		OA						LUANG PRABANG
Chevron Company		OA						LUANG PRABANG
PAFO_LPB/MAF	Sacha Inchi project		Agroforestry					LUANG PRABANG
NAFRI/MAF	Teak-based		Agroforestry					LUANG PRABANG
PRO-NET 21	PRO-NET 21 (III)			SRI				LUANG PRABANG
FAO	IPM				IPM			LUANG PRABANG
CIRAD	EFICAS		Agroforestry	SRI	IPM		CA	LUANG PRABANG
Na Chang Organic vegetable farmer group		OA						OUDOMXAY
Houay Oun Organic vegetable farmer group		OA						OUDOMXAY
Theo organic vegetable farmer group		OA						OUDOMXAY
ECO Import and Export company		OA						OUDOMXAY
DPS company		OA						OUDOMXAY
FAO	IPM				IPM			OUDOMXAY
CARE International	NU-PCR	OA	Agroforestry	SRI				PHONGSALY
CCL	NU-PCR	OA	Agroforestry	SRI				PHONGSALY
FAO	IPM				IPM			PHONGSALY
CIRAD	EFICAS		Agroforestry	SRI	IPM		CA	PHONGSALY
CPC		OA						SALAVANH
CoDA	SCOPE	OA						SAVANAKHET
Prakaa Organic		OA						SAVANNAKHET

Agriculture vegetable Farmer Group							
DoPC/MAF	SNRMPEP	OA					SAVANNAKHET
PADETC		OA					SAVANNAKHET
DAEC/MAF	SRI-LMB			SRI			SAVANNAKHET
JVC		-	Agroforestry	SRI			SAVANNAKHET
SuDHiCA	Vangborn organic farm	OA	Agroforestry		IPM		SAYABURY
Brocellande Farm		OA					SAYABURY
FAO	IPM				IPM		SAYABURY
Burapha Agroforestry company			Agroforestry				SAYABURY
CIRAD	EFICAS		Agroforestry	SRI	IPM	CA	SAYABURY
CPC		OA					SEKONG
Santhong Organic rice farmer group		OA					VIENTAINE C
Vientiane Organic vegetable farmer group		OA					VIENTAINE C
Pak nguem Organic vegetable farmer group		OA					VIENTAINE C
Hatxayfong Organic vegetable farmer group		OA					VIENTAINE C
Naxaythong Organic vegetable farmer group		OA					VIENTAINE C
Bungpao Organic vegetable farmer group		OA					VIENTAINE C
Monmay Organic vegetable farmer group		OA					VIENTAINE C
CADC/DOA/MAF		OA					VIENTAINE C
HHRC/MAF		OA					VIENTAINE C
ASDSP		OA					VIENTAINE C
PADETC		OA					VIENTAINE C
AgroAsie Company		OA					VIENTAINE C
Dexin LAO Company		OA					VIENTAINE C
Phonesack Company		OA					VIENTAINE C
Faaxay Xaimoun Organic Agriculture garden		OA					VIENTAINE C
Dragon fruit Organic Agriculture farm		OA					VIENTAINE C
FAO	IPM				IPM		VIENTAINE C
Huaysorn-Huaysua Agriculture development and service center						VAC	VIENTAINE C
LAO-Germany Company		OA					VIENTAINE P
Mr. Khamphou		OA					VIENTAINE P
FAO	IPM				IPM		VIENTAINE P
SAEDA	SAMADP	OA		SRI			VIENTAINE P
CADC/DOA/MAF	LOAPP	OA					VIENTIANE C
DAEC/MAF	SRI-LMB			SRI			VIENTIANE P
Burapha Agroforestry company			Agroforestry				VIENTIANE P
Organic small chicken rice farmer group		OA					XIENGKHOUANG
Sor-Or-Sor Organic vegetable farmer group		OA					XIENGKHOUANG
DoPC/MAF	TABI	OA	Agroforestry				XIENGKHOUANG
PADETC		OA					XIENGKHOUANG
SAEDA	SAMADP	OA		SRI			XIENGKHOUANG
Sericulture and draw the silk company		OA					XIENGKHOUANG
FAO	IPM				IPM		XIENGKHOUANG
CIRAD	EFICAS		Agroforestry	SRI	IPM	CA	XIENGKHOUANG

