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# **Report on the Development of Innovation Database Development for Agricultural Innovation Systems (CDAIS) project October 2019**

## **Objectives of the innovation database**

- To establish database of agriculture innovation in Lao PDR.
- To analyse and map innovations to understand innovation situations in Lao PDR.

Agriculture innovation data can help the government develop and improve policies to encourage and support innovation by, for example, stimulating the transfer of technology and building closer links between farmers, private firms, universities, government departments and research institutions.

The idea for developing innovation database was initiated in 2018 with support from Capacity Development for Agricultural Innovation Systems (CDAIS) project. The DOPLA team prepared the necessary documents and collected information from February 2019. The team was supported and coached by a national consultant through “learning by doing” to enhance skills of involved staff from different departments supporting the provincial authority.

Data collection forms were developed in Excel to support the analysis and mapping the innovation that could illustrate the density of innovation throughout the country. The agriculture innovation data will help researchers, technical staff for promoting, supporting and scaling out the innovation and can be used for evidence-based policy development process to encourage and support agriculture innovation.

According to CDAIS, innovation means “different from the usual thing, story, behavior, or practice” . The following questions might start the process of enquiry:

What is out of the ordinary in the way farming is practiced in the area? Are there some especially dynamic or inventive practices, as regards either field practice, organizational momentum, value chain integrating, or partnerships with different stakeholders.

## **Process and methodology for data collection and analysis**

### **Implementation process**

- 1) Form team members from six government agencies involving in implementing CDAIS such as DOPLA, NAFRI, DRDC, DTEAP, DALaRM, NUoL. (Annex 1: List of team members).
- 2) Organized monthly meetings to select target groups for data collection. At the beginning, the team agreed to a total of 33 agencies in 18 provinces, 11 MAF departments, 1 research institute and 2 faculties (FAS & FES) of NUoL.

- 3) Build synergies on definition and importance of innovation, forms and guidelines for collecting information. Details are included in the guidelines for data collection (Annex 2) and data entry form (initial and revised forms) in Excel format (Annex 3).
- 4) DoPLA sent official letters to PAFOs and MAF's departments (Annex 4).
- 5) Divide roles and responsibilities among team members in which each member guides and advises 2-3 agencies. The responsible member initiated the communication process by sending an official letter, guidelines, and forms to its own responsible agency then follow up and build understanding of the focal person at the agency. We found that most agencies do not understand and express a need for closer support. Through a discussion, the team agreed to allocate team members to conduct meetings to develop understanding and help the focal point to provide necessary information.
- 6) Organized a workshop on 28 February 2019 with key MAF departments, PAFO Vientiane municipality and two faculties of NUoL. The purpose was to build understanding on innovation and objectives for developing innovation database. During this workshop, participants were assisted to develop an innovation list of its own agency.



*Photo 1. Developing innovation workshop. MAF, Vientiane capital, 28 February 2019.*

- 7) To support the provincial authorities, the team identified target provinces for close support based on feedback of the team members through communicating and supporting the focal point at the provincial level such as reluctant for appointing focal point, no report on innovation but there are some in reality. Six provinces were selected for initial support: Champasack, Khammouan, Savannakhet, Saravane, Luangprabang and Phongsaly.
- 8) Similar to the meeting with departments at the central level, two team members have been assigned to organize a workshop and coaching sessions in the selected provinces to develop an understanding of innovation and develop an innovation list. Guidelines and forms were explained to provincial staff who developed an innovation list for their respective province.

## Data collection and analysis

### Data collection

Data collection is divided into two parts after sending official letter to departments/provinces: i) communication through email, telephone, fax; and ii) field support at the provincial level. Six provinces received support from two team members from central level providing opportunity for face-to-face discussion and clarification.

