ALiSEA Knowledge Management

Regional General Assembly 28th of march

Albrecht Ehrensperger, Bern University, CDE
François Enten, Gret
Xaysomphone Phaypadith, RDA
Thuy Doan, Cisdoma
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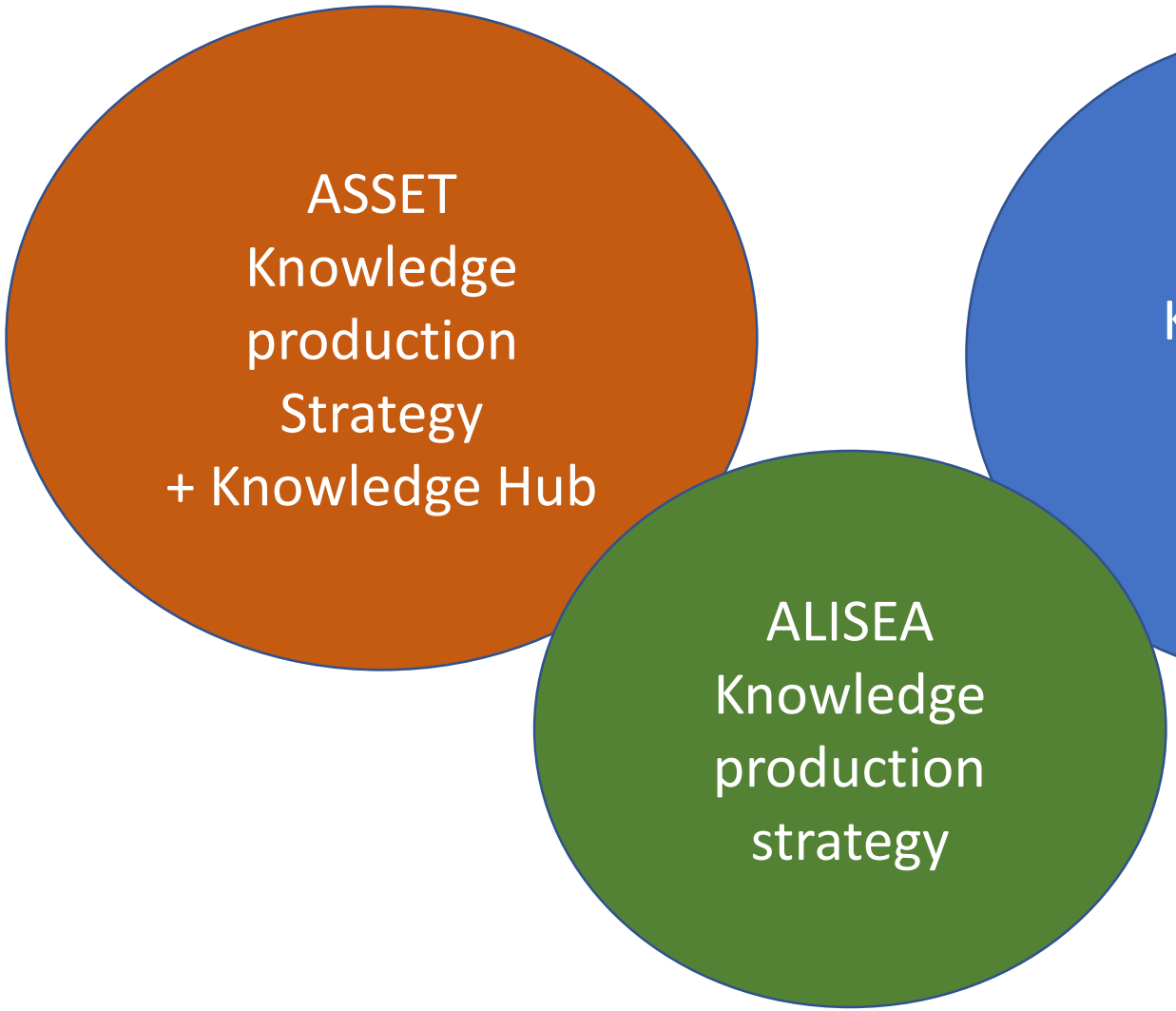


✓ **Alisea KM strategy ⇔ ASSET**
. Knowledge Hub
. Knowledge Products
⇔ Case studies
Small Grants

⇒ To validate KP & assign board into its application
⇒ Prioritize topics

Today

✓ **Operationalisation of Knowledge Hub**
Who ? KP indexation ?
Mapping ?

Tomorrow

✓ **Case study Workshop**

Collective production of new case studies

Next Week

ALiSEA
Agro-ecology Learning alliance in South East Asia

Knowledge strategy

- **General Goals**

> To assess, document and inform about **practice changes, performances, impacts and enabling conditions** of AE innovations and pathways.

> To use this evidence to **boost uptake** of agroecology and **influence policy making** at local, national, and regional levels.

- **Approaches**

> **Document practices, performances and impacts** on the innovations and processes at farm, value chain and territory levels

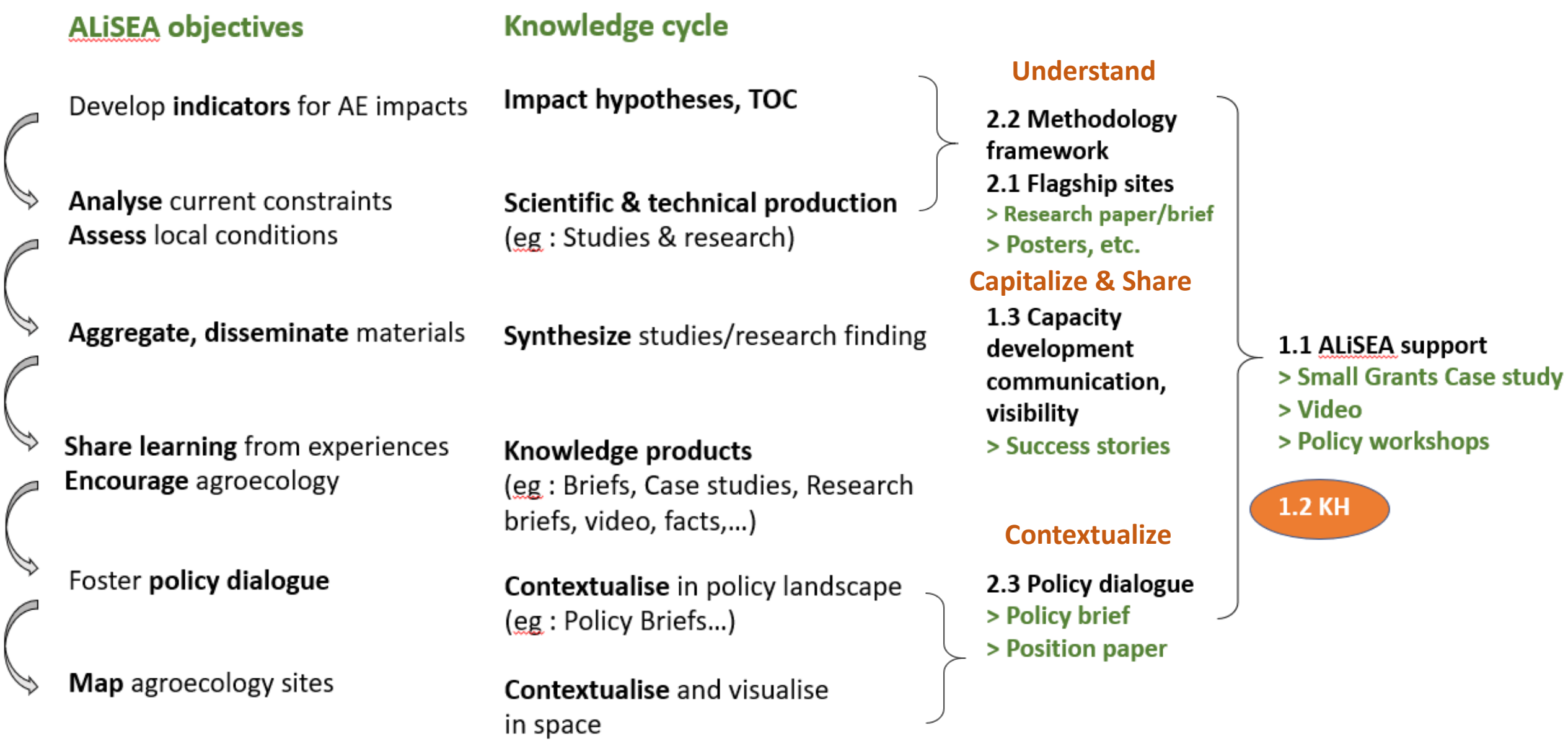
  - through ALiSEA small grants and initiatives
  - in ASSET flagship sites