APPENDIX 3: LIST OF STAKEHOLDERS BY TYPE

Governmental Institutions = 6	Non-Profit Association = 7	International Non-Governmental Organizations (INGOs) = 5	Farmer Federation/Farmer group = 19	Private Sector = 18	Research center = 3	International organization = 1
Clean Agriculture Develop Center (CADC)/DOA/MAF	Coffee Producer Cooperative (CPC)	Agrisud International	Santhong Organic rice farmer group	AgroAsie Company	CIRAD	FAO
Haddokeo horticulture research centre (HHRC)	Association pour le Soutien au Développement des Sociétés Paysannes (ASDSP)	PRO-NET 21	Vientiane Organic vegetable farmer group	Dexin LAO Company	Lao-China Cooperation Agriculture research center	
Department of Planning and cooperation (DOPC)/MAF	Participatory Development Training Centre (PADETC)	JVC	Pak nguem Organic vegetable farmer group	Phonesack Company	Huaysorn-Huaysua Agriculture development and service center	
PAFO_LPB	Sustainable Agriculture and Environment Development Association (SAEDA)	CARE International	Hatxayfong Organic vegetable farmer group	Faaxay Xaimoun Organic Agriculture garden		
Department of Agriculture Extension and Cooperatives (DAEC)/MAF	SuDHiCA	CCL	Naxaythong Organic vegetable farmer group	Dragon fruit Organic Agriculture farm		
NAFRI/MAF	Community Development Association (CoDA)		Bungpao Organic vegetable farmer group	LAO-Germany Company		
	Luang Prabang Organic Agriculture Association		Monmay Organic vegetable farmer group	Chevron Company		
			LPB Organic vegetable farmer group	Sericulture and draw the silk company		
			Ma and Longlan Organic vegetable farmer group	ECO Import and Export company		
			Xieng ngern Organic vegetable farmer group	DPS company		
			Organic small chicken rice farmer group	Sinouk LAO Coffee Company		
			Sor-Or-Sor Organic vegetable farmer group	Heritage Growth Champasack Import-Export company		
			Na Chang Organic	Club green company		

			vegetable farmer group			
			Houay Oun Organic vegetable farmer group	Pavyna Agriculture development Company		
			Theo organic vegetable farmer group	Brocellande Farm		
			Prakaa Organic Agriculture vegetable Farmer Group	Mr. Khamphou		
			Nonesavanh Organic Agriculture vegetable group	Lao farmer's products company		
			Ban na organic vegetable	Burapha Agroforestry company		
			Paksong Organic Agriculture coffee Farmer Group	Mr. Khamphou		

APPENDIX 4: MEMBERS OF LFN

n°	Name	Organization / Group	Main activity	Number of member	Province	District	Village
1	Mr. Bounliep Thammavong	Tobacco producer group	Commodity seek market	112	Borlikhamxay	Paksan	Pakboung
2	Mr. Thonvichit Naphayvanh	Vegetable producer group/organic	Produce for export	335	Champassak	Paksong	Nongsuang village
3	Mr. Somboun Saybouakeo	Quality coffee producer group	Produce quality coffee	86	Champassak	Paksong	Katoue
4	Mr. Bouhthong Thepkaysone	President, AGPC	Coffee production, marketing	55 groups, 1796 prod.	Champassak	Pakse	Ban Mai Saisomboun
5	Mr. Khampath	Bamboo handicraft	Bamboo handicraft		Houaphanh		
6	Mr. Lulong	Sugarcane producer group	Produce sugar and sell	286	Luangnamtha	Sing	Boungsiew
7	Mr. Loun Sorlakham	NTFP group	Bamboo shout	373	Oudomxay	Namor	Nampheng
8	Mr. Keophasert	Sugarcane producer group	Training and group management	72	Phongsaly	Bounnuen	Nalae
9	Mr. Bounleuy	Sugarcane producer group	Sugarcane		Savannakhet	Sayaburi	
10	Mr. Khammoun Xaymany	Rice seed producer group	Produce rice seed based on market need	19	Vientiane	Thulakhom	Chang
11	Mr. Neung Sombounkhan	Pig producer group for trading	Encourage farmer to produce more commodity	218	Vientiane Capital	Hadxayfong	Kang
12	Mr. Aounkang	Agriculture organic group	Training, quality control and marketing promotion	220	Vientiane Capital		Nakhoneluang
13	Mr. Visith Sompa	Maize production group	Farmer	109	Xayyabouly	Khantao	Houaybuha