1. Champasak
2. Khammuan
3. Savannakhet
4. Salavane
5. Luangprabang
6. Phongsaly



**Map 1: Selected provinces for field support**

The central team emphasized preparation to ensure effective field support. The preparation for field support includes:

- Developing a check list of necessary documents (e.g. guideline, forms)
- Developing plan for activities in the field
- Making appointment with key staff and arranging meetings



**Photos 2 : Field support in Savannakhet and Salavan provinces**



*Photos 3: Field support in Luangprabang and Phongsaly provinces*

## Analysing the results

Innovations were categorized by type, variety and involved party to promote and support each innovation. This information was used for developing maps of innovation in the country showing driving factors to encourage innovation.

## Results

### Results from data collection

- 25 agencies including 12 departments and 13 provinces completed data collecting forms allowing the team to prepare for analysis.
- Continue to collect data from two agencies (Department of Forestry Inspection and Thagnone Irrigation College).
- While one agency confirmed no innovations, five provinces cannot provide information. This needs further investigation at the field level.

Table 1: List of central agencies and provinces who completed the innovation list

No.	Name of Province	No.	Name of agencies/departments
1	Xiengkhouang	1	Department of Agriculture (DOA)
2	Oudomxay	2	National Agriculture and Forestry Research Institute (NAFRI)
3	Khammuan	3	Department of Planning and Finance (DOPF)
4	Bokeo	4	Huay-Xone Huay-Xua
5	Savannakhet	5	Faculty of Environmental Science (NUoL – FES)
6	Salavane	6	Department of Forestry (DoF)
7	Vientiane	7	Department of Rural Development and Cooperative (DRDC)
8	Vientiane capital	8	Department of Agriculture Land Management (DLaM)
9	Sayaboury	9	Department of Irrigation (DoI)
10	Luangnamtha	10	Lao-Korean Training Center
11	Luangprabang	11	Department of Technical extension and Agro-processing (DTEAP)
12	Phongsaly	12	Faculty of Agriculture Science (NUoL – FAZ)
13	Champasak		



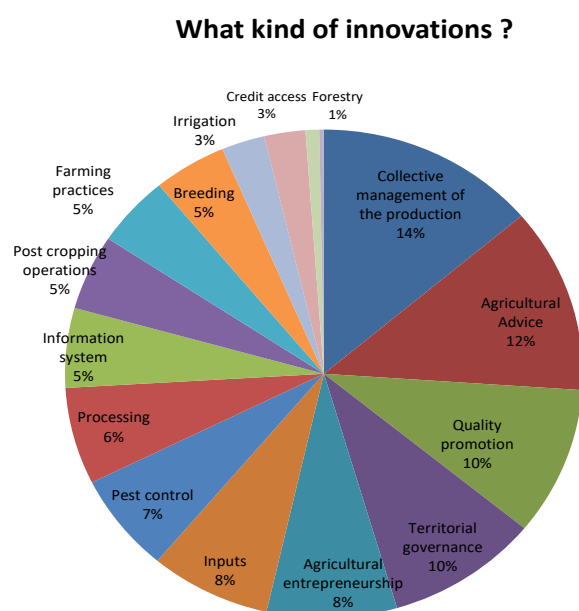
Collected information was reviewed by the team for data entry in the innovation form both in Lao and English for further analysis.

## Results from analysis

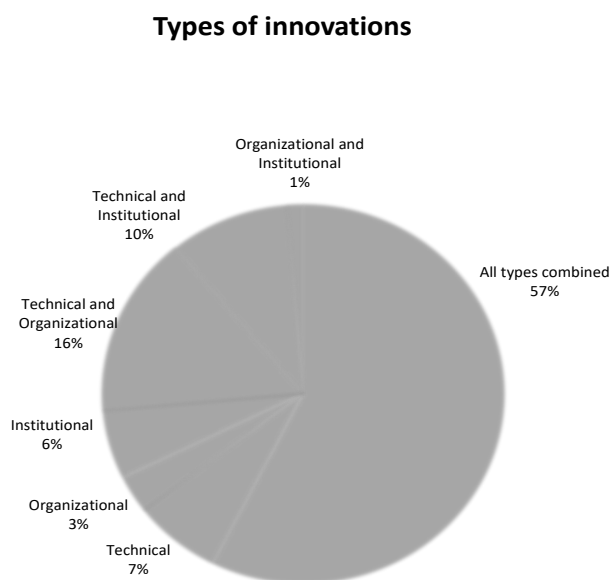
It was an initiative from the team to develop an innovation list through collaboration and involvement of the government departments and provincial authorities, especially PAFO. Innovations lists are available for potential support from both government and development partners.