> **Share lessons and experiences and disseminate broadly knowledge** on these innovations and processes to different targets groups and at different scales

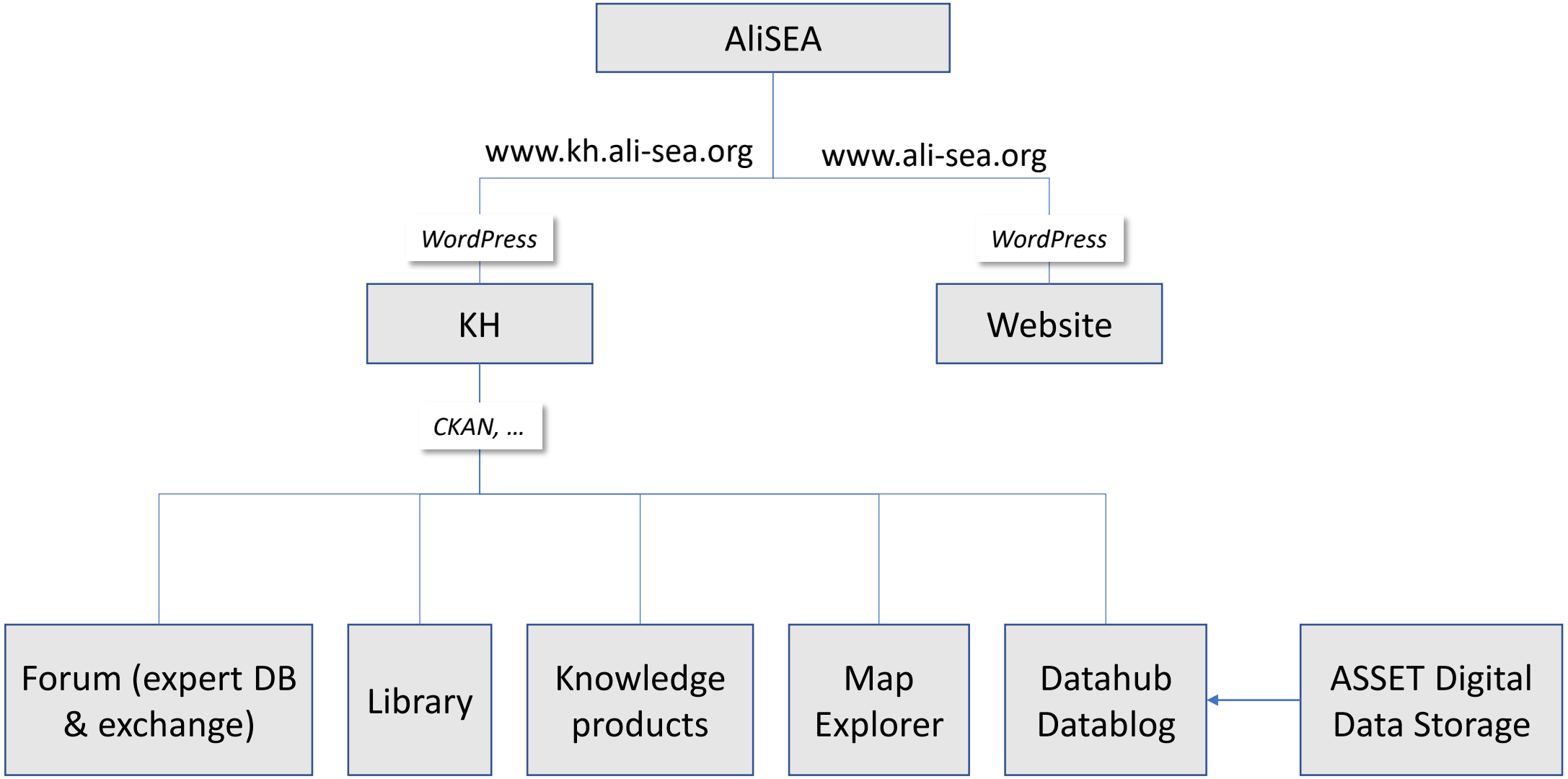
> Transform **ALiSEA multimedia resources into a knowledge hub**