14	Mrs. Bouanma Phoumin	FASAP	Organic rice production	369	Xiengkhouang	Khoun	Xang village
15	Mrs. Bouachanh Houangvilay	Organic association, Pack district	Encourage member to understand association	420	Xiengkhouang	Pack	Yone
16	Mr. Somphone Phengvilay	Vegetable Producer association		28	Xiengkhouang	Khoun	Hoy
17	Mr. Thongavn	Association - Rice	Rice production	70 >>	Xiengkhouang		

Source: LEAP

APPENDIX 5: LEARNING HOUSE FOR DEVELOPMENT (LHD)

	NPA's name	Contact detail
1	Aïd Children with Disability Association (ACDA)	Tel: +856-030 9810 926 Mobile: +856-20 5561 0381 E-mail: acdalaos@gmail.com
2	Association for Development of Women and Legal Education (ADWLE)	Tel: +856-21 983 1070 Mobile: +856-20 5562 8773 E-mail: phayao_py@hotmail.com
3	Association for Autism (AfA)	Tel: +856-21 330 409 Mobile: +856-20 2220 4936 E-mail: info@laoautism.org Website: www.laoautism.org
4	Agro-Forestry and Development Consultant Co. Ltd (AFC)	Tel: +856-21 454 685 Mobile: +856-20 E-mail: sphommasane.aima@gmail.com
5	Association for the Deaf (AFD)	Tel: +856-21 241 556 Mobile: +856-030 9006080 E-mail: associationfordeaf@gmail.com
6	Coffee Producer Cooperative (CPC)	Tel: +856-21 214 126 Mobile: None E-mail: agpcbolovens@gmail.com
7	Association of People Living with HIV/AIDS (APLHIV)	Tel: +856-21 454 445 Mobile: +856-20 9849 9800 E-mail: infolnpplus @gmail.com Website: www.lnpplus.com
8	Association for Poor People (APP)	Mobile: +856-20 5691 3011 E-mail: boonkhongapp@yahoo.com
9	Association for Rural Mobilisation and Improment (ARMI)	Tel: +856-21 215 017 Mobile: None E-mail: normai@laotel.com Website: www.normai-site.org
10	Clean Agriculture Development & Food Processing Association (CADPA)	Tel: +856-21 780 042 Mobile: +856-20 2222 7597 E-mail: bakeosss@gmail.com
11	Community Association for Mobilizing Knowledge in Development (CAMKID)	Mobile: +856-20 5609 1701 E-mail: camkid.bokeo@gmail.com
12	Community Development and Environment Association (CDEA)	Tel: +856-21 453 209 Mobile: +856-20 2222 2187 E-mail: khampha.cdea@gmail.com
13	Community Knowledge Support Association (CKSA)	Tel: +856-21 260 680 Mobile: +856-20 5582 9629 E-mail: vonemaly@yahoo.com
14	Community Development Association (CoDa)	Tel: +856-21 214 746 Mobile: +856-20 2241 1189 E-mail: codasamakhom@yahoo.com
15	Dongsavath Children and Youth Development Center (DC&YDC)	Mobile: +856-20 55622 203 E-mail: dongsavathcenter@hotmail.com Website: www.dongsavath.org
16	Development Environment Community Association (DECA)	Mobile: +856-20 2224 0803 E-mail: decawkid@yahoo.com
17	Environment Conservations and Community Development Association (ECCDA)	Tel: +856-21 244 184 Mobile: +856-20 5552 7559