## Kind and type of innovation

Potential innovations were classified by type.



**Figure 1: Innovation implemented (detail)**



**Figure 2: Type of innovation implemented**

- Figure 1 shows the range of agriculture innovations across the country. Collective management of production is the most common innovation covering 14% of the total innovations implemented. Agricultural advice is the second most common innovation covering 12%. Innovations in forestry, credit access and irrigation are less commonly implemented.
- Figure 2 shows a big difference between the combination of all innovation types covering 57% and organizational and institutional only counted for 1%. This shows a clear gap in efforts to develop innovations in organizations and institutions which is important for creating an enabling environment.

## Stakeholders involved

Farmers and government staff are key stakeholders in developing innovations while business owners, traders and researchers seem less involved (Figure 9). Figure 10 shows density of stakeholders in developing innovation in which 2-4 stakeholders are involved. This suggests that new innovations are developed from collaboration of stakeholders and it is difficult for one stakeholder to develop innovation on their own.

**Types of stakeholders involved**

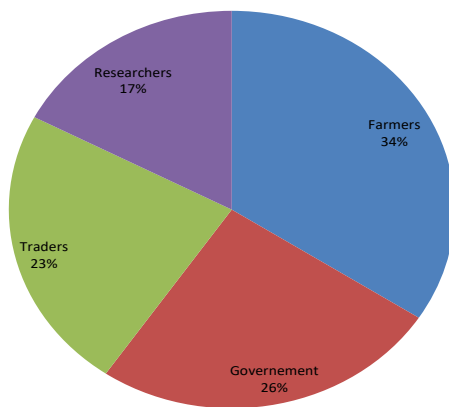


Figure 3: Type of stakeholders

**How many stakeholders are involved in each situation of innovation ?**

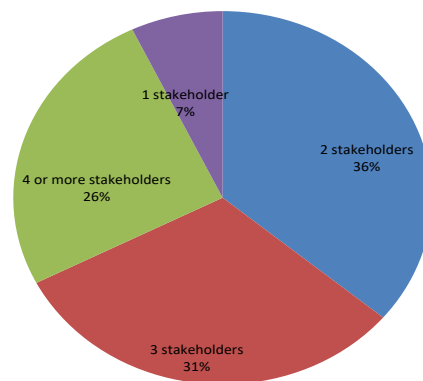


Figure 4: Diversity of stakeholders involved

- 1) Farmers are key stakeholders in initiating agriculture innovation and counted for 34% of the total. Once innovation is established, there are more stakeholders such as government agencies, private sector/entrepreneurs and researchers.
- 2) Thirty-six percent of the listed innovations have 2 stakeholders involved. Farmers can not develop and improve innovation to scaling out.

## Which service functions have been provided?

An innovation database will help us understand what service functions have been provided most for innovation.