ALiSEA
Agro-ecology Learning alliance in South East Asia

Alisea Knowledge strategy ⇔ ASSET



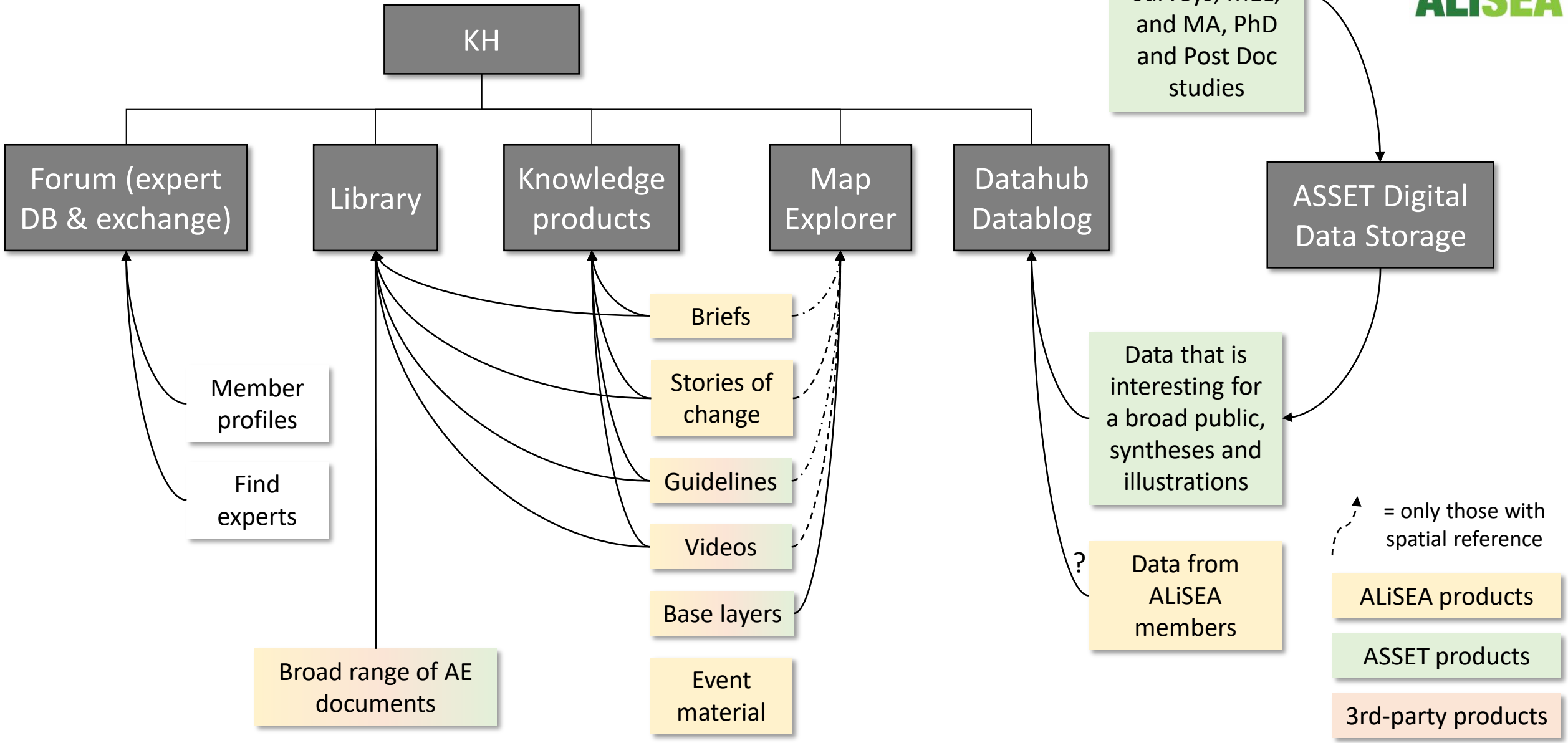
ALiSEA Knowledge Hub Structure



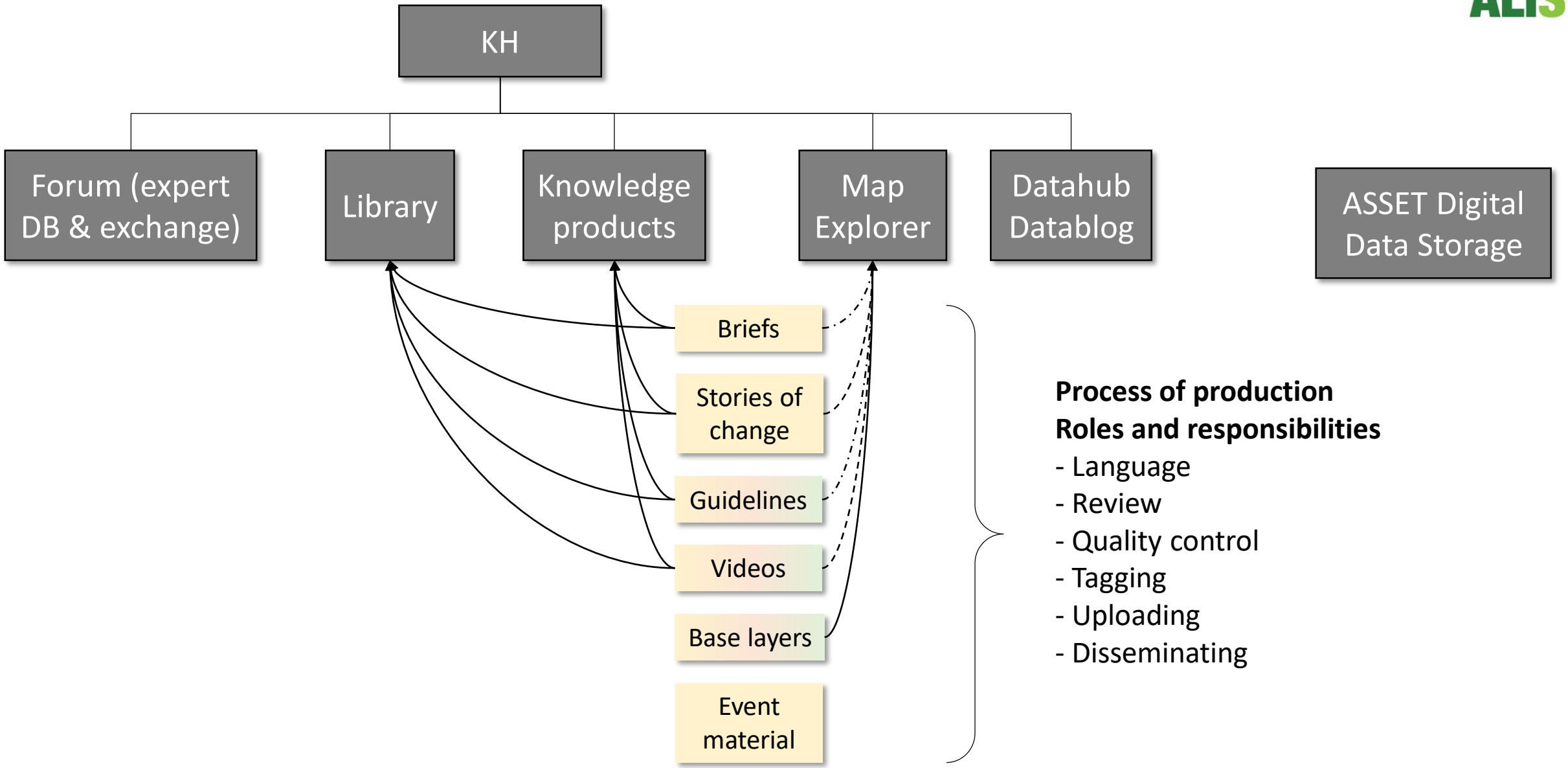
A (non-exhaustive) typology of knowledge products

Format	ALiSEA KP	Target	Important principles
Briefs	Policy briefs Practice briefs Research briefs	People who are in a hurry and need condenses information. “Advocacy briefs” take position; “Objective briefs” lay facts on the table	Convince that the problem must be addressed Provide information about alternatives Provide evidence to support one alternative Stimulate reader to make a decision
Stories of change	Success stories Best practices and approaches	Short to medium narratives for a broad audience: professionals, decision makers, students, stakeholders, consultants, advisors, etc.	Strong motivational function, for example to encourage stakeholders to transition to an agroecological agriculture. Must be attractive, and inspiring
Guidelines	Technical factsheets Case studies “How to…”	Step-by step guidance on how to implement an agroecological practice for technicians, practitioners, land users, extension services, etc.	Important for the selection of / decision-making on e.g. agroecological practices based on clear technical facts and figures, including costs and benefits.
Event material	Posters Brochures Presentations	Participants in an event. Can be researchers, practitioners, civil society members, decision makers, etc.	Must catch attention immediately (particularly posters). Must focus on 2-3 main messages at most.

ALiSEA Knowledge Hub Structure



ALiSEA Knowledge Hub Structure



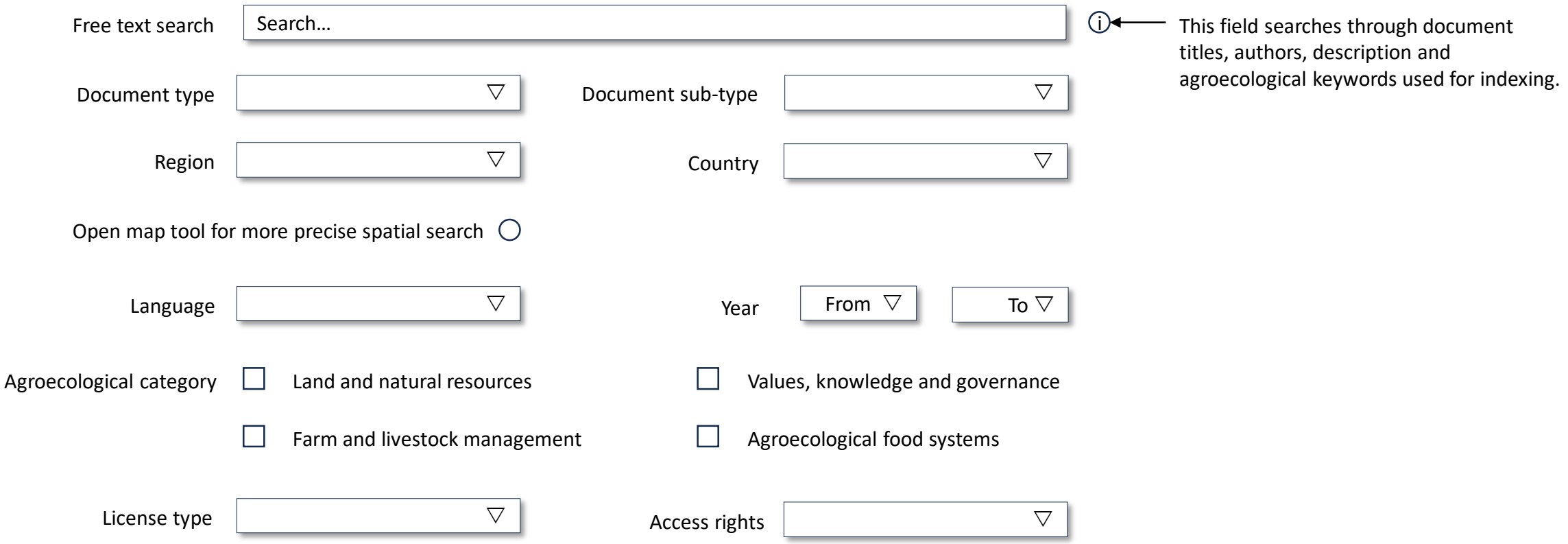
Process of production
Roles and responsibilities
- Language
- Review
- Quality control
- Tagging
- Uploading
- Disseminating