		E-mail: pkhanthone@yahoo.com
18	Friends of PhaTadKe Association (FPTK)	Mobile: +856-20 5557 1110 E-mail: somsanouk.mixay@gmail.com
19	Fair Trade Laos (FTL)	Tel: +856-21 990 231 Mobile: +856-20 7772 9116 E-mail: coordinator@laosfairtrade.org Website: www.laosfairtrade.net
20	Gender and Development Association (GDA)	Tel: +856-21 263 349 Mobile: +856-20 2224 0805 E-mail: boutsady@gdglaos.org Website: www.gdglaos.org
21	Huam Jai Asasamak / United in Volunteer Association (HJA)	
22	Hed Yu Tham Kin (HYTK)	Tel: +856-21 314 234 Mobile: +856-20 5568 2238 E-mail: khedyuthamkin@hotmail.com
23	Kong Community Development Association (KCDA)	Tel: +856-030 944 4970 Mobile: +856-20 5691 5155 E-mail: apone53@gmail.com
24	Lao Biodiversity Association (LBA)	Tel: +856-21 251 665 Mobile: +856-20 2222 7595 houmphanhrattanavong@gmail.com Website: www.laobiodiversity.org
25	Lao Disabled Women's Development Centre (LDWDC)	Tel: +856-21 820 489 E-mail: info@laodisabledwomen.com Website: www.aodisabledwomen.com
26	Lao Institute for Renewable Energy (LIRE)	Tel: +856-20 353 430 Mobile: None E-mail: contact@lao-ire.org Website: www.lao-ire.org
27	Love Natural Resources Association (LNRA)	Mobile: +856-20 2242 6203 E-mail: khamla@lovenalao.org Website: www.lovenalao.org
28	Microfinance Association (MFA)	Tel: +856-21 262 979 Mobile: +856-20 E-mail: mfa@laomfa.org Website: www.laomfa.org
29	Meaying Huam Jai Pattana (MHP)	Tel: +856-21 212 093 Mobile: +856-20 5561 4974 E-mail: senyavongvansy@yahoo.com
30	Participatory Development Training Center (PADETC)	Tel: +856-21 219 130 Mobile: None E-mail: padetc@padetc.org Website: www.padetc.org
31	Lao Positive Health Association (LaoPHA)	Tel: +856-21 414 812 Mobile: +856-20 5550 2483 E-mail: info@laopha.org Website: www.laopha.org
32	Promote Sustainable Natural Resource Use Association (PSNUA)	Tel: +856-21 453 995 Mobile: None E-mail: cidseint@cidselao.org Website: www.cidselao.org
33	Quality of Life Association (QLA)	Tel: +856-21 213 349 Mobile: +856-20 E-mail: qualifasc@gmail.com
34	Rural Research and Development Promoting Knowledge	Tel: +856-21 453 091

	Association (RRDPA)	Mobile: +856-21 2224 8592 E-mail: contact@lao-ire.org Website: www.rrdtc.org
35	Sustainable Agriculture and Environment Development Association (SAEDA)	Tel: +856-21 264 290 Mobile: +856-20 2224 3991 E-mail: thongdamp@yahoo.com Website: www.seadalao.org
36	Agriculture Development Association (UADA)	Tel: +856-21 Mobile: +856-20 2222 8869 E-mail: chansada.kyophilavong@gmail.com
37	Learning House for Development (LHD)	Tel: +856-21 265 531 Mobile: +856-20 2223 4518 E-mail: info@lao-npa-network.org Website: www.lao-npa-network.org
38	Youth to Youth Peer Workers in Health Education and Development Association (YPHA)	Tel: None Mobile: +856-20 5549 7437 E-mail: ket_ptv@yahoo.com
39	Vocational Development for Blind Association (VDBA)	Tel: +856-21 413 966 Mobile: +856-20 9999 9505 E-mail: vdba.lao@gmail.com