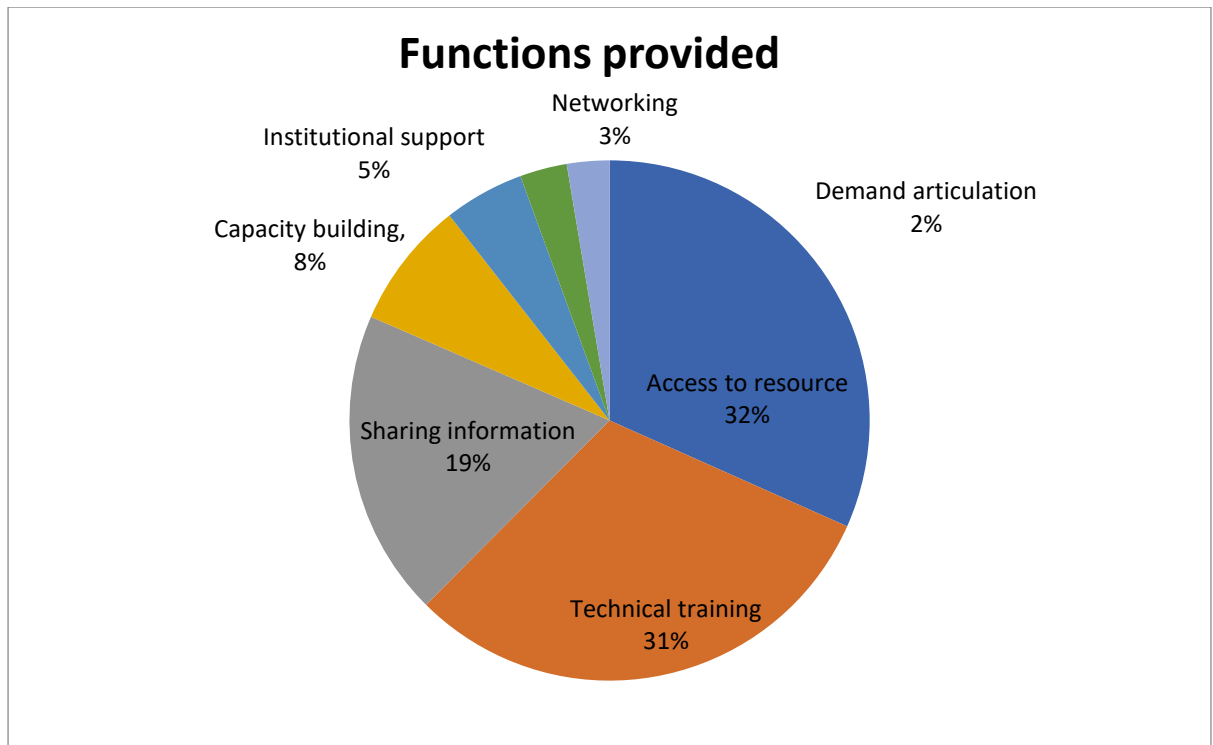


Figure 5: Functions provided by stakeholder involved

Stakeholders, especially government agencies and development projects, mainly provide support functions for access to resources, technical training and sharing information. A resource is not necessary money and is often production inputs. There are less support on capacity building, institutional support, networking and demand articulation.

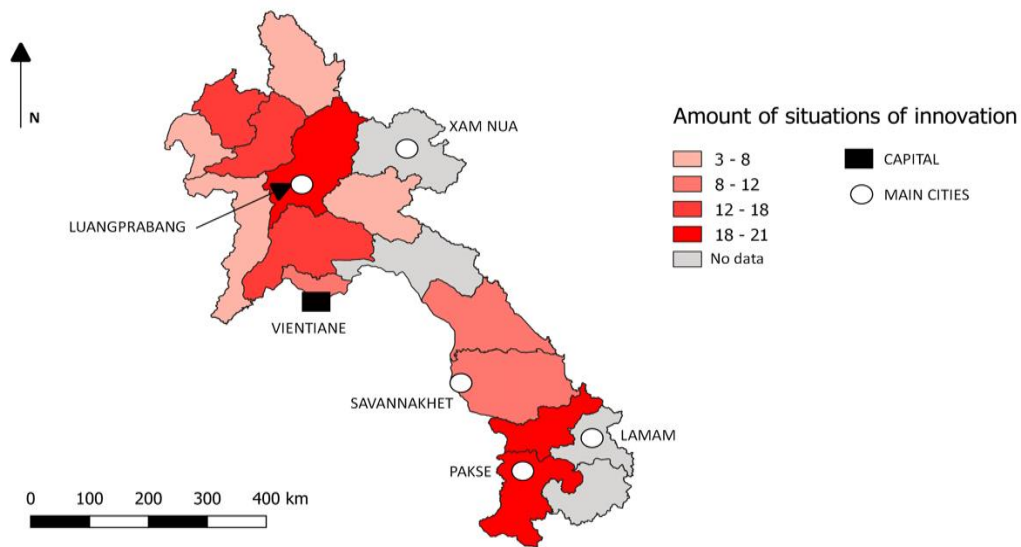
### Mapping analysis

Density mapping is used to show where innovations and institutions developed at district and provinces.