2024 activities on Knowledge Hub

Activities	J	F	M	A	M	J	J	A	S	O	N	D
Technical requirement: final protocol approved	T											
IT consultants: mandated to start technical development	T											
Library: search interface design, programming, and bug fixing	T											
Library: content migration, tagging, and search testing	C											
User forum: Mock-up version of members' profiles and search page	T											
Knowledge products: Final templates and tagging protocol	C											
Knowledge products: 10 practices + 10 champions / country	C											
Map viewer: technical development	T											
Map viewer: content creation (background layers, champions database, others)	C											
Map viewer: content migration and linking (WOCAT, EcoKasekor, FAO, videos)	C											
Datahub: set-up datablog interface, functions, and protocols	T											
Datahub: create synthesis content from ASSET datasets.	C											
Test functionalities and make revision list	T											
Training: develop training and capacity developoment plan for ALiSEA	Tr											
Training: At least 3 training events for ALiSEA counterparts	Tr											

Proposed library search interface

Landing page in WP, database in CKAN



The importance of structuring information

Var_name	Var_type	Lists	CG Core MD Scheme	
Title	Free text		Title	Name of the product
Description	Free text		Description	Description of the produ
Document type	SC list	1	Type	Information product typ
Document sub-type	SC list	1	Type	Sub-type lists are possibl
Link	URL		Relation	Link a product to its rela
Region	MC list	2	Coverage	Spatial coverage of the p
Country	MC list (adm_0)	3	Coverage	Spatial coverage of the p
Province	MC list (adm_1)	3	Coverage	Spatial coverage of the p
District	MC list (adm_2)	3	Coverage	Spatial coverage of the p
Village	MC list (adm_3)	3	Coverage	Spatial coverage of the p
Longitude	Decimal degrees		Coverage	x coordinate, in decimal
Latitude	Decimal degrees		Coverage	y coordinate, in decimal
Other location	Free text		Coverage	In case all other localisat
Period covered	Free text		Coverage	Temporal coverage of th
Language	MC list	4	Language	ISO 639-2 (alpha-3) stan
Year	SC list	5	Date issued	Date of formal issuance
Author	Free text		Creator	The author(s), researche
Author link or affiliation	Free text		Creator	Only ORCID and affiliatio
Contributor	Free text		Contributor	Organisation, or service
Owner	Free text		Rights Holder	A person or organisation
AE categories	MC list	6	Subject	Vocab and/or indication
AE keywords	MC list	6	Subject	If a vocab is used, its sou
License	SC list	7	License	A legal document giving
Access rights	SC list	8	Access Rights	Access Rights may includ
Embargo date	Date field		Embargo Date	In cases when the inform
Metadata	URL		Has Metadata	A related resource that i

	Version 2024.01
47	**Land & natural ressources**
16	Biodiversity
13	Climate
11	Natural resources governance
7	Water management
66	**Farm and livestock management**
14	Integrated systems
7	Animal health
18	Input reduction and recycling
10	Seed management
17	Soil health
54	**Values, knowledges & governance**
14	Collaboration
13	Equity
15	Supportive policies
12	Knowledge and values
48	**Agroecological food systems**
19	Economy and income
17	Sustainable food systems
12	Nutrition and diets
215	

Option 1

ALiSEA Agroecology Mapper

- [ ] Agroecology champions
- [x] Agroecology initiatives
- [ ] ALiSEA Members

Option 2

ALiSEA Agroecology Mapper

- [ ] Videos
- [x] Briefs
- [ ] Stories of change
- [ ] Champions Profiles

Existing items in the ALiSEA library

- Numerous templates « Alisea productions »
- Scaterred information and mixed contents of knowledge productions
- Blurring categories « Case studies/Sheet/paper/brief, etc. »
- No distinction b/w Alisea members productions + External production (eg.VOCAT)

THE SITUATION REVIEW AND STAKEHOLDER MAPPING IN LAOS, ALISEA project

CASE STUDIES FACTSHEET

N°: 9	
Date of Interview: ……6……/…11……/..15……	
Enumerator name: Souliyouan Viengkhamsone Phengkhouane Manivong	

I. GENERAL INFORMATION

ORGANIZATION NAME	SACHA INCHI PROJECT		
Stakeholder classification	Specify		
☑ Government	PAFO-LPB		
☐ Civil society organizations			
☐ University / Research institutes			
☐ Private sector			
☐ Other			
Contact detail	Name: Mr. Vanhthong Xayavong	Position: Tel	Farmer
Location	Nakhern Village, Chomphet district, Luang Prabang province		

Type of Agro-ecology schools	Specify
☐ Conservation agriculture	
☐ Organic agriculture	
☐ IPM	
☑ Agro-forestry	Cultivation of Sacha Inchi in the fallow land
☐ VAC/Integrated farming system	
☐ System of Rice Intensification	

II. PRE-SELECTION CRITERIA VERIFICATION

Criteria	Evidence
Small farmers	- Family member: 2 - Labor-force: 2
Land ownership information	- Total land: 4.5 ha - Ownership of the land (But the farmers don't have the land title)
Labor information	- Use only the family labor
Choice of crops and cultivation methods	**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

Prepared by Phengkhouane Manivong, Agri-Business Expert — Revision: 00 — Page 28 of 36

THE SITUATION REVIEW AND STAKEHOLDER MAPPING IN LAOS, ALISEA project

	- Digging a broad planting (30 cm) and watering the hole - 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 - The organic and chemical fertilizer can be used in the nursery stage (1 time per month) - 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
Year in practice (>2-3 cropping cycles)	Started in 2013
Peer-farmers adapted	I gave the Sacha Inchi seeds in 10 families in my village

III. AE LAND LOCATION AND TRANSECT LANDSCAPE

IV. DESCRIPTION OF INITIATIVE (BACKGROUND, MOTIVATION OF INVOLVEMENT, TECHNICAL SUPPORT, LESSON LEARNT, ETC.)

- In the previous time, I have growth the upland rice with the slash and burn system. Until the 2013, I heard that the Sacha Inchi have a good price. So I ask the PAFO Luang Prabang to have the Sacha Inchi seeds. In additional, my family lakes of labor to continue the upland rice cultivation. So that is the reason why we would like to grow the other crop with high income;
- In 2013, I sold 800 kg of Sacha Inchi seeds and earned 16 million kip. In 2014, the sold 1,200 kg and earns 24 million kip and in 2015, I received 40 million kip

Prepared by Phengkhouane Manivong, Agri-Business Expert — Revision: 00 — Page 29 of 36

FACTS

TRANSECTS

ASSESSING FARM SUSTAIN ABILITY IN SOUTHEAST ASIA

Davon Farm in Cambodia

Seasonally tropical (rainy season: May to October)

~ 1400 mm/year

Avg max: 38°C - Avg min: 17°C

Key Figures
Land size: 3.2 ha
UAL: 2.9 ha
Annual Income from farming: ~ 4 million riels
Location: 50 km from Phnom Penh
Selling strategy: Farm gates selling
Farmer since 2017

Introduction

Since her parents moved to live on this farm in 1991, they have grown many types of field crops and cash crops. Davon started involving on and off with farming activities since a young age. After graduated in 2015 with a bachelor's degree in General Business Administration at National University of Management (NUM) in Cambodia, she has worked with an NGO to support people living in slum areas around Phnom Penh city.