1). This map is an example of what we can do with this database, which in this example is to show the spatial or location intensity of innovation. Then you can start to think about why there are differences between provinces.



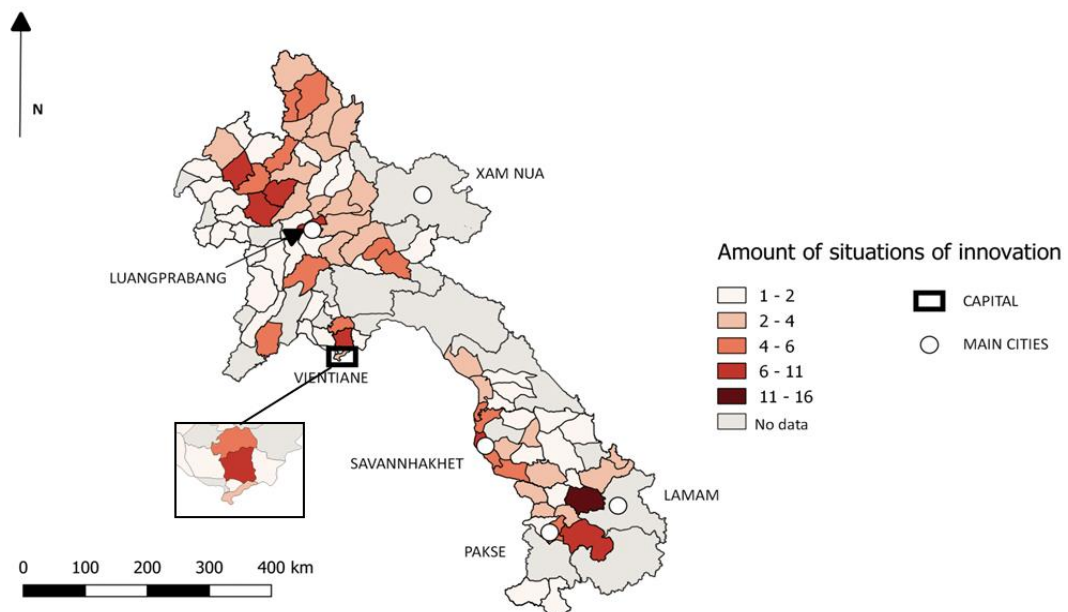
### Intensity of the potentials situations of innovation, identified by the provinces