As agriculture is one of her major interests, Davon has managed to get involved with farming activities during the weekend with her parents while working with the NGO. In 2017, she joined Mekong Youth Farm Network as a member, which received fundamental supports from the network in building her capacity related to agriculture.

limits the soil improvement program to its minimum level, which leads to an unsustainable practice if this condition persists.

With less contact with agro-chemical inputs, there is a positive sign of good health among Davon's family members. There is also a huge pond in the farm for keeping wild fish and frogs to harmonize the nature, and reserving water for irrigation in dry season. This large water reservoir enables Davon Farm to produce crops all year round.

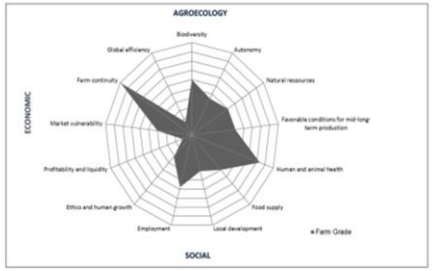
Social Sustainability

Davon Farm does not provide much employment to local communities since most farming activities were managed by her parents. Besides this autonomy in labor, there is also less interaction with other local capacity development projects to improve the knowledge of other villagers regarding agriculture. The crops were mostly produced for household consumption, except for some major cash crops such as seasonal mango, sugarcane and cucurbit crops which are sold at local markets or through direct selling at a stall in front of the house.

Economic Sustainability

…ce most crops are produced for household consumption, Davon does not earn much from her … The price of major cash crops is sometimes limited by middlemen, making the chance of … profits from their farming even thinner. Positively, Davon is committed to improve the …ic sustainability of her farm by incorporating 300 fragrance coconut trees in her farm in the … and create a direct link of sale to customers in Phnom Penh.

Sustainability Chart



BALANCE

SUSTAINABILITY CHART

USE OF LEGUME COVER CROPS

TO IMPROVE SOIL FERTILITY, YIELD AND PROFIT IN ORGANIC RICE PRODUCTION

From I. Rama Sry (CASC, DALRM, sryrama.hiz@gmail.com), Kakada Nhoeng (ATSA, kakada.nhoeng@gmail.com)
With the support of I. Vire Lang (DALRM/CASC, GDA), Sothy Im (NPAM), Boon Srun (PDAFF Preah Vihear), Mathilde Seeter (CIRAD), Rovieng district, Preah Vihear
I. Florent Tivet (CIRAD), Vang Seng (DARLM (GDA), Sokhorn Srun (DDG, GDA, Project Director WATHCAM).

Brief of history of Mr. Heng Hour and his family

Mr. Heng Hour and his family live in Boh Village, Rik Reay Commune, Rovieng District, Preah Vihear Province. In 1979, after the forest clearance, they started cultivating rice under an upland management. Then, they raised bunds to retain rainwater and to able to transplant the rice.
"We started farming rice in 1979. In the past, the soil was rich and the yield was high. From year to year, the yield decreased because of the loss of the soil fertility, higher weed pressure and diseases".
Mr. Heng Hour emphasized that the depletion of the soil fertility and the non-water control were the main factors explaining the yield decrease. In 2016, the O'Kambor reservoir and part of the irrigation system were rehabilitated allowing farmers to have a better water access. *"After 2016, I got a better water access and the yield increased when compared with previous years but the rice production was still not economically viable".* Over the last decade, Mr. Heng hour harvested approximately 4.5 tons on 2.3 ha of land, representing 1.95 t/ha of paddy.

In November 2019, Mr. Heng Hour was invited to a village meeting organized by the agronomists of the Conservation Agriculture Service Center (CASC, DALRM) and SmartAgro, a startup specialized on cover crops and bio-products. They presented to the community the use of legume cover crops to improve the soil health. Mr. Heng Hour was impressed by the presentation and decided, along with two other families, to do the first test on an area of 4.7 ha. Legume cover crops were established and grown across the dry season from December 2019 to May 2020 on the residual soil moisture with two complementary irrigations. For this first year, the biomass (leaves and stems) of the cover crops was low and ranged from 220 kg to 3360 kg/ha of dry matter.

Cover crop use and management

Prior rice cultivation, Mr. Heng Hour rolled down the cover crops using his power tiller with a roller crimper made available by DALRM/CASC.

"In term of cover crop management, it is not time consuming nor labor intensive but it could be a little bit difficult if there is a high amount of biomass as we are using our power tiller".

For 1 ha, the overall production cost is 2 liters of fuel and 2 hours of rolling by power tiller.
"After the plowing of the cover crops, I noticed the good smell of the decomposition of the cover crops and I believed this smell is the sign that my rice can grow healthy and I can get a good yield. I observed many big earthworms and the soil was loose and soft when we walked into the field. I strongly expect that the yield will increase. During the growing stages, I observed that the growth of my rice was better than the past years. After transplanting the plants grown fast, the rice leaves were dark green, I observed that the grains were well filled, the plants were taller with less lodging when compared with the past years.
I would like to thank the project that brought this innovation and help us to increase our rice yield and our profit through soil improvement".

Rice productivity and profitability for the cropping season 2020

At the harvest in November 2020, Mr. Heng Hour and his family harvested 6.67 tons from 2.3 ha of land representing an average yield of 2.9 t/ha. Rice yield increased approximately of 1 t/ha when compared with the past years. Besides the increase in yield, Mr. Heng Hour emphasized an improvement of the rice quality. Among the rice that was sold, 60% was sold under the class 1 (1,500 riels/kg) and 40% under the class 3 (1,100 riels/kg). The paddy that was sold under the class 3 (lower quality rice) refer to late harvest due to the lack of labor force.

Mrs. Hour and her family transplanting rice — Rice of Mr. and Mrs. Hour family before harvest

www.youtube.com/c/SolilsLife

TESTIMONIES

SIMULATION GAME for PARTICIPATORY CLIMATE VULNERABILITY AND CAPACITY ANALYSIS

Vulnerable communities living in the remote mountainous areas can hardly access to information relating to climate change impacts; furthermore, these information are often too general, or not relevant to the context and the concerns of local communities. They also have limited analytical, planning and organization skills so as to effectively pursue adaptive measurements. A suitable approach will help ensuring communities are well informed of, and fully aware on the issues of CC, and actively take adaptive actions.

The simulation games, carried out as a part of a Participatory Vulnerability Capacity Analysis (PVCA), facilitates a process in which communities' members engage directly in to identifying the climate change phenomena in their region, assessing the impacts that these phenomena causes to their livelihoods, identifying solutions, as well as planning their actions to cope with identified impacts of CC. The analysis is also assisted with guidance and technical inputs from relevant experts.

During October 2017- June 2018, Simulation game exercises were conducted in 8 villages of 4 communes of the two districts (Nga Nam of Soc Trang Province and Tam Duong, Lai Chau). These exercises involved participation of more than 200 people (71% women). Communities identified 03 phenomena of harsh weather as the consequence of climate change, analyzed 09 models of agriculture livelihoods, 03 solutions and actions that have been taken and follow up by the communities.

Contribution to Climate Change Adaptation	Co-benefits	Target group	Supporting conditions
Communities's awareness and understanding on CC and its impacts on their life and livelihods	Improve analytical skills	Communities affected by climate change impacts, especially those of disavantaged groups in rural and remote locations.	- Skillfull facilitator - Trainings to facilitators - Technical inputs with scientific information.
Well informed solutions and measurements	Inprove solidarity among community members		
Promote communities' collective actions	Increase dialouge between communities's members and with local authorities		

Gender considerations:
These approach faciltates more active engagement of women in to the proccess. Women are more confident in the discussion.

Conflict sensitivity:
Active interaction and exchange of views will develop common understanding on the vulnerability, it helps reduce the tensions, and create solidarity among members

Plan for the crops and livestock

Business among the people in the communities

We could calculate the useful of safe-chicken farm model in 10 years

Advantages:
- ❖ The use of simulation game helps mobilise full participation of communities, especially of the disadvanged groups (women and girls, ethnic minority)
- ❖ Well informed solution and measurements enables communities to take suitable actions
- ❖ Mobilise active participation and contributions of of the communities

Constrains:
- ❖ Results are much depedent on the skills and capacity of facilitators
- ❖ Communities' over expactation on the follow up actions

The activities supported by ALiSEA and ACTEA Small Grant Facility, and BftW
www.ali-sea.org & www.terristories.org

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+ Website: http://cisdoma.org.vn/

Narrative report

ALiSEA Small Grant Facility

THE ORGANISATION

Name of the organization : THE INTENATIONAL COOPERRATION CENTER (ICC)
THAI NGYUYEN UNIVERSITY

Legal status of the organization: Public

Name and details of the contact person : Hoang Van Phu

Full Address : Hoang Van Phu

Tel : 0912 141837 ; e-mail : phuhv@tnu.edu.vn

Date the organization was established : 2009

Main activity of the organization:

- Reseaching on agriculture and rural development
- Consulting in designing and implementing of R&D projects
- Providing short courses on various fields such as agriculture, rural de
- Exchanging students and faculties

THE FUNDED INITIATIVE

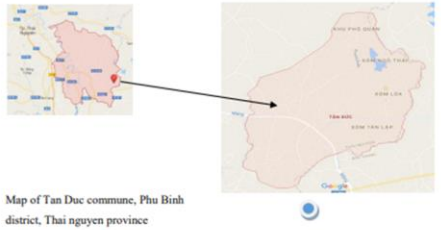
Title : *"Adaptive Research on Rice/Potato Rotation Model (applying SRI for rice and mini*

Summary of the initiative

"The System of Rice Intensification (SRI)" and "The Growing Winter Potato by Minimum Tillage Method (GPM)" have been recognized by Vietnamese Government as new advanced techniques since 2007 and 2012 accordingly. Recently, SRI has been applied by about 2 millions of farmers on nearly haft of million hectares and about 5,000 farmers are applying GPM (Dũng, 2016).

Both SRI and GPM urge farmers to farm toward reducing chemical inputs, increasing organics; support lifes of soil; increasing productivity and economic efficiency; and act as facilitators for farmers working in group and support for rural social asset development. SRI and GPM are practiced on paddy land in rotation system. However, SRI and GPM are still practiced separately by farmers, there is no integrated SRI-GPM model in rice-based system as well as lacking proof on its advantages versus the conventional monocultural rice practices. Therefore, we proposal a project with title : ***"Adaptive Research on Rice/Potato Rotation Model (applying SRI for rice and minimum tillage method for potato) in Paddy Land of Phu Binh district, Thai Nguyen Province".***

Project location:



Map of Tan Duc commune, Phu Binh district, Thai nguyen province (project site)

Backgroud of the intervention

The project aims to build an integrated SRI-GPM model and run by group of farmers in on-farm study approach with principles of Farmer's Field School (FFS). A study and holistic analysis of the model will be done by farmers and ICC scientists. Multiple stakeholders such as Practitioners (group of farmers), Technician/Scientist

Exhaustive Activity report

ALiSEA GRET

CASE STUDY

FORESTRTY SMART AGRICULTURE AND LIVELIHOODS

(IN DAK DAM COMME, O'REANG DISTRICT, MONDULKIRI PROVINCE)

CAMBOIDA

I. Introduction

Unlike the low land Cambodian People, who have des
as rice farming land, Cash crop farming land and so forth
in the contrary, do not have designated permanent farming land. T
always of shifting agriculture or agro-forestry. For instance, Bunong indigenous people plant their rice crop in the sloppy hill forest, however, for some family who have many children or members and in need of more yield, they would cut and burn the forest trees to clear for bigger farming land. In a few years, when soil become poor in fertility,

Comprehensive Testimony

ALiSEA GRET

Project : Bridging Agriculture to Ecology Conservation Among Indigenous People Communities in Mondulkiri Province (Eco-agriculture) 4

VIVRE DE SA TERRE

Case study of Ms Sourt Sear's vegetable garden

Updated in Jan. 2019, Battambang, Cambodia

Ms Sourt Sear is a 54-year-old women farmer, who lives in Sreah Keo Village, Kompong Phreas Commune, Sangker district, Battambang province. She is a widow and a head of household with 9 members of her family.

Ms Sourt's farming background

Ms Sourt is watering cabbage on table

Nowadays, Mrs Sourt grow 2 acres of rice-field and raises five cattle. In addition, Mrs. Sourt is growing free-chemical vegetable crops in small-scale garden with a total area of 88 m² of cultivated land, 54m² on the growing table, 54m² on permanent of field-grown crops.

rs a day to grow celery, garlic, long bean, emongrass, nd orange crops and urt said that ield, she also uch as straw and grass especially for livestock and also for lot of compost and stock it for her upcoming crops.

thinks that small-scale vegetable farming is profitable and easy to maintain because it is near water and nearby, which can prevent the pest's damage on time.

She spent small budget on the purchase of inputs to implement a vegetable garden by using the potential of natural resources near her house, which can be recycled in the crop field.

Ms Sourt's economic analysis

1. Mean costs for 88m3 of cropland per month (findings calculate from data collected during 6 months from April to November 2018)

N	Type	Quantity per month	Unit Cost	Total Cost
1	Soil preparation	5 days	0	0
2	Compost making	3 days	0	0
3	Hand weeding	2 days	0	0
4	Vegetable seeds	8 bags	2000R	16 000R
5	Garlic cutting	1 kg	7000R	7 000R
6	Equipment	3 tools/year	(15000R/12 month)	12 500R
		TOTAL		35 500R

Celery Leaf, Oct. 2018

Salad and Chili, Nov. 2018

Cabbage, Oct. 2018

Ms Sourt makes botanical pesticide from Neem leaf and chili pepper, April 2018

rikolto VECO What will we eat tomorrow?

Participatory Guarantee System Learning Series - Case Study 1

PGS organic in Thanh Xuan, Hanoi – An example of sustainability

Context

The research team visiting the production area

Food safety remains a major challenge in Vietnam where chemical residues in agricultural products often exceed recommended thresholds. This situation has recently led to a surge in consumers' concern about the safety of their food. Vegetables, in particular, have been the subject of intense worries, especially in cities. To address this situation, the

introduced in Vietnam in 2008 by the Danish NGO ADDA to support organic agricultural production by smallholder farmers. In 2013, considering the growing demand for safe vegetables, Rikolto adapted the methodology and used it with a food safety standard, BasicGAP.

tioned in this study was the years

ational

on the

s longer

rtly farmers.

of Organic Agriculture

Qualitative Performances

PGS' performance in Thanh Xuan

Food safety

Before they can apply for PGS certification, farmers must be trained for 3 months on the organic PGS standards and practices. Their water and soil are tested during the certification process to ensure their safety. The 3-level certification process - internal control within each farmer group, cross-checking across farmer groups and random inspections by the Coordination Board - coupled with the quick chemical test performed on the vegetables, controls and assures farmers' compliance with the PGS Organic standard.