Map by Yann d'Aquino

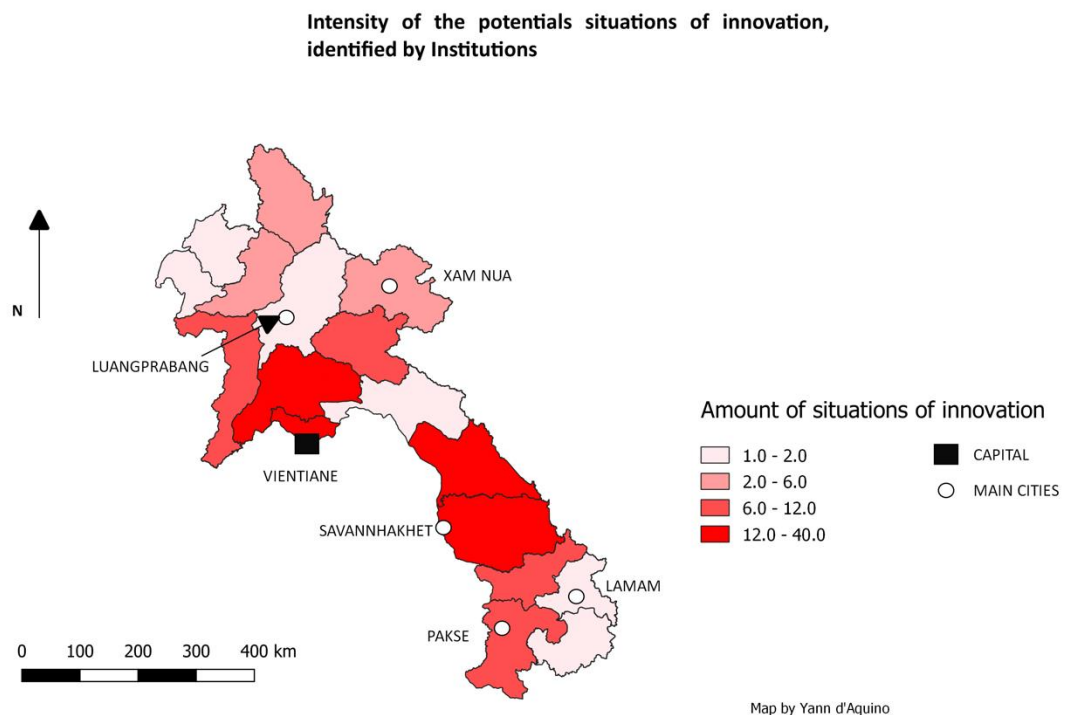
2). This map shows intensity of innovation, identified by province with a close look at district scale.

### Intensity of the potentials situations of innovation, identified by the provinces (district scale)



Map by Yann d'Aquino

3). This map shows intensity of innovation identified by institutions. For example, innovation happens more in larger cities such as Savannakhet, Vientiane and Vientiane Capital.



## Conclusion

In Laos, agriculture innovation partnerships have been established in different forms (e.g. farmers-to-farmers, farmers-bank, farmers-government-private) but they still need more support from development projects and local authorities for coordination and strengthening capacity to develop new services and products. Innovation data shows the type and number of stakeholders involved in encouraging and supporting innovation. To encourage and support innovation, different understandings about and definitions of “innovation” should be addressed at all levels. Innovations happen across the country but have not yet been documented for scaling out. The innovation database will help government agencies, farmers, the private sector and development partners make evidence-based policy to encourage and support agriculture innovation.

## Lesson learnt

- Developing an understanding of innovation at all levels will encourage innovation in the agriculture development sector.
- Organizing field surveys and supporting provincial authorities is an effective approach to develop understanding rather than communicating through sending documents and telephone calls. This would help provincial authorities to develop a list of innovations.
- Team work with clear roles and responsibilities is a key factor for completing data collection.
- Developing, managing and disseminating information to build understanding on innovation will significantly contribute to agriculture, forestry and rural development.

### Challenges

- Communication via telephone and fax can cause confusion and misunderstanding.
- More time is required for building understanding about the definition and purpose of innovation.
- To fill the innovation form, the department needs information from many stakeholders. This creates delays in filling the forms and providing information.
- At the central and provincial level, there is no specific department or office responsible for innovation. Often, the department or province is reluctant to appoint focal points to coordinate data collection.

### Implementation plan and suggestion

#### Implementation plan

- Continue and finalize data collection
- Conduct analysis and update information
- Categorize and prioritize agriculture innovation for effective support
- Organize information exchange sessions/meetings with interested organizations
- Coordinate and exchange information with local authorities to encourage ownership and responsibility.
- Develop a strong database of agriculture innovation for effective support and scaling out
- Use data for developing plans for management, information sharing, and developing policy and legal support

#### Suggestions for further action

- Continue support for data collection, especially the provinces that have not yet sent information or sent incompleting information.
- Re-organize the team for analysing and improving innovation.
- Establish a task force at the central level to be responsible for encouraging and supporting agriculture innovation.
- Develop implementation for management, use, development, awareness raising, and developing policy and legal support on agriculture innovation suitable for the context of each region or area.