Market access

The Thanh Xuan intergroup sells 30 - 40 tons of organic vegetables per month to buyers in Hanoi and up to 70 tons in winter. In 2018, it has approximately 30 regular buyers from the retail sector such as Bac Tom, Tam Dat, Soi Bien and Ecomart. The intergroup also set up two businesses to support the marketing of its products: Thanh Xuan Agricultural Service and Investment Co., Ltd and Thanh Xuan Organic Vegetable Cooperative.

Income generation

Farmers' income from the sales of PGS vegetables varies from 2.5 to 10 million VND (USD 110 - 430) per month depending on the size of the production area and season. This is approximately 12 times more than the income yielded from rice production. Most vegetables sell for 15,000 VND/kg (USD 0.65), except for herbs which cost 25,000 VND/kg (USD 1.1). This is higher than the price of non-PGS vegetables. This has resulted in higher and more stable income for farmers.

Sustainability

While the intergroup still receives external support from development actors, it has its own financial resources to pay for intergroup activities. These resources come from farmers' contribution to the intergroup. Farmers also use part of their profit to invest in infrastructure such as irrigation systems and net-houses.

Visibility and consumer engagement

Thanh Xuan is well known by safe and organic food retailers in Hanoi, and by local customers. Between 2008 and 2015, over 500 groups have visited the site to learn about PGS and organic agriculture.

Environmental protection

PGS has contributed to reducing the environmental pollution linked to the use of agrochemicals in Thanh Xuan. Thanks to the use of organic fertilizer and compost, soil fertility has increased. The use of natural pest management methods such as natural insect repellent flowers contributes to local biodiversity.

Use of coconut leaves mulch covering the soil of winter melon plantation (Ms. Chea Navin)

Coconut leaves mulching for winter melon cultivation (Cambodia)

DESCRIPTION

The use of coconut leaves mulch for winter melon cultivation helps to conserve soil moisture, reduces evaporation, reduces weeds, saves water, preserves the soil from erosion, and increases crop productivity.

Coconut leaves mulching is the process of covering the soil around plant root area using green/ dry coconut leaves to help keep the soil moisture longer and reduce evaporation and temperatures, especially during the dry season. Beside this, The use of coconut leaves mulch for covering rows of winter melons helps to prevent soil erosion, improves soil fertility, reduces weed growth, and increases soil fertility following the decomposition of the plant residues. The soils best suited to winter melon cultivation are loamy and sandy loam soils with a soil pH of between 5.0 and 6.3 and soils along the low-land areas. If the pH soil is lower than 5.0, the melon growth is not good and may accelerate the ripening of the fruit before the appropriate time, with the fruit plants sometimes dying due to lack of nutrients (TSTD, 2012). The roots of the winter melon are able to grow in soil with a depth of between 65 and 100 cm, particularly sandy soils. This crop is not suitable for cultivation in areas which are wind prone because of increased moisture loss through plant evapotranspiration. Such areas are also sometimes prone to high temperatures which are also unsuitable for winter melon.

The implementation area for this study was 280 squares meters, with a row height of 20-30 centimeters, a row width of 1 meter, row length of 40 meters, and row spacing of 1.5 meters. There were a total of 8 planted rows, with 40 melon stems being planted into each row. The crop stems and the intercrop space between the rows is covered with coconut leaves by laying the leaves along the slopes of the melon crop, with 5 or 6 coconut leaves as mulch along the two sides of the crop. In order to save time and water, farmers used drip irrigation using a pipe irrigation system that could provide water at a rate of about 6 liters per house, twice daily (in the morning and evening). Irrigation was provided over 20 minute periods at a rate of 100 ml per minute (although this was reduced during the rainy season). The watering technique is not required to fill the ba
Water is generally not provid
problems, such as rott
should be applied
important in t
are import
plant grow
for sugar
soil nutr
fertilizer

In general,
available, suc
such as drip pipe
this technique, besides
provides practical and poten
per season.

LOCATION

Location: Chamkar Ou village, Trapeang chorng commune, Bakan district, Pursat province, Cambodia

No. of Technology sites analysed: 10-100 sites

Geo-reference of selected sites
- 103.79317, 12.54991

Technology: evenly spread over

area?:

3

ovation
nal system (> 50 years)
ents/ research
projects/ external interventions

Summary + Maps/localisation + Context

NATURAL ENVIRONMENT

- ✓ Average rainfall,
- ✓ Agro-climatic zone,
- ✓ Water table, etc.

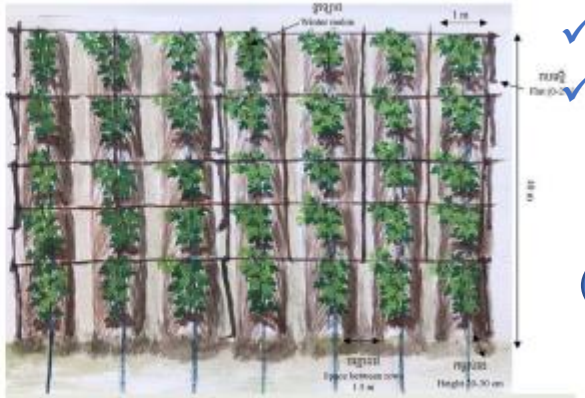
CHARACTERISTICS OF LAND USERS APPLYING THE TECHNOLOGY

- ✓ Market orientation,
- ✓ Wealth, etc.

CLASSIFICATION OF THE TECHNOLOGY


Drying field after harvest of paddy rice and before planting of winter melon (Ms. Chea Navin)


View of coconut leaves used as mulch (Ms.Chea Navin)


Author: Mr. Khuon Sophal

- ✓ Main purpose
- ✓ Land degradadtion
- ✓ Land use Water supply

Technology

ESTABLISHMENT AND MAINTENANCE: ACTIVITIES, INPUTS AND COSTS

Calculation of inputs and costs
- Costs are calculated: per Technology area (size and area unit: **280 squre meters**; conversion factor to one hectare: **1 ha = 10000 square meters**)
- Currency used for cost calculation: **Riel**
- Exchange rate (to USD): 1 USD = 4000.0 Riel
- Average wage cost of hired labour per day: 25000 Riel

Most important factors affecting the costs
- Fixing the irrigation pipes is 20000 Riel for repair service per time.
- Buying the black string for building pole support, which is 37600 Riel per time.

Establishment activities
1. Drying soil in the field (Timing/ frequency: After harvest of crops)
2. Create rows by hilling up soil (Timing/ frequency: Before onset of rains)
3. Installation of the irrigation system (Timing/ frequency: before outplanting of the winter melon)
4. Digging the hole (Timing/ frequency: 2 days before transplanting)
5. Outplanting of the winter melon seedlings including the cover by coconut leaves (Timing/ frequency: 1 day of outplanting)
6. Building the pole of support (Timing/ frequency: 3 days after transplanting)
7. Seedling transplantation (Timing/ frequency: Before onset of rains)

Establishment inputs and costs (per 280 squre meters)

Specify input			Costs per Unit (Riel)	Total costs per input (Riel)	% of costs borne by land users
Labour					
Seedling preparation				25000.0	100.0
Soil preparation				150000.0	100.0
Building of the pole support				50000.0	100.0
Installment of the irrigation system				68750.0	100.0
Equipment					
Hoe			7000.0	14000.0	100.0
Scissors	set	5.0	2500.0	12500.0	100.0
Hacksaw	set	1.0	12000.0	12000.0	100.0
Axe	set	1.0	12000.0	12000.0	100.0
Watering can	pair	2.0	25000.0	50000.0	100.0
Floral hoe	set	3.0	15000.0	45000.0	100.0
Fertilizers and biocides					
Pesticide	bottle	2.0	2500.0	5000.0	100.0
DAP	bottle	2.0	25000.0	50000.0	100.0
Cali	kg	50.0	2400.0	120000.0	100.0
UREA	kg	50.0	1800.0	90000.0	100.0
Cow manure	bag	1.0	25000.0	25000.0	100.0
Construction material					
Black string for building pole support	kg	5.0	47000.0	235000.0	100.0
Irrigation pipes	pieces	2.5	90000.0	225000.0	100.0
Valve	number	1.0	20000.0	20000.0	100.0
Other					

Costs benefits

IMPACTS

Socio-economic impacts

Crop production

decreased — increased

The farmer used the coconut lea moisture and increase soil nutri crop production.

expenses on agricultural inputs

increased — decreased

Farmer used raw material (coco home that does not require any

farm income

decreased — increased

This technology improves soil m with less expense on the inputs available around the house, thu increases.

- ✓ Socio-cultural impacts
- ✓ Ecological impacts
- ✓ Climate change
- ✓ Adoption & adaptation
- ✓ Cost-benefit

Impacts

CONCLUSIONS AND LESSONS LEARNT

- ✓ Strenghts& Weaknesses (land users/compilers)

Lessons learned

ECHO® *Asia Notes* A Regional Supplement to *ECHO Development Notes*

Edited by Patrick Trail, Daniela Riley & Eduardo Sabio — May 2020 | Issue 42

Making On-Farm Pig Feed: Farm-Generated Formulas vs. Commercial Feeds

by Patrick Trail[1], Boonsong Thansrithong[1], & Sombat Chalermliamthong[1]
[1]ECHO Asia Small Farm Resource Center, Chiang Mai, Thailand

Figure 1: *'Fermented Banana-Based Feeds' are made weekly here at the ECHO Asia Farm. ECHO Asia's Agricultural Specialist, Chai, shows us the materials needed to make the banana stem base.*

[Editor's Note: Based on feedback from the network, we would like to provide and promote further discussion on each article published. For additional questions, comments, or suggestions on this topic we invite you join to our ECHOcommunity 'Conversations Forum' where we have opened a new conversation topic called 'Making On-Farm Feeds - Asia Note #42 Discussion']

Introduction to Fermented Banana-Stem Feeds

manure, which we compost and use in crop production among other things.

Visual & empirical argumentation

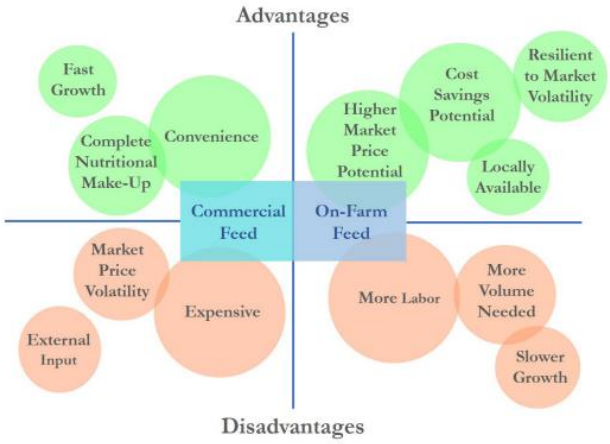
enter) chopped banana stems after 3-4 days of anaerobic fermentation with mineral salt and ingredients and ready for feeding.

Figure 2: *Banana stems that have not yet fruited are ideal for making feed. Once fruited, stems become tough, difficult to digest, and nutritive content is lower.*

Data based argumentation

Feed Source	Amount (kg)	Protein (%)	Protein (Total)	Cost per Kg (Baht)	Total Cost
20% Protein Feed – Fed to Pigs Weighing 10-30 kg					
Fermented Banana Stem	40	6	2.4	3	120
Rice Bran	12	12	1.44	10	120
Corn Meal	15	9	1.35	7	105
Fish Meal	10	60	6	40	400
Soy Meal	22	40	8.8	15	330
Premix	1	0	0	35	35
Total	100	**19.99**			1110
18% Protein Feed – Fed to Pigs Weighing 30-60 kg					
Fermented Banana Stem	45	6	2.7	3	135
Rice Bran	12	12	1.44	10	120
Corn Meal	12	9	1.08		
Fish Meal	15	60	3		
Soy Meal	25	40	10		
	1	0	0		
	100	**18.22**			
		Feed – Fed to Pigs Weighing			
		6	3.3		
		12	1.2		
	10	9	0.9		
Fish Meal	6	60	3.6		
Soy Meal	18	40	7.2		
Premix	1	0	0		
Total	100	**16.20**			

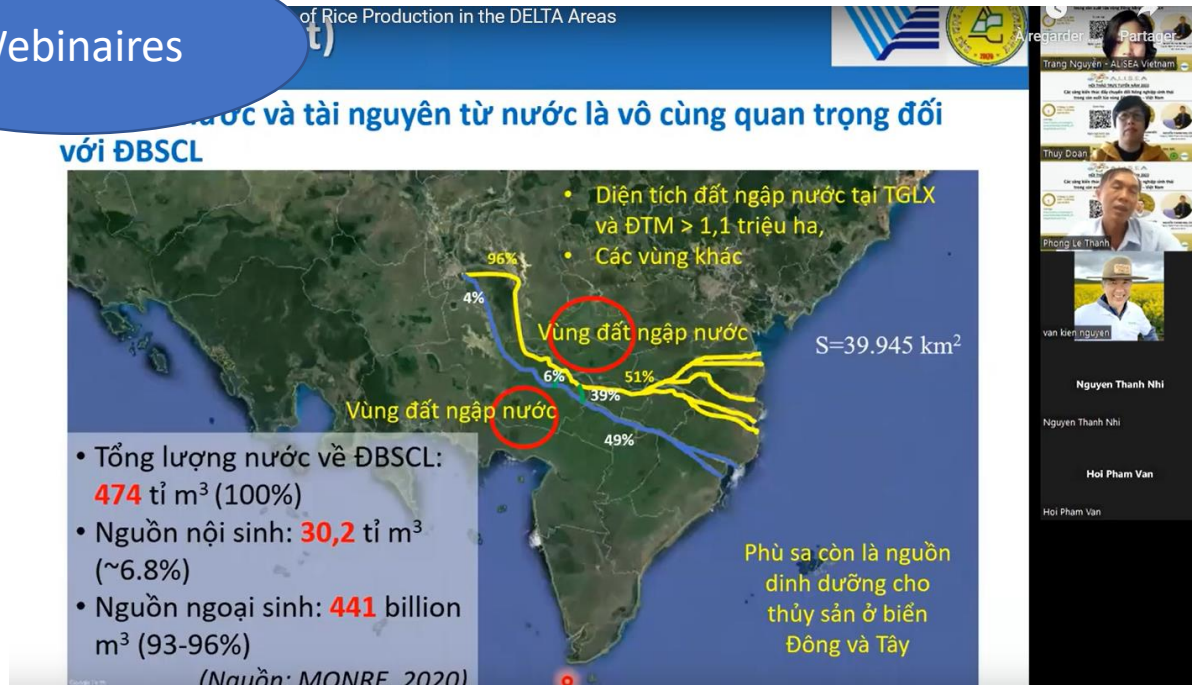
Table 2: *Cost comparison of On-Farm Feed formulas compared to commercial fe*



Comprehensive Balance

Videos

Webinaires



Testimonies /Stories

Success stories

Practical & technical description

Case studies

> Institutionnal and contractual « mandatory » production > ASSET Outcome

> 36 Case studies at the end of ASSET program 2025

. Small grant & other Alisea activities

> Specific Knowledge product

. Digital version on KH

. Standardized Template : merging contents from existing Alisea knwoledge products, including videos

> Testing the exercice with 3 case studies – with knowledge officers